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URBIS

PLANNING REPORT

Volume 2:
Highpoint Urban Village
Development Plan

Prepared for
THE GPT GROUP
12 November 2020

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CONTENTS

Executive Summary	1
1. Introduction	1
1.1. Planning Report Purpose.....	1
1.2. Development Plan Area & Vision.....	1
1.3. Planning Report Requirements.....	2
2. Subject Site & Urban Context	3
2.1. The Subject Site: Highpoint Shopping Centre	3
2.2. Site History.....	3
2.3. Built Form.....	5
2.4. Access and Movement.....	5
2.5. Strategic Context & Site Interfaces.....	6
3. Planning Policy Context	9
3.1. Planning Policy Framework	9
3.2. Local Planning Policy Framework.....	9
3.3. Zoning	12
3.4. Planning Overlays.....	13
3.5. Particular & General Provisions	14
4. The Development Plan	16
4.1. Vision	16
4.2. Development Plan.....	16
4.3. Land Use.....	18
4.4. Open Space	19
4.5. Character & Built Form	19
4.6. Access & Movement	23
5. Development Plan Assessment	25
5.1. Response to Development Plan Overlay – Schedule 17.....	25
5.2. Policy Response	34
6. Technical Report Integration	35
6.1. Social Infrastructure Report	35
6.2. Housing Diversity Report	35
6.3. Landscape & Public Realm Concept Plan	36
6.4. Wind Assessment	36
6.5. Transport Plan	36
6.6. Environmentally Sustainable Design Strategy.....	38
6.7. Services & Infrastructure Report.....	38
6.8. Preliminary Site Remediation Strategy	39
6.9. Stormwater Drainage Strategy	39
7. Conclusion	40
8. Disclaimer	41
Appendix A Certificates of Title	
Appendix B Social Infrastructure Report (Urbis Pty Ltd)	
Appendix C Housing Diversity Report (Urbis Pty Ltd)	
Appendix D Landscape & Public Realm Concept Plan (Urbis Pty Ltd)	
Appendix E Wind Assessment (Windtech)	
Appendix F Transport Plan (GTA Consultants)	
Appendix G Environmentally Sustainable Design Strategy (ADP Consulting)	
Appendix H Services & Infrastructure Report (ADP Consulting)	

FIGURES

Figure 1 – The subject site as a former quarry circa 1965	4
Figure 2 - Highpoint Shopping Centre circa 1971	4
Figure 3 - Aerial image of the subject site (Nearmap, 2020).....	5
Figure 4 - Site contour plan (VicPlan, 2020).....	6
Figure 5 - Existing urban context (Highpoint Urban Village Development Plan).....	7
Figure 6 - Highpoint Activity Centre Framework Plan (Clause 21.11-2)	11
Figure 7 - Preferred upper level setbacks of buildings (DPO17).....	14
Figure 8 - Highpoint Urban Village Development Plan (Urbis, 2020).....	17
Figure 9 - Reaching an average 10 storey building height.....	20

TABLES

Table 1 - Response to the Planning Report requirements of DPO17	2
Table 2 - Table of Uses	12
Table 3 – Development Plan response to land use policy objectives	25
Table 4 – Development Plan response to built form policy objectives	27
Table 5 – Development Plan response to access & movement policy objectives	28
Table 6 – Development Plan response to community & infrastructure policy objectives.....	32

EXECUTIVE SUMMARY

Highpoint Shopping Centre offers a unique, urban infill opportunity – at 28.6 hectares it is the largest single-ownership landholding within the Highpoint Activity Centre. The development proposal outlined in this report is grounded in state and local planning policy, providing an opportunity for significant urban renewal over the next 30 years. It is envisaged that the site will be recognised beyond its current retail function, incorporating a variety of accommodation typologies, employment opportunities, community facilities, transit networks and a new open space network.

Melbourne is projected to be a city of 8 million people by 2051. To accommodate this growth, *Plan Melbourne 2017-2050* seeks to provide 1.6 million new homes and 1.5 million new jobs, while ensuring the protection of existing residential areas. Plan Melbourne identifies that this growth is best accommodated within a hierarchy of activity centres. Substantial change and transformation of the Highpoint Activity Centre has been as planned for, with Maribyrnong City Council implementing a range of changes to facilitate the development, guided by the *Highpoint Activity Centre Structure Plan* and the *Highpoint Planning and Urban Design Framework*.

Leveraging the site's scale and locational attributes will ensure that Highpoint Shopping Centre can contribute significantly to the Western Region's established area employment and housing targets, and the vision set out the local planning strategies. As such, this opportunity to provide well-located employment opportunities, housing, open space and community facilities should be wholly supported.

This Planning Report has been prepared to provide a town planning assessment of the Highpoint Urban Village Development Plan. The Development Plan has been prepared to guide the long-term future development of the Shopping Centre site. There are significant benefits to this approach, which provides a holistic vision for the site.

Key principles informing the development plan approach include the following:

- **State significant development** – Maribyrnong (Highpoint Activity Centre) is a designated Major Activity Centre in *Plan Melbourne 2017-2050*. Its development will deliver immediate, medium and long-term economic benefits to Victoria through planning, construction, infrastructure delivery, housing and commercial development. Upon approval of the Development Plan, the GPT Group intend to proceed with short term development opportunities at the site. At completion, the area encapsulated by the Development Plan will deliver approximately 3,150 new homes, 150 residential hotel rooms, 150,000 square metres of commercial floorspace, 1.9 hectares of open space and over 10,500 square metres of community facilities.
- **Delivering employment** – Over 200,000 square metres of employment floorspace including net additional retail is proposed by this Development Plan aimed to facilitate business growth and innovation within the Highpoint Activity Centre. Employment space will comprise office, retail and general commercial land uses, with affordable employment opportunities to be incorporated over time.
- **Delivering diversity and affordability** – the Development Plan will provide flexibility for a mix of accommodation typologies at a range of densities across the site. Townhouses and a mix of apartment building forms will predominate with a range of accommodation models proposed, including build to rent, student accommodation, residential aged care facilities and short-stay accommodation. In this way, it is considered that the Development Plan appropriately provides accommodation choice at a range of affordability levels and suited to a broad demographic.
- **Delivering community facilities** – to support the additional population, over 10,500 square metres of floorspace will be dedicated to the provision of future community facilities, possibly including childcare and kindergarten services, sports and recreation facilities, health services, youth centres and libraries, and other cultural facilities as appropriate.
- **Unique identity and amenity** – a network of open space will be provided across the site, including a range of open space of which collectively will maximise and improve pedestrian connections to the wider open space network, including to Pipemakers Park, Thompson Reserve and the Maribyrnong River.

Street typologies include high-amenity boulevards with shared transport modes, and pedestrian footpath routes across the site sleeved with active land uses. Active transport usage will be encouraged with connections to the wider activity centre strengthened. Furthermore, sustainability principles are embedded in the development plan to establish exceptional green credentials.

- **20-minute neighbourhoods** – The future of Highpoint Shopping Centre is an exemplar 20-minute neighbourhood, characterised by ready access to a wide range of services, jobs, shops, and recreational options, whilst being supported by public and active transport links.
- **Delivering essential infrastructure** – the Development Plan provides essential infrastructure to support the future population and ensure that impacts on surrounding residents are minimised. The Highpoint Ring Road is proposed to be widened which will assist in redirecting traffic along Rosamond Road and the activity centre more broadly. Whilst the bus interchange is proposed to be relocated within the western edge of the site to improve connections to the wider activity centre and proximity to other transport nodes. Furthermore, traffic mitigation measures are proposed to the Warrs Road roundabout, which aside from improving pedestrian safety at this intersection will also greatly enhance the connectivity between the activity centre and Pipemakers Park.

Community infrastructure, including a new library, health and childcare facilities will also be delivered, along with a new open space network.

This report carries out an assessment of Volume 1 of the Development Plan and is to be read in conjunction with technical supporting reports comprising Volume 2. This report finds that on balance, through the guidance of the Development Plan, the Highpoint Urban Village development will realise a unique and special opportunity to holistically address the need to deliver more housing, employment and community facilities that are well-serviced and connected through the efficient use of land supported by existing and proposed infrastructure. The assessment concludes that the Development Plan is generally in accordance with the requirements of Development Plan Overlay 17.

1. INTRODUCTION

1.1. PLANNING REPORT PURPOSE

Urbis Pty Ltd has been engaged by the GPT Group, and has worked closely with the project consultant team, to prepare a Development Plan to facilitate the renewal and development of the site most commonly recognised as Highpoint Shopping Centre at No. 120 – 200 Rosamond Road, Maribyrnong.

The Highpoint Urban Village Development Plan (the Development Plan) provides a planning and design framework for the future development of the site, which will transform it into a new mixed-use precinct within the broader Highpoint Activity Centre. The site will be recognised beyond its current retail function, incorporating a variety of accommodation typologies, employment opportunities, community facilities, transit networks and a new open space network.

This Planning Report has been prepared in accordance with the requirements prescribed by Schedule 17 to the Development Plan Overlay (DPO17) of the Maribyrnong Planning Scheme. A detailed assessment of the proposal is set out in this Planning Report and should be read in conjunction with the following documents:

- Volume 1, comprising:
 - Highpoint Urban Village Development Plan (Site Analysis & Design Report), prepared by Urbis Pty Ltd
- Volume 2, comprising:
 - Certificates of Title (Appendix A)
 - Social Infrastructure Report, prepared by Urbis Pty Ltd (Appendix B)
 - Housing Diversity Report, prepared by Urbis Pty Ltd (Appendix C)
 - Landscape and Public Realm Concept Plan, prepared by Urbis Pty Ltd (Appendix D)
 - Wind Assessment, prepared by Windtech (Appendix E)
 - Transport Plan, prepared by GTA Consultants (Appendix F)
 - Environmentally Sustainable Design Strategy, prepared by ADP Consulting (Appendix G)
 - Services and Infrastructure Report, prepared by ADP Consulting (Appendix H)
 - Preliminary Site Assessment and Remediation Strategy, prepared by Golder Associates (Appendix I)
 - Stormwater Drainage Strategy, prepared by Peritas Group (Appendix J)

Collectively, these reports have informed the content of the Development Plan. They further confirm the suitability of the Development Plan from a social, amenity, built form, and environmental perspective, as well as remaining consistent with the objectives of Schedule 17 to the Development Plan Overlay.

1.2. DEVELOPMENT PLAN AREA & VISION

The Development Plan (Volume 1) applies to the land understood as the Highpoint Shopping Centre at No. 120 – 200 Rosamond Road, Maribyrnong and has been prepared by Urbis Pty Ltd on behalf of the GPT Group in accordance with the requirements of Schedule 17 to the Development Plan Overlay.

The Development Plan seeks to create a compact, highly accessible and distinctive place that provides high quality living, working and recreational opportunities around a prominent town centre with new development that respects the site's strategic setting and proximity to the Maribyrnong River. New development will reinforce the centre's significant regional retail role and will accommodate a diverse range of quality housing typologies, new local retailing to complement the existing large format retailing, office and other commercial based business at different scales, improved vehicle, pedestrian and cycle connectivity and plentiful green spaces.

The consultation process to date has involved several design team meetings and workshops with Maribyrnong City Council (Council). The consultation process has led to significantly improved planning outcomes that are well resolved and contextually appropriate.

1.3. PLANNING REPORT REQUIREMENTS

The broad overall land uses, and development outcomes as envisaged within the objectives and strategies of Development Plan Overlay – Schedule 17 (DPO17) and the *Highpoint Planning and Urban Design Framework (September 2015)* are delivered as part of this Development Plan.

The proposed mix of uses and development proposed at the site has undergone a thorough design refinement process to ensure appropriate integration within the context of the wider activity centre. The following Table outlines how and where this Planning Report responds to the specific requirements of DPO17.

Table 1 - Response to the Planning Report requirements of DPO17

DPO17 Requirement	Response / Report Reference
<i>The proposed arrangement of uses across the site, including residential, office, shop and other uses.</i>	<p>The proposed land use arrangement provides a diverse, mixed use offering that has considered the location and surrounding context of the site.</p> <p>Please refer to Section 4.2 of this report for further detail.</p>
<i>A Retail Assessment and Economic Impact Assessment Report, where applicable, to the satisfaction of the Responsible Authority. A Retail Assessment and Economic Impact Assessment Report is not required in a Commercial 1 Zone.</i>	<p>The preparation of this report is not applicable in this instance, as the site is located within the Commercial 1 Zone.</p>
<i>A description of how the proposed Development Plan responds to the vision and objectives set out in this Schedule.</i>	<p>The Development Plan is considered to accord with the overall vision for the Highpoint Activity Centre and objectives of DPO17.</p> <p>Please refer to Section 5.1 of this report for further detail.</p>
<i>A description of how the proposed Development Plan will meet the requirements of Clause 15.01-1, Clause 21.11-2, and Clauses 55 and/or 56 of the Scheme, as appropriate.</i>	<p>The Development Plan has appropriately considered the relevant Clauses of the Maribyrnong Planning Scheme.</p> <p>Please refer to Section 5.2 of this report for further detail.</p>
<i>A site master plan and summary of how the documents, reports and plans (as appropriate) have informed the Development Plan.</i>	<p>The Development Plan has been informed by a collection of specialist reports and documents that confirm the appropriateness of the proposed development outcomes.</p> <p>Please refer to Section 5 of this report for further detail. Refer to Figure 8 for the overall Development Plan (“site master plan”).</p>

2. SUBJECT SITE & URBAN CONTEXT

2.1. THE SUBJECT SITE: HIGHPOINT SHOPPING CENTRE

Highpoint Shopping Centre (HSC) is located approximately seven (7) kilometres from the Melbourne Central Business District (CBD). It is sited just south of Raleigh Road, between Rosamond Road and Warrs Road, and occupies an area of approximately 28.6 hectares. The centre is located within the City of Maribyrnong and forms the largest landholding within the Highpoint Activity Centre.

The site is irregular in shape, bounded by Rosamond Road to the west, Aquatic Drive to the south, Warrs Road to the east (in part) and residential neighbourhoods to the north and east. The site features a privately owned ring road with associated landscaping along the northern and eastern (in part) site boundaries, which separates the site from residentially zoned land to the north and east.

The subject land consists of a single title, formally recorded as Lot 2 on Plan of Subdivision 417452P. GPT Funds Management Ltd is listed as the registered proprietor of the land. The following encumbrances are listed on title:

- Section 173 Agreement (Instrument No. AL272555P). The agreement is between Maribyrnong City Council and GPT Funds Management Ltd and required the construction of the Warrs Road Realignment and transfer of interest and title to Council.
- Easement E-1 is a reservation for drainage and other purposes created in favour of the City of Maribyrnong. This easement measures approximately 1.8 metres in width and traverses a small portion (approximately 73 metres) of the northern boundary.
- Easement E-2 is a drainage easement and applies to the northern extent of Lot 1 on Plan of Subdivision 417452P. This easement is therefore outside the title boundaries of the subject site.

For full details of the encumbrances, easements and agreements applicable to the subject site, please refer to the Certificates of Title provided at **Appendix A**.

2.2. SITE HISTORY

HSC is uniquely sited on a former quarry. When quarrying operations ceased in the late 1960s, alternative uses for the site were sought. Ultimately, it was decided that the site would be suitable for a regional shopping centre capable of providing the western suburbs with an extensive range of retailing services in a comprehensively planned complex.

At the time, the site was zoned Extractive Industrial under the Melbourne Metropolitan Planning Scheme, with both the zone and planning scheme now being redundant. In this zone and at this time, a permit was required to use land for a shopping centre.

As indicated by the aerial photographs at Figure 1 and Figure 2, at the time the quarrying uses ceased, there was already residential development established to the north of the subject site. Limited residential development also existed to the east of the centre. Uses on the western side of Rosamond Road were limited although some evidence of industrial land use (including a printing press facility) is apparent.

Development of the centre (initially) was completed in 1971, with additional development stages occurring throughout the centre's 50 years. The last major expansion project occurred through 2011 – 2014 which extended the north-east of the centre, adding retail floor area and new food and drink premises. The total Gross Floor Area of the Shopping Centre is around 156,000sqm, comprising retail, food and drink, entertainment, office, childcare and library uses.



Figure 1 – The subject site as a former quarry circa 1965



Figure 2 - Highpoint Shopping Centre circa 1971

2.3. BUILT FORM

As evident in the aerial image of the site provided at Figure 3, the main built form elements of the shopping centre are central to the site, with at grade and multi-level car parking areas predominantly directed to the site boundaries.

The former use of the site as a quarry is still evident today and has been the principal physical determinant of the design and layout of the centre over the past 50 years. The centre extends over four levels and, due to the landform, Level 3 of the centre is generally at grade with Rosamond Road. The topography of the site varies extensively, as depicted in Figure 4.

The centre is typical of many enclosed shopping centres and is based on a north-south mall layout. The mall forms the spine of the centre, with major nodes (or anchor tenants) located at intervals along the mall. Myer and David Jones are located towards the northern end of the mall and extends over Levels 2 and 3. Woolworths and Big W are located midway along the mall on Levels 2 and 3 respectively, while Harris Scarfe, Target and Target Home are located towards the southern end of the centre.

The North East expansion was completed in 2013 and includes a small plaza and outdoor play area.



Figure 3 - Aerial image of the subject site (Nearmap, 2020)

2.4. ACCESS AND MOVEMENT

The current access network which surrounds the HSC is dominated by private vehicle use. Policy directives encourage transport mode shift towards walking, cycling and public transport, away from private vehicle travel.

The HSC incorporates a major public transport node in the form of a bus interchange. The bus interchange connects HSC to train stations at Essendon, Yarraville, Footscray and St Albans, as well as residential suburbs including Caroline Springs and Keilor East. Bus services operating from HSC include Routes 215, 223, 408, 468, 406 and 407.

Aquatic Drive and a footpath along the northern side of the ring road provides the primary pedestrian access to the centre. The HSC has developed a town centre style streetscape along the southern interface of the HSC which encourages walkability.

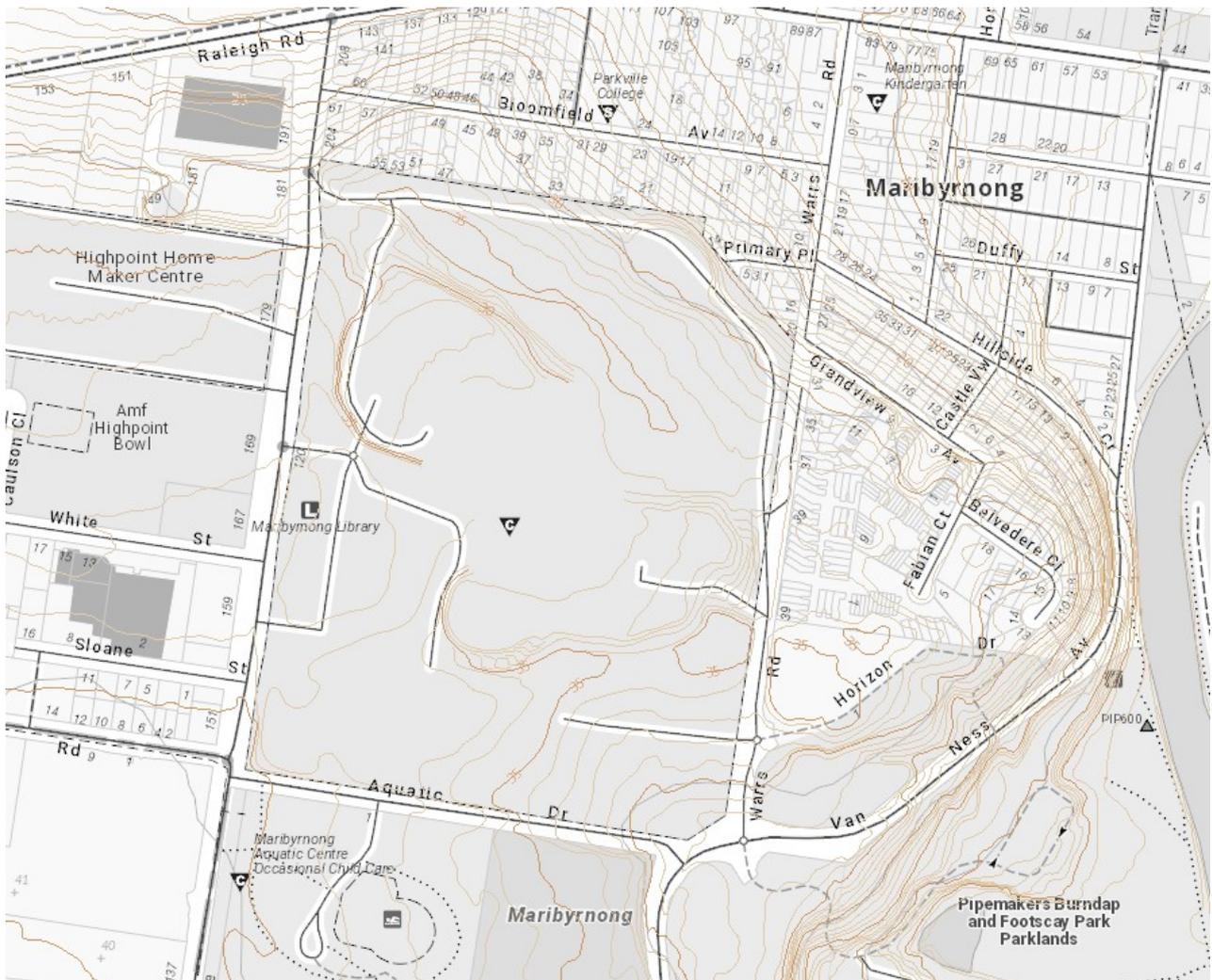


Figure 4 - Site contour plan (VicPlan, 2020)

2.5. STRATEGIC CONTEXT & SITE INTERFACES

Plan Melbourne identifies a hierarchy of activity centres, with Metropolitan Activity Centres identified as the primary location to direct future growth, followed by Major Activity Centres and then Neighbourhood Activity Centres. Metropolitan planning policy recognises Highpoint-Maribyrnong as a Major Activity Centre. The Planning Policy Framework (PPF) of the Maribyrnong Planning Scheme seeks the development of a network of activity centres that are “a focus for high-quality development, activity and living”.

The PPF also envisages that activity centres will:

- Comprise a range of centres that differ in size and function
- Be a focus for business, shopping, working, leisure and community facilities
- Provide different types of housing, including forms of higher density housing
- Be connected by transport
- Maximise choices in services, employment and social interaction.

Local planning policy identifies the Highpoint Activity Centre as a “regional centre for higher order retail, entertainment and services.” In the future it is envisaged “to transform to a vibrant mixed use activity centre with the addition of substantial residential development, new enterprises and public realm improvements.”

It is noted that HSC is a crucial part of the Highpoint-Maribyrnong Major Activity Centre. The site is positioned centrally within the suburb of Maribyrnong, within close proximity to a range of key locations

including the Maribyrnong River, Department of Defence Site (Urban Renewal Site) and Maribyrnong Secondary College.

The City of Maribyrnong is considered a gateway to Melbourne’s western region, positioned between Docklands and industrial and residential areas located to the west. The western region is defined by strong industrial precincts and transport routes and is expected to continue to be defined by a strong commercial and industrial base.

The City of Maribyrnong has continued growth in the residential sector, particularly as underutilised manufacturing and industrial precincts are transformed into residential and mixed-use developments. The City of Maribyrnong also includes a range of significant regional facilities including Victoria University, Footscray Community Arts Centre and Whitten Oval.

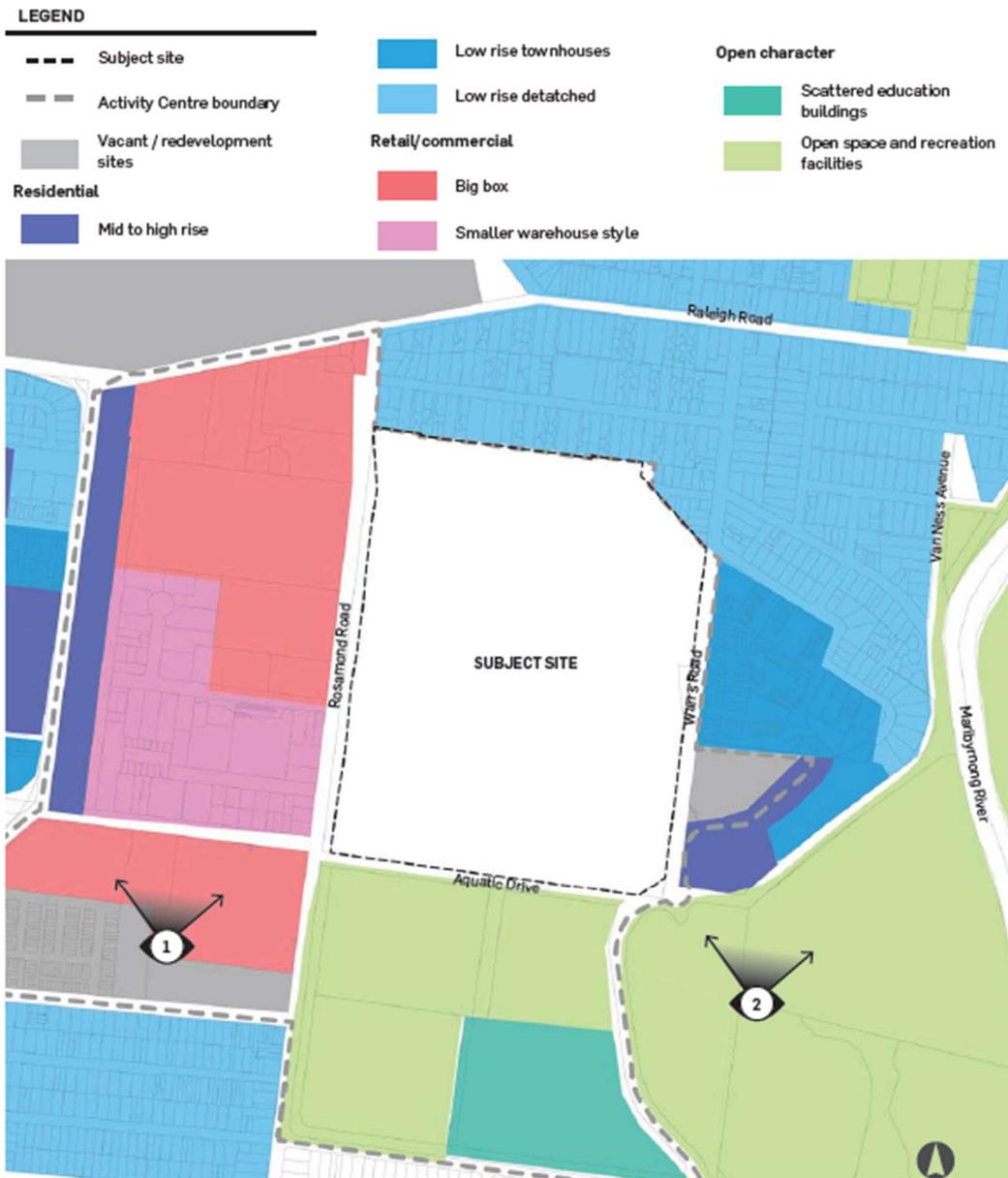


Figure 5 - Existing urban context (Highpoint Urban Village Development Plan)

Current and future land uses in the surrounding area are summarised below.

2.5.1. Commercial

A large bulky goods precinct is positioned on the western side of Rosamond Road. The precinct generally extends south from Raleigh Road to Williamson Road and comprises a variety of big box retailers and complementary activities.

South of this area, between White Street and Williamson Road, there are a number of other restricted retail premises, as well as a mixture of industrial and warehouse uses. This land is within Precinct 4 (Sloane Street Precinct) of the activity centre, which is designated as a mixed-use precinct consisting of bulky goods, other retail, offices and residential uses. The land is located in the Commercial 1 Zone.

Further south again, between Williamson Road and Wattle Road is another bulky goods precinct that includes a Bunnings and Supercheap Auto. This land is located in the Mixed Use Zone and is within Precinct 5 (South Neighbourhood Precinct). Current planning controls direct future residential development to this precinct with retail and local business uses at ground floor.

2.5.2. Residential

There are established residential areas to the immediate north and east of the HSC, with the area predominated by single and double storey detached dwellings and unit style subdivisions. To the south east of the site, there is a small pocket of higher density residential development, benefitting from views over Pipemakers Park to the Maribyrnong River and Melbourne CBD skyline.

In recent times, the wider Highpoint Activity Centre has somewhat lacked an immediate residential catchment due to the concentration of industrial activities (including Commonwealth Defence facilities) in the precinct. In addition, it has been separated from nearby residential areas by the Maribyrnong River and its associated open space network and to a lesser extent by the Flemington Racecourse to the south-east.

Through Council's strategic planning process that occurred throughout 2014 – 2015 and the subsequent release and implementation of the *Highpoint Planning and Urban Design Framework (September 2015)*, there is now clear direction in planning policy for increased residential development within the Highpoint Activity Centre.

2.5.3. Recreation / Education Facilities

The subject site benefits from its strategic location proximate to a number of recreation and education facilities to the south and south-east of the site. These facilities and recreational areas include the Maribyrnong Aquatic Centre, Robert Barret Reserve, Maribyrnong College and sporting grounds, Thompson Reserve, Pipemakers Park and the Maribyrnong River and walking trail.

3. PLANNING POLICY CONTEXT

3.1. PLANNING POLICY FRAMEWORK

The Planning Policy Framework (PPF) seeks to foster the objectives of planning in Victoria (as set out in the Planning and Environment Act, 1987) through appropriate planning policies and practices that encompass relevant environmental, social and economic factors. The PPF includes a number of policies which are relevant to Activity Centres and retailing. These are summarised below:

- **Clause 11- Settlement:**
 - **1.03-1S- Activity Centres** encourages the concentration of major retail, residential, commercial, administrative, entertainment and cultural developments into activity centres that are highly accessible to the community.
 - **11.03-1R Activity Centres- Metropolitan Melbourne** seeks to ensure development and growth of Activity Centres by ensuring that they incorporate a range of land uses, high levels of amenity and are supported by infrastructure.
- **Clause 15- Built Environment and Heritage** seeks to create well designed urban environments that are safe, attractive, easily accessible and provide a sense of cultural identity.

The relevant strategies include:

- Design that enhances liveability, diversity, amenity and safety of the public realm.
 - Require development to respond to its context in terms of urban character, cultural heritage, natural features, surrounding landscape and climate.
 - Ensure transport corridors integrate land use planning, urban design and transport planning and are developed and managed with particular attention to urban design aspects.
 - Design of interfaces between buildings and public spaces, including the arrangement of adjoining activities, entrances, windows, and architectural detailing, should enhance the visual and social experience of the user.
- **Clause 16- Housing** outlines that planning should provide for housing diversity, affordability and sustainability.
 - **Clause 17- Economic Development** seeks to provide for a strong and robust economy with a focus on innovation and productivity. Clause 17.01-1 ‘Commercial-business’ seeks to “encourage development which meet the communities’ needs for retail, entertainment, office and other commercial services and provides net community benefit in relation to accessibility, efficient infrastructure use and the aggregation and sustainability of commercial facilities”.

The relevant strategies include:

- Locate commercial facilities in existing or planned activity centres
 - Provide outlets of trade-related goods or services directly serving or ancillary to industry and which have adequate on-site car parking.
- **Clause 18- Transport** seeks to ensure an integrated and sustainable transport system that provides access to social and economic opportunities, facilitates economic prosperity, contributes to environmental sustainability, coordinates reliable movements of people and goods, and is safe.

3.2. LOCAL PLANNING POLICY FRAMEWORK

The Local Planning Policy Framework (LPPF) comprises the Municipal Strategic Statement and local planning policies

- **Clause 21.03 – Council Vision** sets out Council’s vision and objectives for the city, and details the strategies, actions and commitments that will achieve these. Moreover, the Clause states that *by 2030 the city of Maribyrnong will be a popular inner city municipality with a vibrant and diverse community, a strong identity and a prosperous modern economy.*

- **Clause 21.04- Settlement** outlines that Maribyrnong is defined by a network of Activity Centres. Relevant objectives of relevance include to:
 - *Create an activity centre network with a variety of easily accessible, pleasant and safe places where people can gather, socialise, shop, work, live, be entertained and make use of many kinds of community and leisure services without having to travel far*
 - *To transform the Footscray CAD, Highpoint PAC and Central West MAC into mixed use retail, commercial, residential and community services centres with a sense of place.*
 - *To develop centres in accordance with their place in the activity centre hierarchy*
 - *To enhance the community focus of local activity centres.*
- **Clause 21.06- Built Environment and Heritage** seeks to support a sense of place and community in Activity Centres. The Clause cites three main strategies to achieve this objective. These include:
 - *Maintain and enhance the built form character which contributes to each activity centre’s individual identity;*
 - *Require appropriate development responses to gateway locations within activity centres; and*
 - *Encourage facilities, services and places in activity centres that support the health and well-being of residents, visitors and workers.*
- **Clause 21.07- Housing** outlines that substantial changes are proposed for the Highpoint Activity Centre, assuming greater capacity for medium and higher density housing developments.
- **Clause 21.08- Economic Development** highlights the importance of the Highpoint Activity Centre and stresses the untapped potential for the area. The two main objectives of this Clause are to: *ensure that retail premises are developed in appropriate locations and to ensure restricted retail premises are developed in appropriate locations.*
- The strategies that relate to the Highpoint Activity Centre include:
 - *To support the Highpoint PAC as a regional shopping centre and as the key focus in the City for bulky goods (restricted retail) retailing*
 - *Discourage retail development outside of identified Activity Centres*
 - *Focus the municipality’s restricted retail premises retailing at the Highpoint PAC.*
- **Clause 21.09- Transport** seeks to mitigate issues surrounding congestion and more generally, transport issues. In a statement, the Clause directly addresses the site: *The Northern Maribyrnong Integrated Transport Strategy is being prepared in response to existing traffic congestion and transport issues around the Highpoint PAC and will identify sustainable long term transport improvements that can cater for developments at the MDS and the Highpoint PAC.*
- **Clause 21.11-2- Highpoint Activity Centre** is the key policy that applies to the subject site. This Local Policy includes objectives and strategies for the whole Activity Centre in relation to land use, built form, access and movement, and open space and community infrastructure. It envisages a bold transformation that will see the area develop into a vibrant mixed-use activity centre taking on substantial new residential development.

It also contains specific objectives in relation to the seven precincts contained within the HAC. The Shopping Centre is located within Precinct 6 (Highpoint Hub) which seeks to support residential, retail and entertainment uses and provide complementary hospitality, community, health and office uses. As shown on the Framework Plan (Figure 6), land uses designated within Precinct 6 include a broad mix including larger retail, entertainment, residential and offices.

Precinct 6 - Highpoint Hub also seeks to:

- Create a new public transport interchange in proximity to Rosamond Road with safe and convenient pedestrian and cycle connections to Aquatic Drive and Williamson Road
- Improve pedestrian and cycling connections between the Highpoint Shopping centre and other parts of the Activity Centre

- Provide for greater traffic capacity on the Highpoint Ring Road
- Provide for alternative north-south vehicle movements, such as on a widened Warrs Road and a new road link between the Highpoint Ring Road and Aquatic Drive
- Improve pedestrian and cyclist connections to adjacent open space including Pipemakers Park and Robert Barrett Reserve, including upgrading pedestrian and cyclist access and providing safe crossing points from Aquatic Drive, Warrs Road and Horizon Drive into Pipemakers Park
- Provide for “real-time” public transport timetable information at various points in the precinct
- Improve the existing plaza fronting Rosamond Road and provide additional open space to act as focal points at each end of the proposed east-west pedestrian links
- Require green wall or landscaped edge treatments at highly visible parts of the precinct



Figure 6 - Highpoint Activity Centre Framework Plan (Clause 21.11-2)

Key land use and activity objectives of relevance to the site support the inclusion of these land uses in conjunction with a desire to create a lively mixed use centre with an appropriate range of day and night-time activities. An indicative location for a future Town Centre is shown on the Framework Plan which extends into the Shopping Centre boundary. In conjunction with the framework plan, Rosamond Road is identified within the policy as a main street at the heart of the activity centre that provides a commercial

and retail focus around a central plaza and a new public transport hub. Indicative locations for potential future parks/plazas are indicated and are also included within the Shopping Centre’s boundary.

The Local Policy also contains guidance in relation to Built Form, Access and Movement, and Open Space and Community Infrastructure with further detailed provisions also provided within the accompanying Development Plan Overlay, Schedule 17 (DPO17). The following key policy objectives that are considered to guide future development, in particular building height and detailed design, at the Shopping Centre are:

- *Promote higher levels of development at the core of the centre, close to facilities, with a transition in building heights down to existing residential areas to reflect the character of those areas and to complement the topography of the area.*
 - *Use built form to reinforce Rosamond Road’s role as a main street at the heart of the centre and Williamson Road’s function as a lively local mixed use centre.*
 - *Use built form to help define the key arrival and orientation points in the centre, such as main street corners, with higher and/or more prominent buildings.*
 - *Encourage new building and landscaping design to complement the topography and enhance views into and out of the centre.*
 - *Create a built form that strongly defines streets while retaining a human scale and access to daylight and sunlight on streets, including through the use of an upper level setback from the street frontage.*
 - *Support wrapping of parking structures with other active uses on street frontages, where practicable.*
- **Clause 22.07- Open Space Contribution** outlines that open space contribution is preferred over cash contributions within the Highpoint Activity Centre.

3.3. ZONING

The subject site is located in the Commercial 1 Zone (C1Z). The purposes of the C1Z are:

- *To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*
- *To create vibrant mixed use commercial centres for retail, office, business, entertainment and community uses.*
- *To provide for residential uses at densities complementary to the role and scale of the commercial centre.*

The C1Z is one of the most flexible zones in the Victoria Planning Provisions (VPPs), and permits a wide variety of land uses, including retail, office and residential uses generally as of right. The permissibility of some key uses in the C1Z and as proposed in the Development Plan are outlined in Table 2.

Table 2 - Table of Uses

No Permit Required	Permit Required	Prohibited
Accommodation*	Leisure and Recreation Facility*	Major sports and recreation facility
Child Care Centre*	Place of Assembly*	Motor racing track
Cinema		
Education Centre		
Exhibition Centre		
Informal Outdoor Recreation		
Office		

No Permit Required	Permit Required	Prohibited
Place of Worship*		
Retail Premises		
Shop		
*With conditions or exceptions apply		

The VPPs allows for a schedule to the C1Z to specify a maximum leasable floor area for an office or shop (other than a restricted retail premises). In this instance, the schedule to the zone does not specify a maximum combined leasable floor area for office or shop.

A permit is required to construct a building or construct or carry out works. This does not include the internal rearrangement of a building if the maximum leasable floor area specified in the schedule to the zone is not exceeded.

3.4. PLANNING OVERLAYS

3.4.1. Development Plan Overlay – Schedule 17 (DPO17)

The subject site is contained within Schedule 17 to the Development Plan Overlay (DPO17) which concerns the Highpoint Activity Centre.

This Clause seeks to achieve the following:

To create a compact, highly accessible and distinctive place that provides regional high quality living, working and recreation opportunities around a prominent town centre with new development that respects the area's spectacular setting and proximity to the Maribyrnong River. Redevelopment will reinforce the centre's significant regional retail role and will accommodate quality housing for a range of people, new local retailing to complement the existing large format retailing, office based business at different scales, improved vehicle, pedestrian and cycle connectivity and plentiful green spaces.

Under the provisions of this overlay, a permit should not generally be granted to use or subdivide land, construct a building or construct or carry out works until a development plan has been prepared to the satisfaction of the responsible authority.

DPO17 sets out the requirements for a Development Plan in selected precincts and includes indicative preferred built form guidelines, described further as follows.

Precinct 6 - Highpoint Hub Precinct

The subject site is located within Precinct 6 of DPO17. The overarching goals land use goals contained within the DPO17 for this precinct are summarised as:

- *To reinforce retail and entertainment uses as the focus of the precinct.*
- *To provide opportunities for complementary hospitality, community, health and office uses in the vicinity of the enclosed shopping centre and along Rosamond Road.*
- *To promote Rosamond Road as a main street at the heart of the centre.*
- *To facilitate the addition of housing, including above other uses, with a focus on the south eastern and western edges of the High Point Shopping Centre.*

The relevant built form objectives for Precinct 6 include:

- *To provide active frontages along Rosamond Road and Aquatic Drive and weather protection to frontages in key pedestrian areas as indicated in Map 2 of this Schedule, where feasible.*
- *To provide for greening of large exposed surfaces, such as roof tops, with elements such as roof gardens, particularly where they are overlooked by residential uses.*

- To preserve solar access to a minimum of one footpath, between 11am and 2pm on 21 June along Rosamond Road between Williamson Road/Aquatic Drive and the Highpoint Ring Road, and between 10am to 3pm on 21 September on other streets.

Building Height

DPO17 outlines a preferred building height of 6 – 10 storeys for the majority of the site, with a reduced height of between 3 – 6 storeys for frontage to Rosamond Road and for a width of 15 metres along the ring road.

Preferred street wall heights also apply, of approximately 6 storeys for streets at least 18 metres wide. For all other streets, the street wall height should generally be equivalent to the width of the street. A setback of 10 metres applies to built form above the street wall, as shown in Figure 7.

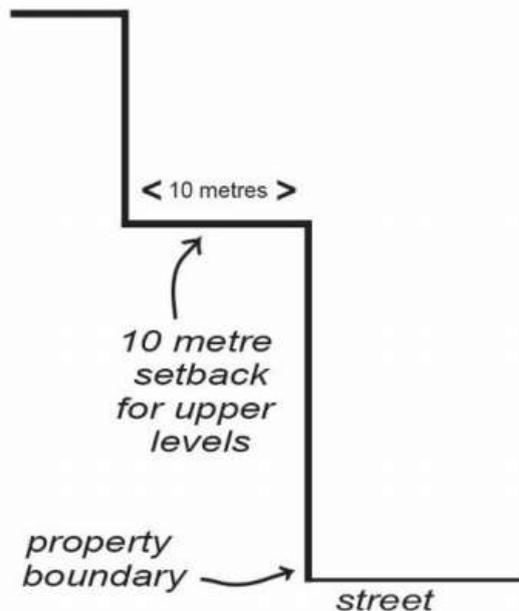


Figure 7 - Preferred upper level setbacks of buildings (DPO17)

3.5. PARTICULAR & GENERAL PROVISIONS

The relevant particular provisions of the Maribyrnong Planning Scheme include Clauses:

3.5.1. Clause 52.06 – Car Parking

Car parking policy seeks to ensure that an appropriate amount of car parking is provided on a site, having regard to the likely demand anticipated, the function of the land, the local context and associated policy of the Planning Policy Framework and Local Planning Policy Framework. Clause 52.06 further seeks to ensure that car parking does not adversely impact upon the amenity of an area and aims to support sustainable transport alternatives.

Clause 52.06 stipulates the car parking provision requirements for a variety of different land uses within Table 1. Where the subject land is identified as being within the Principal Public Transport Network Area as shown on the *Principal Public Transport Network Area Maps* (State Government of Victoria, August 2018) the Column B rates apply.

A permit is required to reduce (including reduce to zero) the number of car parking spaces required under Clause 52.06-5.

Under the requirements of Clause 52.06, the relevant car parking requirements are as follows:

- Clause 52.06-8 stipulates the requirement for a car parking plan to be prepared to the satisfaction of the Responsible Authority

- Clause 52.06-9 stipulates design requirements for a car parking plan, including the design of accessways, car parking spaces and gradients

An assessment of proposed car parking rates and provision across the site, including access arrangements, is provided in the enclosed Transport Plan prepared by GTA Consultants.

3.5.2. Clause 52.17 – Native Vegetation

This Clause seeks to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. It triggers a planning permit requirement to remove, destroy or lop native vegetation, including dead native vegetation.

Some exemptions do exist pursuant to Clause 52.17-7, including:

- Conservation work (conditions apply)
- Removal of native vegetation on Crown land (conditions apply)
- Planted vegetation

If a permit is required to remove, destroy or lop native vegetation, the biodiversity impacts from the removal, destruction or lopping of native vegetation must be offset, in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017). The conditions on the permit for the removal, destruction or lopping of native vegetation must specify the offset requirement and the timing to secure the offset.

All matters relating to vegetation removal will be managed through individual applications. It is envisaged that some vegetation removal may be required, however the majority of the existing vegetation appears to have been planted and will be offset by new soft landscaped areas.

3.5.3. Clause 52.34 – Bicycle Facilities

Clause 52.34 aims to promote cycling as a mode of transport and to provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.

This provision requires that a new use must not commence, or the floor area of an existing use must not be increased until the required bicycle facilities and associated signage has been provided on the land. Clause 52.34 stipulates the bicycle parking provision requirements for a variety of different land uses within Table 1.

Pursuant to Clause 52.34-2, a permit may be granted to vary, reduce or waive any requirement of Clause 52.34-5 and Clause 52.34-6. Refer to the enclosed Transport Plan prepared by GTA Consultants for further discussion.

3.5.4. Clause 53.01 – Public Open Space Contribution & Subdivision

The requirements of this Clause are triggered at subdivision. This clause requires a contribution to the council for public open space in an amount specified in the schedule to this clause.

At the time of subdivision, the HSC site will require a contribution in the order of 5.7%.

3.5.5. Clause 53.18 – Stormwater Management in Urban Development

This clause seeks to ensure that stormwater in urban development, including retention and reuse, is managed to mitigate the impacts of stormwater on the environment, property and public safety, and to provide cooling, local habitat and amenity benefits.

This clause applies to an application to construct a building, or construct or carry out works. Refer to the enclosed Stormwater Drainage Strategy prepared by Peritas Group for further discussion.

4. THE DEVELOPMENT PLAN

The Development Plan has evolved in careful response to a wide range of contextual, demographic, topographic and planning considerations. Among these were the requirements set out in DPO17. The site will be an exemplar 20-minute neighbourhood, characterised by ready access to a wide range of services, jobs and recreational opportunities and supported by active and public transport links.

The Development Plan is presented in Figure 8 and demonstrates how the future mixed-use urban village will integrate with the existing HSC.

4.1. VISION

The Highpoint Urban Village Development Plan seeks to create a compact, highly accessible and distinctive place that provides high quality living, working and recreational opportunities around a prominent town plaza with new development that respects the site's strategic setting and proximity to the Maribyrnong River. New development will reinforce the centre's significant regional retail role and will accommodate a diverse range of quality housing typologies, new local retailing to complement the existing large format retailing, office and other commercial based business at different scales, improved vehicle, pedestrian and cycle connectivity and plentiful green spaces.

The vision will be delivered through the following key principles:

- **New Urban Environment with a Rationalised Street Network** – Create a new legible street network and urban structure with varied built form and heights providing visual diversity and interest, whilst being responsive to the site context and key views.
- **Mixed Use Precinct with a Community Heart** – Create a vibrant urban mixed-use village by increasing the density across the site and introducing a variety of accommodation typologies and a complementary mix of employment generating and community uses.
- **Enhanced Connections** – Enhance pedestrian movement around and through the site, ensuring these new and enhanced routes are legible and of high-quality, particularly considering the challenges in site topography.
- **Sustainable Change** – Deliver environmentally, socially and economically sustainable outcomes in all aspects of the new urban form.
- **Open Spaces** – Provide a network of open spaces of different scale, character and function which cater for a variety of activities to support the future community.

4.2. DEVELOPMENT PLAN

Refer to Figure 8 overleaf.

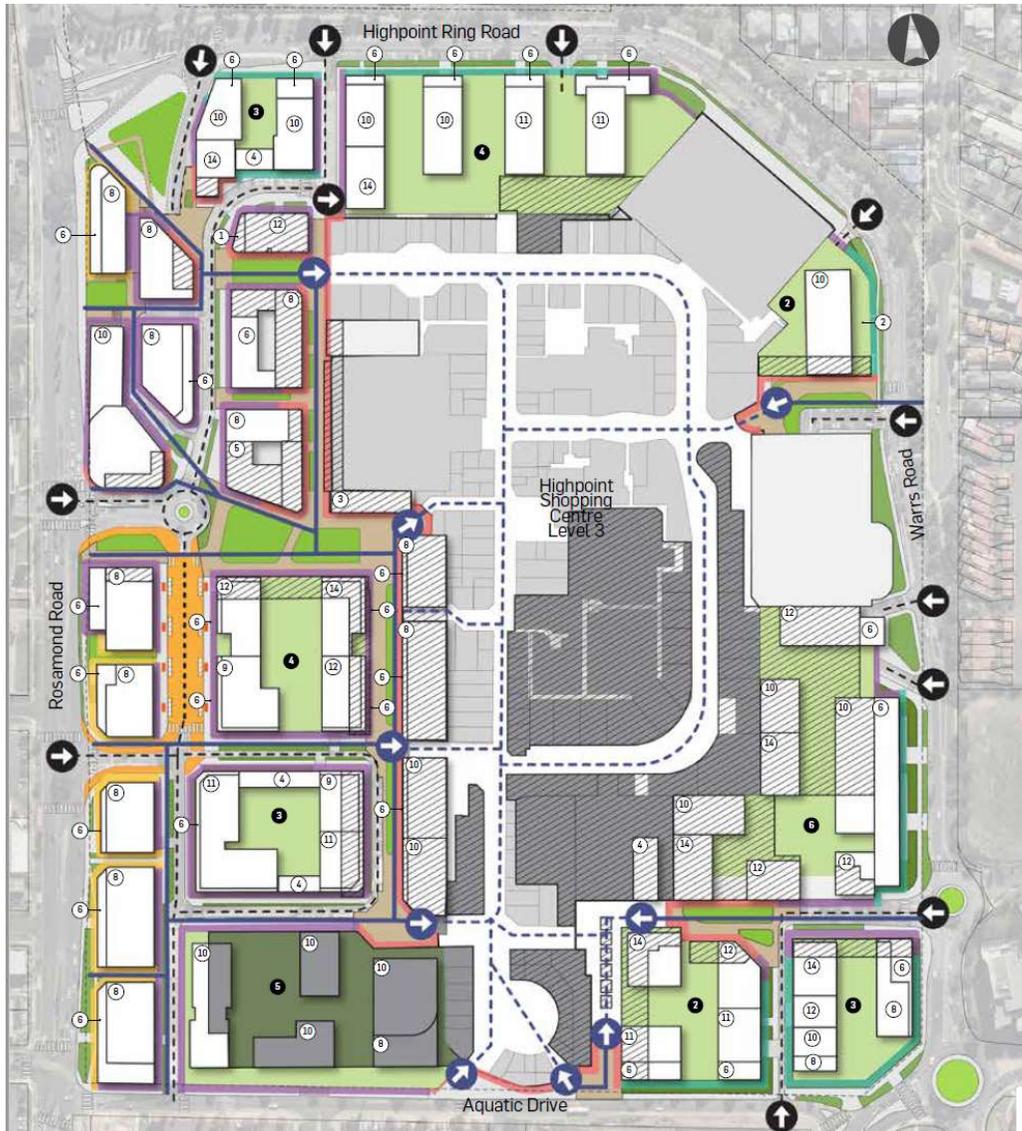


Figure 8 - Highpoint Urban Village Development Plan (Urbis, 2020)

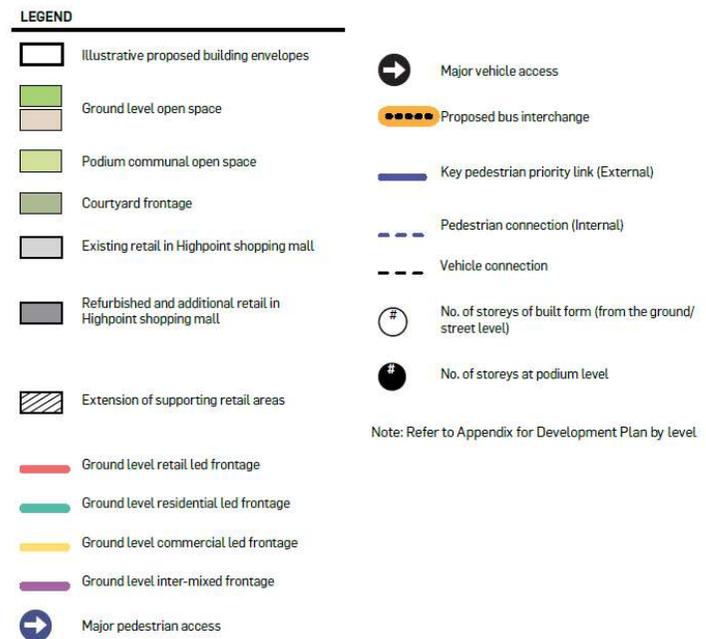


Figure 23 Development Plan

4.3. LAND USE

The subject site will be transformed into a new mixed-use urban village. A key aim is to ensure that the range of uses proposed across the site will enhance the retail offer of the HSC, by facilitating the establishment of a range of complementary uses that increase the number of multi-purpose trips to the site and ultimately create a quality place to live, work and play.

4.3.1. Urban Village

At completion, the area encapsulated by the Development Plan will deliver approximately 3150 new homes, 150 residential hotel rooms, 150,000 square metres of commercial floorspace, 1.9 hectares of open space, over 55,000 square metres of net additional retail and over 10,500 square metres of community facilities:

- **Housing & Accommodation:** The Development Plan provides for a mix of accommodation typologies at a range of densities across the site. Townhouses and apartment building forms will predominate with a range of accommodation models proposed, including build to rent, student accommodation, residential aged care facilities and short-stay accommodation. In this way, it is considered that the Development Plan appropriately provides a diverse range of accommodation at varying affordability levels. Ultimately the housing offer will improve supply and provide greater diversity and choice for local residents, both with regards to the housing forms and tenure.
- **Employment:** The land use plan for the site has been developed to encourage local employment and jobs as part of the renewal of the Highpoint Activity Centre. Approximately 200,000+ square metres of additional employment floorspace is proposed by this Development Plan aimed to facilitate business growth and innovation within the Highpoint Activity Centre. Employment space will comprise office, retail and general commercial land uses, with affordable employment opportunities to be incorporated over time. If an average of 1 job / 30 sqm is assumed, this would provide space for 4,250 ongoing commercial jobs (assuming 85% efficiency rate for net lettable area).
- **Community Facilities:** To support the additional population and addressing gaps in current provision, over 10,500 square metres of floorspace is proposed to the provision of future community facilities. The possible uses may include childcare and kindergarten services, sports and recreation facilities, health services, youth centres and libraries, and other cultural facilities as appropriate. The approach to community facility provision at the site will allow for flexibility to ensure that facilities are responsive to changes in community needs over time.

In spatial terms, community facilities will be generally located on the western side of the site, publicly accessible and close to public transport. They will ensure appropriate access for people of all abilities. Community facilities and open space will be co-located wherever possible.

4.3.2. Precinct Specific Objectives

The Development Plan has seen the formation of five (5) separate precincts, all with individual character objectives and outcomes. These are described in further detail below:

Precinct 1: Northern Residential Edge

Precinct 1 encapsulates the most sensitive elements of the subject site. Extending along the northern boundary and north-east corner of the site, the objectives and design principles resolved for Precinct 1 are informed by the precinct's location at the interface to residentially zoned land. As such, land uses within this precinct will also be primarily residential, to prevent any amenity impacts associated with other land uses in this location. A diversity of housing choices will be provided in this precinct.

Precinct 2: River Gateway

Precinct 2 is spatially located at the south-east corner of the site, wedged between the HSC and Warrs Road to the east, and Aquatic Drive to the south. One of the primary drivers of this precinct is to enhance and maximise connections to the various public parkland and recreational opportunities to the south-east towards the Maribyrnong River. As the wider context to this precinct is also characterised by predominantly residential and retail uses, the promotion of various residential uses in Precinct 2 will be encouraged.

Precinct 3: Rosamond Road

Precinct 3 extends along the width of the site frontage to Rosamond Road. The primary influence for this precinct is its location at the interface to the wider Highpoint Activity Centre. Commercial uses will therefore

be encouraged along this interface, including active ground floor uses where appropriate to encourage activation of the public realm and assist in elevating Rosamond Road as a 'high street'. The relocation of the bus interchange within this precinct will further bolster its contribution to the wider activity centre.

Precinct 4: Central Lifestyle

Precinct 4 is located west of the HSC and east of Precinct 3. By virtue of its context between a retail centre and new commercial opportunities fronting Rosamond Road, there is opportunity to create a mixed-use village at the heart of the site. This precinct therefore seeks to provide a complementary mix of residential, community, commercial and retail uses, with street level activation and ample public open space.

Precinct 5: Internal Central Retail

The Internal Central Retail precinct incorporates the existing HSC. It will continue to provide retail and entertainment based uses and will facilitate internal improvements and reconfigurations, as well as improved connectivity through to the various other precincts on site.

4.4. OPEN SPACE

The subject site is proximate to a number of major public park and recreation reserves, including:

- Pipemakers Park
- Thompson Reserve
- Robert Barret Reserve (including tennis courts and the Maribyrnong Aquatic Centre)
- Maribyrnong River Trail
- Frog's Hollow Wetlands

To complement the adjacent open space, a new network of open space will be provided across the site which collectively will maximise and improve pedestrian connections to the wider open space network, including to Pipemakers Park, Thompson Reserve and the Maribyrnong River. The main purpose of the open space network is to cater for the needs of the future site population and visitors.

Approximately 19,000 square metres of the total site will be recognised and used as open space, including 12 individual public realm spaces varying in size from 340 – 4,500 square metres. The largest of these will be the Town Plaza, an approximately 4,500 square metre open space that will be located at the heart of the precinct with a clear visual link and access to Rosamond Road and the wider activity centre.

These open spaces are to be designed and landscaped to be the focal points for 'civic life' in the precinct. These spaces will provide a transitional element between various uses and functions of the site and are intended to be active and highly pedestrianised.

The publicly accessible open space areas will be supplemented by private podium and rooftop level communal open space areas. The internal open space network will be further complemented by high-amenity boulevards with shared transport modes, and pedestrian footpath routes across the site sleeved with active land uses. Furthermore, sustainability principles are embedded in the development plan to establish exceptional green credentials.

4.5. CHARACTER & BUILT FORM

The unique characteristics of the site have demanded a particular site response that enables effective interaction with the Shopping Centre, various topographical challenges associated with the former use of the site as a quarry, adjoining residential neighbourhoods, the wider Highpoint Activity Centre and the surrounding road network. Amenity within the public realm and the need to create a rationalised urban grid has informed the placement and scale of buildings with the aim of ensuring that streets and spaces enjoy access to sunlight, a sense of safety and security through good engagement between buildings and internal streets and appropriate environmental conditions for their particular purpose.

4.5.1. Building Heights

The DPO17 outlines that development should be generally in accordance with preferred maximum building heights prescribed within this overlay. Map 2 in DPO17 prescribes a preferred 6 – 10 storey building height across the HSC, with the Rosamond Road and ring road frontages having a preferred 3 – 6 storey building height.

As outlined within the Panel Report released for Planning Scheme Amendment C135 which introduced DPO17 across the Highpoint Activity Centre, it is considered that a range of factors, including population projections, the site's enormous scale, urban renewal potential and regional catchment functions provides strong basis for proposing performance based and in some instances, higher density built form than contemplated by DPO17. Expert Mark Sheppard noted in relation to building heights of between 3-6 storeys: *'In my view, this significantly undercapitalises on the strategic attributes of the land for urban renewal. As an activity centre with a regional catchment, reasonable public transport access and limited constraints on development, it has huge potential to contribute to the accommodation of metropolitan growth.'* (page 32 of the Panel Report for Amendment C135).

Further, the Panel in their discussion note that the proposed heights are flexible:

The Panel supports the arrangement whereby the preferred building heights provide guidance but do not mandate an outcome, as this allows for some flexibility in the design response of development proposals to the characteristics of particular sites (C135 Panel report, Page 37).

Of the HSC site, the Panel say:

The Panel's view is that the main consideration in the development of higher building forms on this site should be protection of the amenity of adjoining residential areas to the north and east.

Following several pre-application discussions with the City of Maribyrnong, building heights across the precinct have been refined to ensure a well-considered final outcome that appropriately considers the site context and individual precinct sensitivities. It is also considered that a variety of building heights provide visual interest and diversity in the landscape. Buildings are therefore proposed ranging in heights from 3 – 14 storeys.

It is considered that these heights are 'generally in accordance' with DPO17, where the Development Plan provides an overall average building height of 10 storeys across the site (Figure 9).

average height - 10 storeys

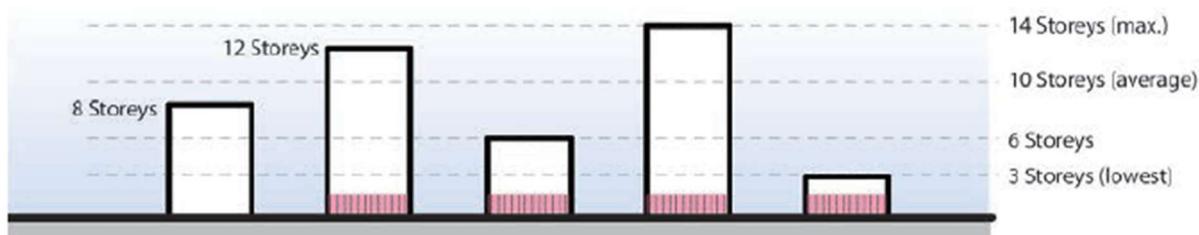


Figure 9 - Reaching an average 10 storey building height

Higher built form is positioned centrally within the site and toward the less sensitive southern and south eastern interfaces. Map 2 to DPO17 encourages more prominent built form at the south-east corner of the site, which the Development Plan responds to by providing a cluster of towers above a 3-storey podium ranging between 6 – 14 storeys. For example, in the River Gateway Precinct, buildings that 14 storeys in height are located approximately 100 metres away from the closest residential receptors.

Higher built form is also positioned to minimise overshadowing to adjacent residential precincts and the public realm. The western side of Rosamond Road and opposite side of the footpath (from the site) along Aquatic Drive and Warrs Road will be largely unaffected by overshadowing throughout the nominated hours of the day, as directed by DPO17.

Lower built form and greater setbacks are incorporated to the northern and eastern boundaries of the site to limit impact on adjacent residential precincts, highly consistent with the expectations set out in DPO17.

4.5.2. Block Structure

A grid block structure is incorporated across the site. This rationalises the existing movement patterns across the site, and assists in legibility, which is currently impeded by the central location of the HSC and various access routes to car parking and loading areas.

Again, the Planning Panel at C135 considered the likely outcome of this, saying (at Page 38):

The Panel considers it highly unlikely that the Highpoint Activity Centre Precinct (Precinct 6) will develop in the same manner of Precincts 1 to 5. While these precincts are capable of staged development of new streets upon which the streetscape concept discussed above may be based, Precinct 6 is very unlikely to be broken up into street-based blocks given the nature of the present use and the level of investment in the buildings on the site. Precinct 6 is fundamentally different to the other precincts in that it is a former quarry hole 10 to 12 metres deep. The site has been developed as a whole, forming a unified development. (In this context the use of a "storey" as a height control takes on a somewhat different light¹⁴, with some storeys potentially below natural ground level. Flexibility in assessment will be required.)

The typical block typology will measure approximately 70 metres x 90 metres and incorporate a podium level (in the order of 3 storeys) and multiple tower forms above. Adequate separation between towers will be achieved with a requirement for a least 10 – 15 metres between tower forms. The benefits of the block structure include legibility, wayfinding, safety and connectivity through and around the site.

4.5.3. Building Setbacks & Separation

The Development Plan contemplates typical podium + tower built form outcomes across the site. While DPO17 allows for a zero lot line, the Development Plan proposes more generous building setbacks at ground level around the site, either to provide more generous public realm space or to provide for additional contextual response to residential interfaces.

Typical podium / street wall heights range between 3 – 6 storeys, ensuring that the ground floor plane encourages active uses and weather protection measures (such as canopies) where appropriate. Parking will also be sleeved with other uses to ensure active street frontages are maintained. Where possible, ground floor dwellings with entrances to the street will be encouraged. Active frontages will be particularly encouraged along Rosamond Road, Aquatic Drive and other key internal street networks including buildings fronting onto open space areas.

Above podium level, tower forms are setback 2 – 5 metres from the street wall. Adequate building separation is encouraged between tower forms (at least 10 – 15 metres) to provide privacy to future residents, ensure visual relief from built form and ameliorate wind effects.

4.5.4. Precinct Specific Character Outcomes

Precinct 1: Northern Residential Edge

This Precinct is located along the northern edge of the site, encompassing the northern portion of the ring road and interfacing with residentially zoned land to the north. The key built form objectives of the Northern Residential Edge Precinct are to:

- Street wall heights should be a maximum of 6 storeys, with overall building forms with a preferred maximum of 10-11 storeys along the Highpoint Ring Road.
- All built form should be a maximum of 6 storeys, within 15m of the existing kerb of the Highpoint Ring Road.
- Ensure ground level setbacks provide for potential future widening of the Highpoint Ring Road.
- Opportunities for private residential entries with incorporated defensive private space should be explored.
- Alignment of built form should take advantage of significant views to the north and east.

The building typology along this section of the ring road will resemble townhouse style development which is respectful to the residential neighbourhoods to the north and north-east of the site. A lower street wall is proposed to the ring road to create a human scale and reduce visual bulk impacts associated with tower forms.

The ring road itself is flagged for duplication, with the widening of this road and emphasis on active transport providing an opportunity to encourage landscaping and a 'green edge'. This is nominated in the Development Plan as a 15-metre-wide landscaped building edge along the northern and eastern edges of the site.

Building podium heights along the green edge are maintained at maximum height of 6 storeys within 15 metres of the expanded ring road. Higher built form outcomes are positioned behind the 15 metre setback

and will be generally in the order of 10 – 11 storeys, with the southernmost tower (i.e. furthest building from the closest residential receptor) reaching 14 storeys.

Precinct 2: River Gateway

Precinct 2 is spatially located at the south-east corner of the site, wedged between the HSC and Warrs Road to the east, and Aquatic Drive to the south. The key built form objectives of the River Gateway Precinct include:

- Higher form is to be located away from the site boundary, to reduce the amenity impacts of shadow and massing.
- Where not adjacent to existing low scale residential areas, built form is encouraged as a perimeter-tower typology, where building forms surround central car parking and podium communal space, as a sleeve for car parking.
- Alignment of built form should optimise significant views to the east and south, along with other factors.
- Taller forms should be slender to minimise their visual impact.
- Building frontage which bound the pocket park/plaza should maximise opportunities for active uses at ground floor.
- Ensure ground level setbacks along Aquatic Drive and Warrs Road are adequate to allow for a comfortable footpath width and street trees.

Podium heights within this precinct will be in the order of 2 – 6 storeys, whilst tower forms will reach 6 – 14 storeys. Taller built form outcomes within Precinct 2 are located centrally, or towards the north-west corner of the precinct. This reduces impacts of shadowing and visual bulk as viewed and experienced from the public realm. Development in this precinct will seek to maximise views to the Maribyrnong River, and views further south-east towards the Melbourne CBD skyline.

Precinct 3: Rosamond Road

This Precinct is located along the western edge of the site fronting the Rosamond Road. The key built form objectives of the Rosamond Road Precinct are:

- Set back built form at ground level along Rosamond Road to provide for generosity of the public realm including opportunities for spill out commercial uses (including cafés) along the Rosamond Road frontage to allow for activation opportunities.
- There is an opportunity for corner location and gateway sites to hold street edges with zero lot lines, for higher building forms and limited street wall setbacks.
- Built form should ensure that the western side of Rosamond Road is free from winter shadows between 10am and 2pm
- Provide opportunities for commercial development typologies along the southern portion of Rosamond Road which include:
 - Building typologies with continuous street edge, rather than podium-tower forms
 - Larger continuous floor plates in-line with the commercial land uses

Built form along Rosamond Road will be setback beyond the title boundary, to provide a wider and more inviting public realm space and pedestrian thoroughfare. This will further provide opportunities for active ground floor uses to utilise part of the footpath for seating or other types of activation.

A consistent built form along Rosamond Road will be adopted with a constant street wall height of 6 storeys. Tower forms will be setback above the street wall and will reach between 8 – 11 storeys in height. Any amenity impacts in regard to the height of these buildings will be effectively ameliorated through a variety of means, including active uses at ground level, canopies across the street to provide weather protection and public open spaces punctuating the built form.

Precinct 4: Central Lifestyle

Precinct 4 is located west of the HSC and east of Precinct 3. The key built form objectives of the Central Precinct are:

- Provide for vibrant and intense activity, supported through higher built form and density. This Precinct has the opportunity for higher built form based on the significant distance from sensitive interfaces and opportunities to connect to public transport. Furthermore, it directly addresses and interfaces with the retail centre and proposed Town Plaza.
- Provide for appropriate tower separation (minimum 15m) to ensure adequate daylight and a high quality of internal amenity
- Establish a clear and legible urban structure in from of a gridded street network which provides clear connections to the external street network, new open space and the Highpoint Shopping Centre.
- Maximise opportunities for active uses at ground floor, particularly along internal streets that are anticipated to have relatively high volumes of foot traffic.
- Built form is encouraged as a perimeter-tower typology, where building forms surround central car parking and podium communal space, as a sleeve for car parking.
- Multi-level car parks are encouraged to be sleeved with other uses, particularly at ground level. Where not possible, provide a high quality façade treatment that provides visual interest

Due to the lack of sensitivities that other precincts are somewhat encumbered by (such as Precinct 1), this Precinct is afforded a clear new grid block structure, with building heights in the order of 3 – 14 storeys. This precinct features the greatest diversity in terms of building height and form which is reflective of its future mixed-use character. Emphasis has been placed on ensuring that the new central Town Plaza is provided with ample daylight and is comfortable in terms of wind effects. Internal street wall heights vary within this precinct, with 3 – 6 storey street wall heights provided along key pedestrian links and open space areas, and taller podium levels in secondary accessways.

4.6. ACCESS & MOVEMENT

Development of the site will exemplify the principles of *Plan Melbourne's* 20-minute neighbourhood, delivering a dense, urban environment that supports much higher levels of walkability and sustainable transport choice than found in conventional suburban environments.

The urban structure of the site will seek to maximise active and public transport-oriented benefits that stem from the site's location in the Highpoint Activity Centre, and proximity to key active transport links.

The internal transport network will be fully integrated and maximise access for all transport modes throughout the site. The network will be designed to ensure it can support emerging vehicle technologies and changing travel behaviours into the future.

4.6.1. Active Transport

The sustainable and active transport objectives for the future mixed-use urban village have a strong focus around the role of the local shared path network in driving more active transport trips, including the duplication of the ring road. Coupled with a comprehensive internal shared path network that is proposed within the site, there is significant opportunity to reduce multiple vehicle trips within the Highpoint Activity Centre and other local facilities.

Active transport will be prioritised throughout the site and particularly within and providing access to new employment opportunities, open spaces, and the new bus interchange. Furthermore, facilities for cyclists will be integrated into key destinations.

New and legible east-west links through the HSC will be provided to increase pedestrian connectivity across the site. This further responds to Map 1 of DPO17.

4.6.2. Public Transport

The existing bus interchange caters for eight (8) bus bays and is located internal to the HSC off Rosamond Road. Whilst this location was logical when the HSC was the heart of the interchange, as it positioned buses as close to their destination as possible, it is no longer consistent with the need for buses to service the broader Highpoint Activity Centre precinct.

The Development Plan contemplates the relocation and upgrade to the bus interchange to be closer to Rosamond Road and more conveniently located, along Little Rosamond Road. This will effectively improve

modal integration, reducing travel distance between the existing tram stop and the bus interchange from 450 metres to 250 metres. It will also improve connectivity between the HSC and the wider activity centre, being located proximate to existing signalised crossing infrastructure.

The site's public transport accessibility is expected to improve into the future, with benefits expected to flow from various major transport infrastructure projects that are presently underway in the region.

4.6.3. Road Network & Car Parking

Vehicular access to the site will continue to be provided via the existing road network and primary intersections, including:

- The intersection of Rosamond Road and the private ring road at the north-west corner of the site.
- The central signalised entrance mid-way along the western boundary to Rosamond Road.
- Via Aquatic Drive to the south
- Via Warrs Road the east

These access intersections will be supported by additional infrastructure investment and access points along the private ring road. As a result of future demand, and to alleviate traffic along Rosamond Road, duplication of the private ring road is required. The new ring road will provide access to the majority of retail car parking areas, which generally experiences higher turnover than residential and employment loading and car parking areas.

Forward looking public and private car parking solutions will be considered as development progresses across the site, particularly in and around the newly located bus interchange and higher density residential areas.

The transport planning approach to the HSC development will be based on future focused assumptions around travel demand and behaviour, and vehicle parking innovations, rather than current 'business as usual' transport planning assumptions. Car parking is anticipated to be shared across uses as usage patterns fluctuate throughout the day. It is also anticipated that reliance on the private motor vehicle will decline over the next 20 – 30 years.

Further investment will be made to the roundabout at the corner of Warrs Road and Aquatic Drive, with signalised pedestrian crossings. This will effectively improve pedestrian connections to open space and recreation opportunities to the south and south-east of the site.

The timing of delivery of the various transport infrastructure works discussed in this section, including the duplication of the ring road, new pedestrian crossings, and the relocation of the bus interchange will be informed by individual traffic studies prepared at the time of relevant site specific planning applications.

Refer to the enclosed Transport Strategy, prepared by GTA Consultants for further detail.

5. DEVELOPMENT PLAN ASSESSMENT

The broad overall land use and development outcomes as envisaged within the *Highpoint Planning and Urban Design Framework (September 2015)*, DPO17 and relevant state and local policy are delivered as part of this Development Plan.

The mix of uses and development proposed at the site has undergone a thorough authority engagement and design refinement process to ensure appropriate integration within the context of the surrounding area, whilst delivering a high-quality and vibrant mixed-use urban village. The built form characteristics and scale of the development proposed under the Development Plan is generally in accordance with Map 1 and Map 2 outlined in DPO17.

A critical aspect of the refinement process has been the analysis of and response to the key policy objectives outlined within DPO17 and the Maribyrnong Planning Scheme more broadly. The way these have been addressed are outlined in the following sections.

5.1. RESPONSE TO DEVELOPMENT PLAN OVERLAY – SCHEDULE 17

DPO17 requires that this planning report provide a description of how the proposed Development Plan responds to the vision and objectives set out in the Schedule. The general objectives for the Highpoint Activity Centre are located in the local area policy at Clause 21.11-2 of the Maribyrnong Planning Scheme.

The Development Plan is considered to accord with the overall vision for the Highpoint Activity Centre by proposing a compact, diverse and highly accessible precinct that will provide a high-quality place to live, work and play.

This proposal seeks to build on the strong retail offerings of the HSC and create a diverse hub for the community and wider region. It will include a range of housing typologies that will cater for a wide cross-section of the community, complemented by a range of open spaces. Improvements to accessibility through cycling, walking and bus interchange will complement the range of offerings whilst ensuring a high level of amenity.

More specifically, the proposal is also considered to accord with the general objectives as nominated for the Highpoint Activity Centre at Clause 21.11-2 and precinct-specific objectives of DPO17 as follows:

5.1.1. Land Uses & Activities (Objective 1)

Table 3 – Development Plan response to land use policy objectives

Policy Objective	Response
General Objectives	
<i>To facilitate more intensive use of underused land in the activity centre and to create a lively mixed use centre with an appropriate range of day and night-time activities.</i>	Achieved. The Development Plan seeks to diversify land uses across a site that has historically been centred around retail uses. The periphery of the HSC is currently underutilised, being predominantly used for at-grade and multi-level car parking structures. The future mixed-use village will deliver a range of commercial, employment, community and residential offerings, along with a new network of open space.
<i>To create an identifiable town centre</i>	Achieved. A new identifiable town plaza is proposed within Precinct 3 (Central Lifestyle). Located internally to the site, towards the western edge of the site, the location of the new town plaza will create an inviting and

Policy Objective	Response
	legible space, featuring a variety of commercial, retail and community land uses, which will effectively integrate with the wider activity centre.
<i>To provide a range of housing to cater for population growth, including demand for diversity in housing types and affordable housing.</i>	<p>Achieved.</p> <p>The Development Plan contemplates a ranging of housing choices across the site, including standard private dwellings (in townhouse and apartment form), build-to-rent models, student accommodation, and serviced apartments / short-stay accommodation. By virtue of the large range of housing proposed, the Development Plan suitably provides accommodation at a range of affordability levels and responds to differing market demands.</p>
<i>To provide for local enterprises, facilities and employment and to support business expansion.</i>	<p>Achieved.</p> <p>The Development Plan has sought to encourage and diversify employment opportunities across the site. The HSC already has a significant retail function and presence, this will be supported in the future with new commercial and office space, as well as affordable employment offerings.</p>
Precinct 6 (Highpoint Hub) Objectives	
To reinforce retail and entertainment uses as the focus of the precinct.	<p>Achieved.</p> <p>As indicated above, the HSC already has a significant retail function and presence in the City of Maribyrnong. The diversification of uses proposed across the site will reinforce and enhance the performance and use of the existing retail and entertainment facilities across the site. Furthermore, the Development Plan contemplates the provision of a net addition of 55,000 square metres of new retail space.</p>
To provide opportunities for complementary hospitality, community, health and office uses in the vicinity of the enclosed shopping centre and along Rosamond Road.	<p>Achieved.</p> <p>The Development Plan seeks to provide approximately 150,000 square metres of commercial and office floorspace in the vicinity of the existing shopping centre and predominantly along the Rosamond Road frontage. The residential and employment uses across the site will be contemplated by an additional 10,500 square metres (approximately) of space dedicated to community needs.</p>
To promote Rosamond Road as a main street at the heart of the centre.	<p>Achieved.</p> <p>As depicted in the Development Plan, Rosamond Road will feature new building heights in the range of 7 – 11 storeys with a clear 6 storey street wall height. An active ground floor plane will be encouraged to promote Rosamond Road as an attractive pedestrian street, and encouraging “eyes on the street”, whilst creating an inviting pedestrian experience. The new road network on site will also better meld the former (and somewhat isolated) shopping centre with the wider activity centre. The activated ground floor plane to Rosamond Road will feature a range of commercial and mixed use frontages. This</p>

Policy Objective	Response
	<p>flexibility will ensure any future development along Rosamond Road is viable, and allows individual buildings to respond to market demands at the time.</p> <p>Vehicle volumes and traffic movement will also be alleviated by duplication works proposed for the private ring road, which will further provide a more pedestrian-friendly environment.</p>
To facilitate the addition of housing, including above other uses, with a focus on the south eastern and western edges of the High Point Shopping Centre.	<p>Achieved.</p> <p>The broad land use plan provided in the Development Plan (at Section 4.2), indicates that new housing will generally be encouraged to the north, east and south of the subject site. The southern precincts particularly, will be encouraged to provide a land use mix.</p> <p>To the north of the site, residential uses alone will be encouraged. This is responsive to the site context, noting the area to the north of the site is characterised by its traditional residential setting, with single detached dwellings and unit style development predominating.</p> <p>Accommodation proposed above retail and other uses across the site will provide a vibrant land use mix and contribute to activation of the ground plane.</p>

5.1.2. Built Form (Objective 2)

Table 4 – Development Plan response to built form policy objectives

Policy Objective	Response
General Objectives	
<i>To use the opportunities provided by new buildings in Highpoint to create a safe and attractive public realm, a high level of amenity for building occupants, and good practice in environmental performance in new buildings.</i>	<p>Achieved.</p> <p>One of the key design principles adopted in the production of the Development Plan is to create a new legible and pedestrian-friendly block structure. This will effectively create a safe and attractive public realm, with key green pedestrian links between a new open space network. A mix of land uses and building heights will create visual diversity in the new mixed-use village, whilst providing high amenity workplaces and homes. Environmentally sustainable design is encouraged by the Development Plan and in future individual planning applications. Private open space proposed at podium level of residential buildings will further provide amenity for building occupants.</p>
<i>To encourage development that is of high architectural and urban design quality, offers attractive internal and external spaces and provides good amenity.</i>	<p>Achieved.</p> <p>The Development Plan encourages site responsive design that has utilised the topography of the area and surrounding interfaces to guide built form outcomes. Design principles have been established which are to guide future development applications, with emphasis on high architectural quality and finishes and high quality amenity spaces.</p>

Policy Objective	Response
Precinct 6 (Highpoint Hub) Objectives	
<p><i>To provide active frontages along Rosamond Road and Aquatic Drive and weather protection to frontages in key pedestrian areas as indicated in Map 2 of this Schedule, where feasible.</i></p>	<p>Achieved.</p> <p>As indicated earlier, an active ground floor plane will be encouraged to promote Rosamond Road and Aquatic Drive as attractive pedestrian streets, and encouraging “eyes on the street”, whilst creating an inviting pedestrian experience. The new road network on site will also better meld the former (and somewhat isolated) shopping centre with the wider activity centre. The activated ground floor plane to Rosamond Road will feature a range of commercial and mixed use frontages.</p> <p>Where appropriate, weather protection to street frontages will be provided through provision of building awnings / canopies and other appropriate treatments.</p>
<p><i>To provide for greening of large exposed surfaces, such as roof tops, with elements such as roof gardens, particularly where they are overlooked by residential uses.</i></p>	<p>The Development Plan provides for up to 50% of new rooftops to provide landscaping opportunities. Additional podium level landscaping and ground level private courtyard gardens are also encouraged.</p>
<p><i>To preserve solar access to a minimum of one footpath, between 11am and 2pm on 21 June along Rosamond Road between Williamson Road/Aquatic Drive and the Highpoint Ring Road, and between 10am to 3pm on 21 September on other streets.</i></p>	<p>The shadow analysis included in the Development Plan indicates that winter solar access will be preserved during the prescribed hours along Rosamond Road.</p> <p>To Aquatic Drive at the winter solstice, a very small amount of shadowing associated with rooftop building services is possible to a sliver of the southern side of the footpath at 10am. This has shifted off the footpath by 11am and does not affect the footpath through the other nominated hours.</p> <p>To Warrs Road at the spring equinox, a minor amount of overshadowing to the eastern side of the footpath will occur in the afternoon at 3pm. This affects the north-eastern corner of the site only and is predominantly contained to the landscaped area. The footpath itself will generally remain unaffected.</p>

5.1.3. Access & Movement (Objective 3)

Table 5 – Development Plan response to access & movement policy objectives

Policy Objective	Response
General Objectives	
<p><i>To create a well-connected, safe and attractive road, pedestrian and cycle network that promotes a mode shift to sustainable transport modes and is part of a high quality public realm.</i></p>	<p>Achieved.</p> <p>The rationalised urban block structure will assist in creating a high-quality and legible internal road and movement network across the site. The movement hierarchy places pedestrian and cyclist movement as top priority, whilst public transport and private vehicle networks are of less priority. Green lanes / pedestrian links have been designed between open spaces to further protect and encourage active transport modes.</p> <p>Furthermore, the Development Plan makes provision for the future expansion of the ring road. This will effectively alleviate some vehicular movement along Rosamond Road, allowing it to transform into a high-quality multi-transport spine. Whilst investment in the ring road via duplication will increase capacity and create a new green boulevard around the site</p>
<p><i>To facilitate a transport mode shift towards walking, cycling and public transport and away from private vehicle travel.</i></p>	<p>Achieved.</p> <p>This is addressed in the response above.</p>
<p><i>To reduce the need to travel by attracting a range of complementary land uses to the activity centre.</i></p>	<p>Achieved.</p> <p>By virtue of the site being a shopping centre, a vast array of land uses already exist at the site. It is envisaged that in providing a variety of accommodation and employment typologies, the new mixed use urban village will increase the number of multi-purpose trips to the site and otherwise complement the development activity occurring further west in the Highpoint Activity Centre.</p> <p>Further, the range of car parking rates have been nominated, which will reduce over time, encouraging more sustainable modes of transport.</p>
<p><i>To create vehicle, walking and cycling connections from the precinct through to surrounding areas.</i></p>	<p>Achieved.</p> <p>In duplicating the ring road, the Development Plan directly seeks to alleviate the current traffic volume of Rosamond Road and the wider road network. Creation of dedicated bicycle paths and mode-share routes will encourage active transport across the site.</p> <p>A high quality series of streets, including generous footpath spaces, is proposed across the site.</p> <p>Roundabout modifications are also proposed at the Warrs Road and Aquatic Drive intersection. This will encourage safe pedestrian access to Pipemakers Park. Potential future pedestrian crossing points also have been identified on Rosamond Road.</p>

Policy Objective	Response
<i>To encourage parking and vehicle access to retail and commercial uses that is safe and visually unobtrusive, where possible.</i>	Achieved. Car parking trends suggest usage rates are likely to decrease over the next 20 – 30 years for residential, retail and commercial uses at the site. The enclosed Transport Plan, prepared by GTA Consultants, provides an overview of forecasted car parking demand and the provision of a shared car parking arrangement across the site. Car parking and vehicle access has been sited to ensure it is central to the site and largely obstructed from view as seen from the public realm.
<i>To locate goods storage and loading bays away from the public realm and sensitive uses, where possible.</i>	Achieved. The privately owned ring road is nominated as the key access route to the major retail loading areas. Although many existing loading bays will continue to be used in the short term, it is recognised in the Development Plan and supporting documentation that these should be located away from sensitive uses and the public realm where possible.
<i>To minimise impacts of parking access on safety and comfort of pedestrians and cyclists.</i>	Achieved. Car parking access is predominantly via the ring road. The proposed mode structure of the ring road ensures that pedestrian and cyclist safety is of utmost priority.
<i>To reconfigure Rosamond Road to establish its role as a main street at the heart of the centre and to reinforce Williamson Road's role as a local retail and business street.</i>	Achieved. As indicated in an earlier section of this report, an active ground floor plane will be encouraged to promote Rosamond Road as an attractive pedestrian street, and encouraging “eyes on the street”, whilst creating an inviting pedestrian experience. The activated ground floor plane to Rosamond Road will feature a range of commercial and mixed use frontages. This flexibility will ensure any future development along Rosamond Road is viable and allows individual buildings to respond to market demands at the time, which will vary depending on the road environment of Rosamond Road, the land uses on the western side of Rosamond Road, and footfall from other land uses along the Road.
Precinct 6 (Highpoint Hub) Objectives	
To contribute to a new public transport interchange that enables easy exchange between travel modes.	Achieved. The existing bus interchange caters for 8 bus bays and is located internal to the HSC off Rosamond Road. Whilst this location was logical when the Shopping Centre was the heart of the interchange, as it positioned buses as close to their destination as possible, it is no longer consistent with the need for buses to service the broader Northern Maribyrnong precinct. As part of the Development Plan, it is proposed to upgrade and relocate the bus interchange to be closer to Rosamond Road on the western side of the shopping centre. In comparison to the existing bus

Policy Objective	Response
	interchange, the new location provides for greater modal integration and improved connectivity to the wider Highpoint Activity Centre.
<i>To provide improved cycling connections to and from the enclosed centre.</i>	<p>Achieved.</p> <p>The Development Plan has a relevant design guideline that seeks to create a cycling loop network. The key features of the loop include:</p> <ul style="list-style-type: none"> • Extension of the existing shared path network around the ring road and Warrs Road to connect to Rosamond Road and Aquatic Drive. • Provision of a series of lower order cycling paths internal to the site, which will link land uses, associated bicycle parking and end of trip facilities.
<i>To provide for two legible east-west pedestrian routes through the shopping centre.</i>	<p>Achieved.</p> <p>Noting the substantial level changes that occur across the HSC, four (4) legible east-west pedestrian routes have been nominated through the site. This exceeds the policy objective.</p>
<i>To provide for future increased traffic capacity on the Highpoint Ring Road while retaining pedestrian and cyclist connectivity.</i>	<p>Achieved.</p> <p>As indicated earlier, provision has been made for the duplication of the ring road to ultimately alleviate some vehicular traffic along Rosamond Road and local road network. Most loading and parking access points will also be provided along the ring road, however the duplication project itself will prioritise the safety of, and connectivity for, pedestrians and cyclists.</p>
<i>To balance convenient car park access with pedestrian priority on Rosamond Road.</i>	<p>Achieved.</p> <p>As indicated earlier, the duplication of the Ring Road will allow for Rosamond Road to be downgraded. The majority of car parking and loading access will occur via the ring road. Pedestrian networks are of highest priority along Rosamond Road and through the site.</p>
<i>To provide sufficient loading bays and service roads close to Rosamond Road without comprising the visual amenity and character of Rosamond Road.</i>	<p>Achieved.</p> <p>Investment in Little Rosamond Road (an internal private road) will effectively redirect service vehicles away from Rosamond Road. This will ensure the protection and visual amenity of Rosamond Road.</p>
<i>To improve pedestrian and cyclist connections to adjacent open space including Pipemakers Park and Robert Barrett Reserve, including a safe crossing point to Pipemakers Park.</i>	<p>Achieved.</p> <p>The Development Plan will improve pedestrian and cyclist connectivity to Pipemakers Park and onwards to the Maribyrnong River shared path through the installation of pedestrian operated signals on Gordon Street and Van Ness Avenue. An indicative signalised design for the works, including the means to best facilitate separated pedestrian and</p>

Policy Objective	Response
	cyclists access is illustrated in the Development Plan and Transport Plan.

5.1.4. Open Space & Community Infrastructure (Objective 4)

Table 6 – Development Plan response to community & infrastructure policy objectives

Policy Objective	Response
General Objectives	
<i>To create a high quality public realm and open spaces comprising attractive, safe and walkable open spaces and streets that caters for the recreational and community infrastructure needs of a range of age and ability groups and for residents, workers and visitors.</i>	<p>Achieved.</p> <p>The Development Plan outlines the future provision of over 19,000 square metres of new open space across the HSC site. These vary in shape and orientation to create diversity in the new Mixed Use Urban Village. Several of these open spaces are provided in a linear form, providing high-quality and landscaped pedestrian links throughout the site.</p> <p>The rationalised urban block structure will further assist in creating a high-quality and legible internal road and movement network.</p>
<i>To use the streetscape as a key element in linking open spaces.</i>	<p>Achieved.</p> <p>As indicated earlier, the rationalised urban block structure will further assist in creating a high-quality and legible internal road and movement network across the site. The movement hierarchy places pedestrian and cyclist movement as top priority, whilst public transport and private vehicle networks are of less priority. Green lanes / pedestrian links have been designed between open spaces to further protect and encourage active transport modes.</p>
<i>To use small open spaces to enhance the urban experience in areas with high pedestrian volumes.</i>	<p>Achieved.</p> <p>The Development Plan provides 12 separate open space areas across the site. These spaces are positioned at various intervals across the site to create a network of open space and enhance the urban experience across the site overall.</p>
<i>To encourage public art in open spaces.</i>	<p>Achieved</p> <p>The Design Principles include the encouragement of public art.</p>
Precinct 6 (Highpoint Hub) Objectives	
<i>To upgrade the existing public plaza fronting Rosamond Road.</i>	<p>Achieved.</p> <p>The public plaza fronting Rosamond Road meets the size and dimensioning requirements prescribed by the <i>Maribyrnong Open Space Strategy (2014)</i>. The plaza will be improved by way of</p>

Policy Objective	Response
	extending into a new Town Plaza area. The Town Plaza will provide commercial, retail and community sleeving to enhance activation.
<i>To provide at least one small local open space.</i>	<p>Achieved.</p> <p>One small local open space, meeting the size requirements prescribed by the <i>Maribyrnong Open Space Strategy (2014)</i>, is located fronting Rosamond Road. There are three open spaces on Rosamond Road that meet the criteria, and the final space nominated as open space can be confirmed in discussions with Council.</p>
<i>To provide landscaping and street treatments that will contribute to Rosamond Road's role as a main street at the heart of the centre.</i>	<p>Achieved.</p> <p>The Development Plan includes the following measures, all giving effect to Rosamond Road's role as a high quality main street at the heart of the centre:</p> <ul style="list-style-type: none"> • Employment and community uses are encouraged to front along Rosamond Road, which will increase the activation of the street. • Downgrading of Rosamond Road as a traffic intensive route is encouraged to promote greater pedestrian and cyclist movement. • Several pocket parks and green spaces are proposed along the Rosamond Road frontage to create a more pedestrian-friendly environment.
<i>To provide for distinctive and substantial green walls, landscaped edges or active frontages in highly visible parts of the precinct on Highpoint Ring Road, where practicable.</i>	<p>Achieved.</p> <p>The Development Plan provides for a 15 metre green edge along the extent of the ring road. New residential development along the ring road will further contribute to the greening and landscaping of this road.</p>
<i>To provide focal points at each end of the main east-west pedestrian links</i>	<p>Achieved.</p> <p>Many of the open spaces and pocket parks / plazas provided at the eastern and western edges of the site have been located so as to provide a focal point or 'book-end' to each of the primary pedestrian links.</p>

5.1.5. Precinct Specific Objectives (Objective 5)

The site is located in Precinct 6 (Highpoint Hub) which has a key objective to support residential, retail and entertainment uses and provide complementary hospitality, community, health and office uses. The Development Plan achieves this in providing a diverse range of uses including residential, retail and entertainment with complementary office, employment and community infrastructure.

Other precinct specific objectives were largely addressed in Sections 4.1.1 to 4.1.4 of this report.

5.2. POLICY RESPONSE

DPO17 further requires that this planning report provide a description of how the Development Plan responds to the requirements of Clause 15.01-1, Clause 21.11-2, and Clauses 55 and / or 56 of the Maribyrnong Planning Scheme, as appropriate. The Development Plan is considered to have a high level of consistency with the identified clauses, with each being discussed in further detail as follows:

5.2.1. Clause 15.01 (Built Environment)

Amendment VC148 was gazetted on 31 July 2018 and introduced a new Planning Policy Framework (PPF) into all Victorian Planning Schemes. This replaced the former Clause 15.01-1 referenced in DPO17. Clause 15.01 (Built Environment) is still largely relevant, with the Development Plan responding to the various objectives and strategies as follows:

- Consistent with Clause 15.01-1S (Urban Design) and Clause 15.01-1R (Urban Design – Metropolitan Melbourne), the Development Plan seeks to facilitate a new mixed-use urban village which values the safety and amenity of future residents, workers and visitors of the site. Any development approved under the Development Plan will be required to be of a high architectural quality and provide innovative design and built form outcomes.
- Clause 15.01-2S seeks to achieve building design outcomes that contribute positively to the local context and enhance the public realm. The Development Plan directly addresses this objective by providing a rationalised urban grid network to improve legibility and wayfinding across the site and creating a network of new open space areas. Building footprints have been defined so as to ensure that future design outcomes are of high-quality and will contribute positively to the local context by way of human scale, wind effects, shadowing and visual bulk.
- Consistent with Clause 15.01-5S (Neighbourhood Character), the quantum and scale of development contemplated under the Development Plan is responsive to its higher-order activity centre context. The built form steps down appropriately to more sensitive interfaces to the north and east and provides a housing typology at these interfaces which is more characteristic of the adjoining residentially zoned land.
- One of the key principles informing the Development Plan approach is to ensure that the future of Highpoint Shopping Centre is an exemplar 20-minute neighbourhood, characterised by ready access to a wide range of services, jobs, shops, and recreational options, whilst being supported by public and active transport links. This directly correlates with the single strategy of Clause 15.01-4R (Healthy Neighbourhoods – Metropolitan Melbourne) which seeks to give people the ability to meet most of their everyday needs within a 20 minute walk, cycle or local public transport trip from their home.
- Responding to Clause 15.01-4S (Healthy Neighbourhoods), the Development Plan seeks to not only improve, but increase connectivity through and around the site. This is achieved through a variety of means, including significant infrastructure investment such as relocating the bus interchange to a location that is better connected to the wider Highpoint Activity Centre and duplicating the private ring road. The modal hierarchy favours pedestrian and cyclist movement throughout the site, providing a network of open space and green / landscaped connections and new dedicated bicycle routes. It is considered the developments scheme directly responds to the key objective of this policy which seeks to achieve neighbourhoods that foster healthy and active living and community wellbeing.

5.2.2. Clause 21.11-2 (Highpoint Shopping Centre)

A response to each objective of Clause 21.11-2 - Highpoint Shopping Centre has been provided at Section 4.1 of this report. Overall, it is considered that the Development Plan highly accords with the overall objectives of this policy by providing an exciting place to live, work and visit.

5.2.3. Clause 55 & Clause 56

The requirements of Clause 55 and 56 are not directly applicable to this Development Plan. The scale of development generally exceeds the 4 storeys contemplated under these design standards (Clause 55), with built form across the site informed by the provisions of DPO17. Clause 56 relates to subdivision, which is also not applicable in this instance.

6. TECHNICAL REPORT INTEGRATION

The proposed land uses and development across the site, as depicted in Development Plan, have been informed by the findings of the following additional documents:

- Social Infrastructure Report, prepared by Urbis Pty Ltd (Appendix B)
- Housing Diversity Report, prepared by Urbis Pty Ltd (Appendix C)
- Landscape and Public Realm Concept Plan, prepared by Urbis Pty Ltd (Appendix D)
- Wind Assessment, prepared by Windtech (Appendix E)
- Transport Plan, prepared by GTA Consultants (Appendix F)
- Environmentally Sustainable Design Strategy, prepared by ADP Consulting (Appendix G)
- Services and Infrastructure Report, prepared by ADP Consulting (Appendix H)
- Preliminary Site Assessment and Remediation Strategy, prepared by Golder Associates (Appendix I)

These are summarised in further detail in the following sections.

6.1. SOCIAL INFRASTRUCTURE REPORT

The purpose of the Social Infrastructure Report (SIR) is to explore the social infrastructure that is required for the quantum of development proposed under the Development Plan, including potential public and / or private community facilities.

To achieve this, the SIR prepared by Urbis Pty Ltd, analyses demographic data, reviews existing provision of social infrastructure (e.g. childcare, kindergarten services, proximal health and maternal services, health services, recreation and sports facilities, community facilities like youth centres and libraries) and identifies any gaps. The report also covers what could be provided on the Highpoint site, including working spaces for creative industries as part of delivering on affordability.

Social infrastructure opportunities that the gap analysis has identified are namely:

- A kindergarten (that can potentially be part of an integrated children and family hub)
- A youth centre (that can potentially be co-located with a library to offer an integrated learning hub or co-located with disability services for youths and young adults)
- An indoor recreation stadium (local 2-court facility)
- Aged care facility
- An arts studio or a community arts centre

The Development Plan sets aside over 10,500 square metres of floorspace which will be dedicated to the provision of future community facilities, including childcare and kindergarten services, sports and recreation facilities, health services, youth centres and libraries, and other cultural facilities as appropriate.

6.2. HOUSING DIVERSITY REPORT

The purpose of the Housing Diversity Report is to identify the mix of housing typologies and household sizes proposed and possible across the site, having regard to market demand, housing supply, key demographics and housing choice. Housing affordability has also been addressed through the breadth of accommodation being offered (including affordable options and alternatives).

The Housing Diversity Report was prepared by Urbis Pty Ltd and identified that the quantum of development proposed under the Development Plan is aligned with State and Local policies and housing strategies. Demographic and market trends suggest there is a community need for housing diversity to manage changes occurring within the City of Maribyrnong. These changes include an aging population, growing demographic segments each with their own unique needs, and evolving generational lifestyle preferences and priorities. Long term lease is the preferred tenure type which enables the land to remain in single

ownership, rather than selling to individuals. Single ownership facilitates further opportunities to repurpose land uses on the site according to changing community needs.

The Development Plan intends to provide a significant housing contribution to the municipality, and identifies that a range of housing typologies and tenures will be integrated into future development.

6.3. LANDSCAPE & PUBLIC REALM CONCEPT PLAN

A Landscape and Public Realm Concept Plan has been prepared by Urbis Pty Ltd. The landscape concept explores opportunities to integrate the existing built form with the proposed new development and ensure better linkages to the surrounding areas. The concept developed is cognisant of the various open space strategies of Maribyrnong City Council.

Being the largest landholding in the Highpoint Activity Centre, the concept plan aims to create an open space strategy that integrates land use, connectivity and public realm opportunities to ensure variety of public realm and open spaces that connects to the larger surrounding urban fabric and open spaces.

6.4. WIND ASSESSMENT

The potential for wind impacts as a result of the development contemplated under the Development Plan have been carefully considered to ensure an appropriate level of comfort is provided to public realm areas. A Pedestrian Wind Environment Statement has been prepared by Windtech Consultants Pty Ltd.

The statement identifies that the site is relatively exposed to the three prevailing wind directions. As a result, there is a possible impact on the wind comfort within areas such as along the footpaths of the various streets that intersect the development and at the communal open spaces that are located on the roof of multiple buildings. Several strategies are proposed to ameliorate the anticipated wind effects, including:

- The inclusion of densely foliating evergreen landscaping for areas where winds are expected to funnel. Or else providing awnings and podium-tower type built form to lessen down-washing effects.
- The inclusion of densely foliating evergreen landscaping or screening where wind is expected to interact with building corners.
- The inclusion of high impermeable balustrades or densely foliating evergreen landscaping for areas that are exposed to directly impacting winds.

The Development Plan has taken these recommendations on board, providing an extensive Landscape and Public Realm Concept Plan which features substantial landscaping throughout open space areas. A traditional podium and tower built form response is also widely planned for the area, which is noted as being effective in ameliorating against undesirable wind effects.

It is noted that wind tunnel testing is recommended at a later, more detailed design stage, once each of the individual building forms are closer to being resolved.

6.5. TRANSPORT PLAN

A Transport Plan has been prepared by GTA Consultants. The plan is strategic in nature, assessing the overarching considerations of applicable planning policies and controls, parking, traffic and access.

The Transport Plan does not provide a final transport impact assessment of the individual development sites that are covered by the Development Plan area. Rather, it has been prepared to provide a high-level review of the appropriateness of the proposed walking, cycling and vehicle access elements of the Development Plan, and provide an indicative assessment of external traffic impacts. It is expected that more detailed transport and traffic impact assessments will be completed for subsequent planning permit applications (as appropriate for the scale of those developments).

6.5.1. Trip Generation & Modal Principles

The Development Plan has been prepared adopting a modal hierarchy that favours walking, cycling and public transport, over private vehicles. The Transport Plan indicates that the proposed development could be expected to generate in the order of approximately 6,300 person trips via all modes of transport in the weekday PM peak hour. This estimate relates to the ultimate full Development Plan and reflects total external trips.

Using the mode split understanding indicated earlier (i.e. active transport modes are favoured), the ultimate development proposed in the Development Plan could be expected to generate in the order of 3,300 public transport trips, 1,300 walking trips, 640 vehicle trips (plus 580 passenger trips) and 460 bicycle trips during the peak hour (assuming each of the uses peak simultaneously). These trip estimates are in addition to the existing demands generated by the existing Shopping Centre.

6.5.2. Walking & Cycling

In this context, the delivery of an active transport network that has high amenity, is convenient and is safe is critically important for successful delivery of the Development Plan. This importance is reflected in numerous local and state policies which seek to encourage active travel modes in place of private vehicle travel. In developing the active transport strategy for the Development Plan the following overarching design principles have been adopted (which are reflected in the Development Plan itself):

- Pedestrian – provide a permeable pedestrian network through the Centre with improved connections to surrounding land uses.
- Cycling – provide a cycling “loop” around the Centre linking onward external links to internal site links.

6.5.3. Public Transport

To deliver the desired land use intensification envisaged as part of the Development Plan (as well as for the broader Highpoint Activity Centre and Maribyrnong Defence Site), a substantial mode shift from private vehicle to public transport is required.

As the current public transport network performance servicing Highpoint is relatively poor (with buses and trams currently sharing the congested road space with private vehicles), public transport access to Highpoint needs to be improved through the prioritisation of higher density modes of transport (i.e. buses and trams).

As part of the Development Plan, it is proposed to upgrade and relocate the bus interchange to be closer to Rosamond Road. In comparison to the existing bus interchange, the possible bus interchange locations provide the following:

- Improved Modal Integration - Reduces the travel distance between the existing Rosamond Road tram stop and the bus interchange from approximately 450m to 250m.
- Improved Connectivity – Centrally located between Highpoint Shopping Centre and the lands to be redeveloped on the westside of Rosamond Road. East-west pedestrian connections across Rosamond Road are provided as part of the existing and proposed traffic signals.

6.5.4. Loading

The proposed development plan responses to ensure the appropriate management of loading movements to and from the proposed development include:

- Locating higher turnover loading and logistics areas on the Ring Road to minimise truck movements through the Activity Centre itself.
- The implementation of a loading dock management system to optimise the use of the existing and proposed facilities.

6.5.5. Car Parking & Traffic

As outlined earlier, planning for the future land use development on the site will need to be cognisant of the need to maximise travel by sustainable transport modes (walking, cycling and public transport) and minimise, as far as practical, travel by private motor vehicle.

The proposed Development Plan Responses to car parking and traffic arrangements include:

Car Parking

- Adopt a travel demand management approach to car parking provision which results in a reduced car parking provision and in turn reduced traffic generation.
- Implement a controlled car parking scheme to manage long-term car parking demands.

- Provide car share for residents and employees to reduce car ownership/reliance for users of the future site.
- Provide electric vehicle charging for residential car parking (or in the first instance ensure it can be retrofitted in the future).

Traffic

- Duplicate the Ring Road/Warrs Road link to provide capacity for additional traffic to the site and reassigned traffic from the downgraded Rosamond Road.
- Continue to engage with Council and the Department of Transport to explore mitigation works at surrounding intersections (Rosamond Road/Aquatic Drive, Rosamond Road/Raleigh Road and Van Ness Avenue/Raleigh Road) to cater for additional traffic demands from the Development Plan.
- Implement a new internal road network to provide vehicle access to land uses and car parking areas.
- Implement external real time guidance signage to direct vehicles via defined vehicle routes to the Centre.

6.6. ENVIRONMENTALLY SUSTAINABLE DESIGN STRATEGY

Environmentally Sustainable Design (ESD) is critical to realising the vision for the future mixed-use urban village. A holistic approach has been taken to ESD throughout this concept design stage, with the focus on strategies and initiatives to enhance the well-being and productivity of those who will live, work and visit the site.

The Highpoint Development Plan ESD Strategy, prepared by ADP Consulting, translates and applies the GPT Sustainability Strategy and Maribyrnong City Council requirements to set key sustainability requirements, and foster ambition and innovation by comparing these key requirements against world-leading sustainability approaches.

GPT's current sustainability vision for the project is to set a market "World Leadership" benchmark in social and environmental sustainability in the built environment, including:

- A precinct with enhanced connectivity to mass public transit.
- A culturally vibrant community that facilitates engagement with cultural diversity, identity, heritage with a "sense of place"
- A safe and resilient community that is both inclusive and cohesive, creating conditions for equal opportunity.
- Community health and well-being facilitated by walkable access to amenities, access to affordable fresh food, access to green spaces promoting physical exercise, biophilic design and optimal ambient conditions.
- Adoption of environmentally sustainable design and construction practices which contribute to reductions in waste, water and energy consumption as well as greenhouse gas emissions.

This Report demonstrates compliance with the key policy objectives of the Maribyrnong Planning Scheme, DPO17 and demonstrates that future development will achieve the following sustainability targets:

- Minimum 5 Star Green Star for new buildings (residential, office and retail)
- National Construction Code (NCC) 2019 Section J Compliance (where relevant)

6.7. SERVICES & INFRASTRUCTURE REPORT

A Services and Infrastructure Report has been prepared by ADP Consulting. This report identifies all existing and proposed infrastructure requirements and easements to service the quantum of development proposed, including:

- Mechanical services
- Fire services

- Hydraulic services
- Electrical services

The report identifies the need for ongoing review of the staging of works, to ensure that the existing centre and new development are serviced appropriately.

6.8. PRELIMINARY SITE REMEDIATION STRATEGY

In discussion with Council, A Preliminary Environment Site Assessment (Phase 1) has been prepared by Golder. The objectives of the Phase 1 ESA were as follows:

- To assess potential sources of contamination at the site based on the identified site history.
- To assess potential environmental issues associated with soil and groundwater for the site (if any), their potential impact and their associated uncertainties for the proposed use of the site; and
- To make recommendations for further assessment (if required).

The desktop site history review assessed the potential for past and current activities on and around the site to have resulted in contamination. Although the decision for the site to require an Environmental Audit as a permit condition lies with the responsible authority, Golder resolves that an audit would be the appropriate level of environmental assessment for areas of the development for which sensitive uses such as high density residential use are proposed to characterise and mitigate (if required) the potential risks posed by potential contamination.

It is acknowledged that an Environmental Audit could be undertaken in a staged manner, and provided as part of the permit application process where sensitive land uses are proposed.

The ESA recommends further investigation (by way of a Phase 2 ESA), including intrusive soil, soil vapour and groundwater assessment. It is proposed that this further assessment (i.e. the Landfill Gas Assessment and Audit) will be required at individual permit stage, as many of the requirements of a Site Remediation Strategy and on-site monitoring are only triggered by the commencement of an audit process.

6.9. STORMWATER DRAINAGE STRATEGY

Peritas Group has prepared a Stormwater Management Plan to inform the existing and proposed stormwater management measures across the subject site. This report generally outlines that the scale and quantum of development contemplated under the Development Plan will not alter the drainage patterns of the site. Furthermore, future development across the site is appropriately positioned and sized to benefit from existing stormwater collection, detention and treatment systems.

The Stormwater Management Plan recommends further analysis at individual permit stage.

7. CONCLUSION

Highpoint Shopping Centre is the largest landholding in the Highpoint Activity Centre, which makes it ideally sized and located to support the strategic objectives of Maribyrnong City Council and the Victorian Government.

A development of this scale is a long-term proposition and the future will see major changes for Metropolitan Melbourne as its population continues to grow and evolve. Planning for Highpoint Shopping Centre needs to be able to respond to these changes. This setting necessitates a holistic approach for the future of the site, that is able to provide both certainty of vision and objectives for the site, with flexibility to respond to changes in projections and demands over time.

The proposed development of the site supports the objectives of key State and local planning policy and is consistent with the objectives of *Plan Melbourne 2017-2050*.

There is strong strategic support for the scale and type of development proposed. In light of the assessment as outlined in this report, it is considered that the Development Plan should be supported for the following reasons:

- The Development Plan sets the vision and objectives that provide certainty that the desired outcomes will be achieved through future permit applications and eventual development outcomes.
- The site will provide housing choice, fit for the needs and expectations of a diverse community now and into the future.
- Development will capitalise on existing and invest in new public transport infrastructure to deliver enhanced transit-oriented development outcomes. Coupled with active transport infrastructure, the site will be a true 20-minute neighbourhood.
- The additional employment floorspace proposed by this Development Plan will facilitate business growth and innovation within the Highpoint Activity Centre
- Sustainability objectives and requirements are embedded in the framework to deliver an active, resilient community.
- Development will facilitate a significantly improved pedestrian environment and public realm internal to the site, and also along Rosamond Road, Aquatic Drive, Warrs Road and the private ring road.

8. DISCLAIMER

This report is dated 06 October 2020 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of The GPT Group (**Instructing Party**) for the purpose of Development Plan Planning Report (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A

CERTIFICATES OF TITLE

Register Search Statement - Volume 10993 Folio 232

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 10993 FOLIO 232

Security no : 124082111925L
Produced 12/03/2020 06:20 PM

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 417452P.
PARENT TITLE Volume 10958 Folio 039
Created by instrument AE857788Q 24/01/2007

REGISTERED PROPRIETOR

Estate Fee Simple
As to 1 of a total of 2 equal undivided shares
Sole Proprietor
GPT FUNDS MANAGEMENT LTD of LEVEL 52,MLC CENTRE, 19-29 MARTIN PLACE SYDNEY
NSW 2000
AE857788Q 24/01/2007

ENCUMBRANCES, CAVEATS AND NOTICES

LEASE as to part H656605 24/08/1979
Expiry Date 01/10/2028
THE MAYOR COUNCILLORS AND CITIZENS OF THE CITY OF SUNSHINE

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

AGREEMENT Section 173 Planning and Environment Act 1987
AL272555P 05/08/2014

DIAGRAM LOCATION

SEE PS417452P FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

OTHER TITLES WITH INTERESTS AFFECTING THIS LAND
11161/790, 11534/008, 11534/010

DOCUMENT END

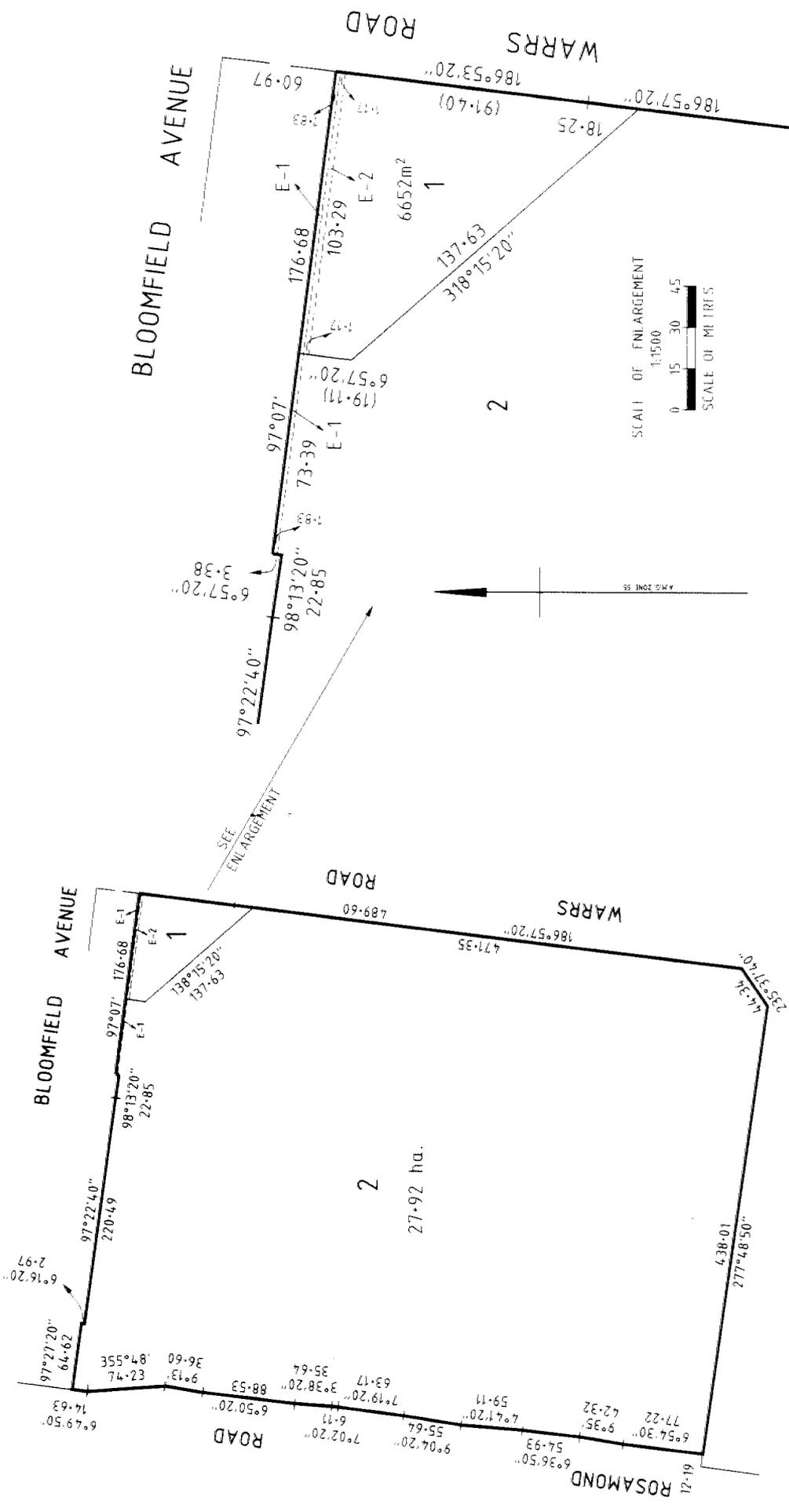
**Delivered from the LANDATA® System by SAI Global Property Division Pty Ltd
Delivered at 12/03/2020, for Order Number 61412439. Your reference: MA6501A.**

PLAN OF SUBDIVISION		STAGE NO. <hr/>	LTO use only EDITION 3	Plan Number PS 417452P
Location of Land Parish: CUT PAW PAW Township: _____ Section: 21 Crown Allotment: 5 (Pt.) & 5A Crown Portion: _____ LTO Base Record: CHART 109 Title Reference: Vol. 10340 Fol. 830 Vol. 9092 Fol. 855 Vol. 10251 Fol. 089 Last Plan Reference: CP112871 & PS341019A (Lot 1) Postal Address: Warrs Road (at time of subdivision) Maribyrnong AMG Co-ordinates E 314 050 ZONE: 55 N 5 817 120 (of approx. centre of land in plan)		Council Certification and Endorsement Council Name: City of Maribyrnong Ref: SUB 98/05 1. This plan is certified under section 6 of the Subdivision Act 1988. 2. This plan is certified under section 11(7) of the Subdivision Act 1988. Date of original certification under section 6 16 / 7 / 98 3. This is a statement of compliance issued under section 21 of the Subdivision Act 1988. OPEN SPACE (i) A requirement for public open space under section 18 of the Subdivision Act 1988 has /has not been made. (ii) The requirement has been satisfied. (iii) The requirement is to be satisfied in Stage..... _____ Council Delegate _____ Council Seal _____ Date _____ / _____ / _____ Re-certified Under section 11(7) of the Subdivision Act 1988. _____ Council Delegate _____ Council Seal _____ Date 19 / 10 / 98		
Vesting of Roads and / or Reserves				
Identifier	Council/Body/Person			
NIL	NIL			
Notations				
Staging		This is is not a staged subdivision Planning Permit No. _____		
Depth Limitation		Does not apply. The dimensions of lot 2 are not derived from this survey. The land being subdivided is enclosed within thick continuous lines. APPURTENANT EASEMENTS FOR DRAINAGE PURPOSES HAVE BEEN CREATED IN FAVOUR OF LOT 2 ON THIS PLAN BY AE928717W AND AK789190F.		
Survey This plan is is based on survey. This survey has been connected to permanent marks no(s). in Proclaimed Survey Area No. _____				
Easement Information				
Legend: E - Encumbering Easement or Condition in Crown Grant in the Nature of an Easement* A - Appurtenant Easement R - Encumbering Easement (Road)				LTO use only
Subject Land	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1	Reservation in Crown Grant Vol.10340 Fol.830 for drainage & other purposes.	1.83	Crown Grant Vol. 10340 Fol. 830	The municipal or other authority as set out in Crown Grant Vol. 10340 Fol. 830
E-2	Drainage	1.17	This plan	City of Maribyrnong
				Statement of Compliance/Exemption Statement
				Received <input checked="" type="checkbox"/>
				Date 30 / 10 / 98
				LTO use only
				PLAN REGISTERED
				Time 2.45
				Date 6 / 11 / 99
				<i>Nail J Coyne</i>
				Assistant Registrar of Titles
				Sheet 1 of 2 Sheets
 BEVERIDGE WILLIAMS & CO. PTY.LTD. ACN 006 197 235 SURVEYORS ENGINEERS PLANNERS 1075 HIGH STREET ARMADALE (03)98229799 48 LYDIA ST SOUTH, BALLARAT (03)53313877 23 BAIR STREET EDGEMOON (03)96622630 31 MURRAY STREET WENTHOGG (03)56721505		LICENSED SURVEYOR JOHN FRANCIS WILLIAMS (PRINT) SIGNATURE _____ DATE 7 / 5 / 98 REF. 6274/3 VERSION 1		DATE / / COUNCIL DELEGATE SIGNATURE _____ Original sheet size A3

PLAN OF SUBDIVISION

STAGE NO. /

PLAN NUMBER
PS 417452P




BEVERIDGE WILLIAMS & CO.
PTY. LTD. ACN 006 197 235
SURVEYORS ENGINEERS PLANNERS
1075 HIGH STREET ANMADALE 105 198229/99
48 LINDARD ST SULLIVAN BARRATT 103 955551 5877
21 RAIP STREET LILONGWA HA 103 956626 20
31 MURRAY STREET WINTHAGG 103 756721 505

SCALE

0	40	80	120	160
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LENGTHS ARE IN METRES

ORIGINAL

SCALE	SHIFT
1:4000	A3

LICENSED SURVEYOR (PRINT)
SIGNATURE
REF **6274/3**

JOHN FRANCIS WILLIAMS
DATE 7 / 5 / 98
VERSION 1

SHIFT 2 OF 2 SHEETS
DATE / /
COUNCIL DELTGATE SIGNATURE

AL272555P

05/08/2014 \$116.50 173


Application by a Responsible Authority for the making of a Recording of an Agreement

Section 181 Planning and Environment Act 1987

Lodged by:

Name: Rigby Cooke Lawyers
Phone: (03) 9321 7888
Address: Level 13 469 LaTrobe Street Melbourne VIC 3000
Ref: REA:20082090
Customer Code: 674R

Privacy Collection Statement
The information from this form is collected under statutory authority and is used for the purpose of maintaining publicly searchable registers and indexes in the Victorian Land Registry.

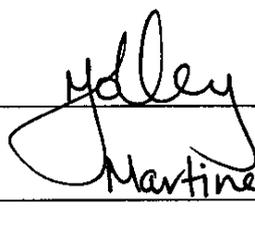
Land: Certificates of Title Volume 11161 Folio 789, Volume 11161 Folio 790 and Volume 10993 Folio 232

Authority: Maribyrnong City Council
of Corner Hyde and Napier Streets, Footscray, Vic, 3011

Section and Act under this agreement made: Section 173 of the Planning and Environment Act 1987

A copy of the Agreement is attached to this Application.

Signature for the Authority:



Name of Officer: (full name)

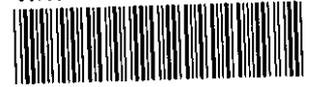
Martine Rolley

Date:

12 March 2014

AL272555P

05/08/2014 \$116.50 173



**GPT FUNDS MANAGEMENT LTD (ABN 74 115 026 545) ~~in its capacity as trustee of~~
~~the Trust~~ and HIGHPOINT SHOPPING CENTRES PTY LTD (ABN 15 004 557 260)**

- and -

MARIBYRNONG CITY COUNCIL (ABN 86 517 839 961)

AGREEMENT

Part of land at 120 – 200 ROSAMOND ROAD, MARIBYRNONG

Rigby Cooke Lawyers
Level 13, 469 LaTrobe Street
Melbourne VIC 3000
Phone: 03 9321 7888
Facsimile: 03 9321 7900
Our Ref: REA:LMZ:20082090

AL272555P

05/08/2014 \$116.50 173



TABLE OF CONTENTS

1	Definitions and Interpretations	1
2	GPT Obligations	2
3	Council Obligations	3
4	Council Offer of Right of First Refusal	3
5	Term	4
6	Registration	4
7	Council's Costs to be Paid	5
8	Cooperation	5
9	General	5
10	Costs	5
11	GST	5
	SIGNATURES	6

AL272555P

05/08/2014 \$116.50 173



AGREEMENT

Dated 2013

PARTIES GPT FUNDS MANAGEMENT LTD (ABN 74 115 026 545) ~~in its capacity as trustee of the Trust~~ and HIGHPOINT SHOPPING CENTRES PTY LTD (ABN 15 004 557 260) ("Owners")

and

MARIBYRNONG CITY COUNCIL (ABN 86 517 839 961) ("Council")

referred to in this Agreement singularly as a **Party** and collectively as the **Parties**.

BACKGROUND

- A. The Owners are the registered proprietors of the Property.
- B. Warrs Road, Maribyrnong ("Warrs Road") is vested in the Council as a road.
- C. The Owners propose to undertake the Development of the Property in accordance with the Planning Permit.
- D. In order to facilitate the Development and in accordance with Condition 14 of the Planning Permit, the Owners agree to transfer ownership of the Transfer Land to Council at no cost to Council for the purposes of a road.
- E. In accordance with Condition 15 of the Planning Permit, Council has agreed to provide the Owners with a right of first refusal to buy back the Transfer Land on the terms and conditions set out in this Agreement.
- F. The Parties enter into this Agreement:
 - a. for the purposes of describing the terms and conditions on which the Owners can buy back the Transfer Land from Council;
 - b. to give effect to the requirements of the Planning Permit; and
 - c. to specify issues in relation to the construction and maintenance of the road on the Transfer Land.

1 Definitions and Interpretations

1.1 Definitions

In this Agreement:

Agreement means this Agreement and any agreement executed by the parties expressed to be supplemental to this Agreement.

Commencement means the date of commencement of this Agreement in accordance with clause 5.1.

Development means buildings and works to extend the north-east precinct of Highpoint Shopping Centre for the purpose of additional retail floor area, food and

drink premises, buildings and works not generally in accordance with the incorporated plan overlay, use of land as a shop, works to construct a ring road, shared path, and associated landscaping, and two 4 metre high pylon signs more particularly described in the Planning Permit.

Future Redevelopment means any future works or redevelopment of the Property (excluding the works under the Planning Permit) which result in the Transfer Land not being required as a road to service the residential properties on Warrs Road.

Owners means, at the date of this agreement, GPT Funds Management Ltd (ABN 74 115 026 545), ~~in its capacity as trustee of the GPT Retail Subsidiary Trust~~ and Highpoint Shopping Centres Pty Ltd (ABN 15 004 557 260) and thereafter their respective successors in title or permitted assignees.

Property means the Highpoint Shopping Centre located at 120-200 Rosamond Road, Highpoint being the land contained in Certificate of Title Volume 10993 Folio 232, Volume 11161 Folio 790 and Volume 11161 Folio 789.

Plan means the plan of subdivision which subdivides the Transfer Land from the Property as agreed between the parties.

Planning Permit means Planning Permit No. TP411/2009 (V0) issued by Council as Responsible Authority for the Development dated 19 May 2010 (and where the context so permits includes any variation or amendment to the Planning Permit).

Transfer Land means that part of the Property shown on the Plan, to be designated as a road, ownership of which is, to be transferred to and vested in Council.

Trigger Event means an event described in clause 4.2.

~~Trust means GPT Retail Subsidiary Trust.~~

Warrs Road Realignment means those works to be undertaken on the Property by the Owners to service access to the residential properties in Warrs Road.

1.2 Purpose and Application

The Parties acknowledge and agree that this Agreement:

- a. is intended to record the outcomes of various discussions between the Parties for the facilitation of the Development under the Planning Permit;
- b. will create legally binding arrangements between the Parties; and
- c. will be registered on the Certificate of Title to the Transfer Land and the Property pursuant to Section 173 of the *Planning & Environment Act 1987*.

2 GPT Obligations

2.1 In accordance with Condition 14 of the Planning Permit, the Owners must (at their cost) transfer their interest and title in the Transfer Land to Council (at no cost) prior to commencement of the works to the Warrs Road Realignment.

2.2 The Owner will, at its cost, by November 2012 construct a road on the Transfer Land to provide vehicle access to the residential properties to the east of Warrs Road.

AL272555P

05/08/2014 \$116.50 173



- 2.3** The construction of the road referred to in the previous sub-paragraph will include the piers, slabs, void and structure to support the road.
- 2.4** The Owner will carry out and pay for the repair and routine maintenance of the road structure and road pavement on the Transfer Land to the reasonable satisfaction of the Council.
- 2.5** If the Owner does not undertake the repairs and maintenance within 28 days (or such other date as agreed between the parties given the nature and extent of the works required) of receipt of written notice from the Council the Council may, in its absolute discretion, undertake the repairs and maintenance and seek reimbursement of the Council's reasonable and invoiced costs from the Owner.
- 2.6** Notwithstanding clauses 2.4 and 2.5, if the condition of the road structure or road pavement is hazardous to the safety of the members of the public using the road, the Council must make reasonable endeavours to contact the Owner and report the hazard. If the Owner fails to undertake the necessary repairs and works within a reasonable time, the Council may undertake any necessary repairs and works as required and seek reimbursement of the Council's reasonable costs from the Owner.

3 Council Obligations

- 3.1** In consideration of the Owners transferring ownership of the Transfer Land to Council (at no cost to Council), Council must do all things reasonably necessary to declare the Transfer Land as a public road pursuant to section 11(1)(a) of the *Road Management Act 2004* (Vic). The Transfer Land must be declared a public road by no later than 28 February 2013.

4 Council Offer of Right of First Refusal

- 4.1** Council must not sell or agree to sell the Transfer Land to any person without first offering to sell the Transfer Land to the Owners in accordance with this clause 4.
- 4.2** If:
- a. Council wishes to sell or transfer the Transfer Land to any person; or
 - b. upon the Future Redevelopment of the Property the Transfer Land is no longer required to be used as a road to service the residential properties on Warrs Road; or
 - c. for any other reason, the Transfer Land is no longer required to be used as a road to service the residential properties on Warrs Road,
- (Trigger Event)**
- then, with the effect from the occurrence of a Trigger Event, the Council must deal with the Transfer Land in accordance with the remaining provisions of clause 4.
- 4.3** Within 30 days of a Trigger Event occurring the Council must provide a written offer to the Owners to sell the Transfer Land to the Owners on the following terms:
- i. the purchase price of the Transfer Land \$1.00;

AL272555P

05/08/2014 \$116.50 173



- ii. the Owners must reimburse to Council its reasonable costs and expenses incurred in transferring ownership of the Transfer Land to the Owners;
- iii. a settlement of the Transfer Land must occur within 30 days after the date of acceptance of the offer by the Owner; and
- iv. the sale will be subject to the granting of those easements considered necessary and appropriate in relation to existing services located within or above the Transfer Land.

4.4 The offer pursuant to clause 4.3 is irrevocable and remains open for acceptance by the Owners for 60 days after they receive the offer.

4.5 The Owners can accept the offer made pursuant to clause 4.3 within the time period specified in clause 4.4 by giving written notice of acceptance to the Council.

4.6 If the Owners do not accept the offer in accordance with clause 4.5, the offer unconditionally lapses after the time period in clause 4.4 expires.

4.7 Within 7 days of acceptance of the offer by the Owners, Council must provide to the Owners a draft written Contract of Sale (if required). The Owners must advise the Owner of any amendments to the draft Contract of Sale, the Owners must provide the amendments in writing within 14 days of receipt of the draft Contract of Sale. Within 7 days of completion of the Contract of Sale negotiations, Council must provide to the Owners a Contract of Sale duly executed by Council and incorporating the terms and conditions set out in clause 4.3 and any other terms and conditions negotiated between the parties and otherwise on terms consistent with the general conditions contained in the standard form of contract prescribed by the *Estate Agents (Contracts) Regulations 2008* (as amended from time to time).

5 Term

5.1 The term of this Agreement will commence on the date of execution of this Agreement or such other date as the Parties agree in writing and will expire on the earlier of:

- (i) the Owners fail to buy back the Transfer Land in accordance with clause 4, after the occurrence of a Trigger Event; or
- (ii) the Owners exercise the right of first refusal in accordance with clause 4 and ownership of the Transfer Land is transferred to the Owners.

6 Registration

6.1 Council agrees to make an application to the Registrar of Titles to make a recording of this Agreement in the Register on the Certificate of Title to the Transfer Land and the Property pursuant to Section 173 of the *Planning & Environment Act 1987*.



7 Council's Costs to be Paid

7.1 The Owners covenant to pay immediately on demand to the Council the Council's reasonable costs and expenses (including legal expenses) incidental to the drafting, finalisation, engrossment, execution, registration and enforcement of this Agreement.

8 Cooperation

Each Party will:

- 8.1** perform its obligations under this Agreement in a timely manner; and
- 8.2** act in good faith and be just and reasonable in their dealings with each other.

9 General

- 9.1** The laws of Victoria govern this Agreement and the agreements contemplated by it.
- 9.2** Neither Party can assign its rights (in whole or in part) under this Agreement without the consent of the other party.

10 Costs

10.1 The Owners will be responsible for its own costs of preparing this Agreement.

11 GST

11.1 GST definitions

For the purpose of this clause 11:

"GST" means GST within the meaning of the GST Act; and

"GST Act" means the A New Tax System (Goods and Services Tax) Act 1999 (as amended).

11.2 Amounts payable include GST

To the extent that a party makes a taxable supply in connection with this Agreement, except where express provision is made to the contrary, and subject to this clause 11, the consideration payable by a party under this Agreement is inclusive of any GST.

11.3 Liability to pay GST

Each party is responsible to remit any GST from the consideration it receives under this Agreement and may not obtain contributions from any other party for such GST contribution.

AL272555P

05/08/2014 \$116.50 173



SIGNATURES

EXECUTED AS AN AGREEMENT

Signed on the date shown on the front cover of this **Agreement**.

Signed in my presence for and on behalf of **GPT Funds Management Ltd (ABN 74 115 026 545)** in its capacity as trustee of the Trust by its attorneys

..... **Lucinda Cowdroy** and
..... **Biljana Kitanovski**

who are personally known to me and each of whom declares that he/she has been duly appointed by the Board of Directors of that Company as an attorney of the Company for the purposes of the Power of Attorney dated 17 August 2005 and that he/she has no notice of the revocation of his/her powers thereunder.

.....
Signature of Witness

.....
Full Name of Witness

.....
Address of Witness

.....
Signature of Attorney

.....
Signature of Attorney

Signed by and on behalf, and with the authority, of the Maribyrnong City Council by Nigel Higgins, General Manager Sustainable Development, in the exercise of a power conferred by an Instrument of Delegation, in the presence of:)
)
)
)
)
)

.....
)

.....
Witness

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05/08/2014 \$116.50 173
[Barcode]

AL272555P

05/08/2014 \$116.50 173



**THE COMMON SEAL of HIGHPOINT
SHOPPING CENTRES PTY LIMITED ABN
15 04 557 260** was affixed in the presence of
authorised persons:)
)
)
)

[Handwritten Signature]
.....
Director

TERRY CHRISTOFIDES

.....
Full name
**SUITE 7, LEVEL 4
120-200 ROSAMOND RD
MARIBYRNONG VIC 3032**

.....
Usual address



[Handwritten Signature]
.....
Director (or Company Secretary)

JENNIFER KELLY

.....
Full name

**SUITE 7, LEVEL 4
120-200 ROSAMOND RD
MARIBYRNONG VIC 3032**

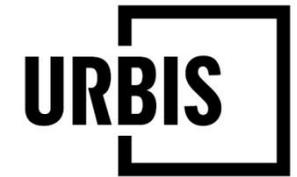
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APPENDIX B

SOCIAL INFRASTRUCTURE REPORT (URBIS PTY LTD)

HIGHPOINT SHOPPING CENTRE REDEVELOPMENT – SOCIAL INFRASTRUCTURE REPORT

The GPT Group



NOVEMBER 2019

This report is dated **November 2019** and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (Urbis) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of **The GPT Group** (Instructing Party) for the purpose of a **Highpoint Shopping Centre Redevelopment – Social Infrastructure Report** (Purpose) and not for any other purpose or use. Urbis expressly disclaims any liability to the Instructing Party who relies or purports to rely on this report for any purpose other than the Purpose and to any party other than the Instructing Party who relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events including wars, civil unrest, economic disruption, financial market disruption, business cycles, industrial disputes, labour difficulties, political action and changes of government or law, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or made in relation to or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

Urbis has made all reasonable inquiries that it believes is necessary in preparing this report but it cannot be certain that all information material to the preparation of this report has been provided to it as there may be information that is not publicly available at the time of its inquiry.

In preparing this report, Urbis may rely on or refer to documents in a language other than English which Urbis will procure the translation of into English. Urbis is not responsible for the accuracy or completeness of such translations and to the extent that the inaccurate or incomplete translation of any document results in any statement or opinion made in this report being inaccurate or incomplete, Urbis expressly disclaims any liability for that inaccuracy or incompleteness.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in the previous paragraphs. Further, no responsibility is accepted by Urbis or any of its officers or employees for any errors, including errors in data which is either supplied by the Instructing Party, supplied by a third party to Urbis, or which Urbis is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Urbis from liability arising from an opinion expressed recklessly or in bad faith.

Urbis staff responsible for this report were:

Director	Mark Dawson
Associate Director	Dylan Gray
Consultant	Mariko Kimura

Project code	P0015495
Report number	2/2

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You must read the important disclaimer appearing within the body of this report.

CONTENTS

EXECUTIVE SUMMARY	[PAGE 4]
INTRODUCTION	[PAGE 5]
POLICY CONTEXT	[PAGE 6]
State Policies	[PAGE 6]
City of Maribyrnong Local Policies	[PAGE 7]
ANNUAL COMMUNITY SURVEYS: COMMUNITY NEEDS & SATISFACTION	[PAGE 8]
DEMOGRAPHIC CHANGES OF RESIDENTS FROM 2006 TO 2016	[PAGE 9]
FORECAST FUTURE DEMOGRAPHIC TRENDS: GLOBAL AND AUSTRALIA	[PAGE 10]
FORECAST FUTURE DEMOGRAPHIC TRENDS: CITY OF MARIBYRNONG	[PAGE 11]
SITE CONTEXT	[PAGE 12]
SOCIAL INFRASTRUCTURE PROVISION BENCHMARKS	[PAGE 13]
GAP ANALYSIS	[PAGE 13]
Childcare & Kindergarten, Proximal Health & Maternal Services	[PAGE 14]
Community Services: Youth Centres & Libraries	[PAGE 15]
Aged Care Facilities	[PAGE 16]
Sports & Recreation Facilities	[PAGE 17]
Health Services	[PAGE 18]
Arts & Culture Facilities	[PAGE 19]
CONCLUSION: SOCIAL INFRASTRUCTURE THAT CAN BE PROVIDED AT HIGHPOINT	[PAGE 20]
APPENDIX	

INTRODUCTION

PROJECT BACKGROUND

- The GPT Group is seeking to submit a Development Plan for approval under the Maribyrnong Planning Scheme under DPO17. Once approved, this Development Plan will provide the over-arching planning consent, under which more streamlined planning applications can be lodged.
- The Development Plan will include two key precincts, being:
 1. East Precinct (bordered by Highpoint Road and Warrs Road)
 2. West Precinct (along Rosamond Road)
- As a way of retaining management of future land use to meet demand, long-term lease is the preferred tenure type, rather than strata sales.

PURPOSE OF THE STUDY

- Our work is to prepare assessments on housing diversity and social infrastructure with the following aim:
- The Housing Diversity Report will identify the mix of housing typologies and household sizes proposed, having regard to market demand, housing supply, key demographics and housing choice. Housing affordability has also been addressed through the breadth of accommodation being offered (including affordable options and alternatives).
- The Social Infrastructure Report (this report) will analyse demographic data, review existing provision of social infrastructure (e.g. childcare, kindergarten services, proximal health and maternal services, health services, recreation and sports facilities, community facilities like youth centres and libraries) and identify any gaps. The report will also cover what could be provided on the Highpoint site (including working spaces for creative industries as part of delivering on affordability).

OUR APPROACH

- Our approach comprises an assessment of:
 - Policy Context: Plan Melbourne, Victorian Infrastructure Plan
 - City of Maribyrnong Community Plans
 - Annual Community Surveys: Community Needs and Satisfaction
 - Demographic Changes of Residents from 2006 to 2016
 - Forecast Future Demographic Trends
 - Social Infrastructure Provision Benchmarks
 - Gap Analysis of Local Social Infrastructure:
 - Childcare and Kindergarten Services
 - Proximal Health and Maternal Services
 - Community Services (Youth Centres, Libraries)
 - Aged Care Facilities
 - Sports and Recreation Facilities
 - Arts and Culture Facilities
 - Health Services
 - Conclusion: Social Infrastructure that can be provided at Highpoint

EXECUTIVE SUMMARY

The site, known as Highpoint Activity Centre in the Maribyrnong Planning Scheme, is envisaged for transformation into a vibrant mixed-use centre offering high quality living, working and recreation opportunities.

GPT Group is planning to submit a development plan aimed at making Highpoint Activity Centre an exciting place to live, work and visit. The proposed development offers the prospect of delivering 4,000 new dwellings, seven towers of quality office space and distinctive retail amenities. At the heart of this development is a town square and urban park for community activation. The development also enjoys good transport connections with bus stops and tram stops in close proximity. To further enhance public transport accessibility, a public transport interchange is proposed to be integrated within the development.

A requirement for the Development Plan permit is the submission of a Social Infrastructure Report (this report). The purpose of this Social Infrastructure Report is to explore the social infrastructure that is required for the development proposed, including potential public and/or private community facilities.

Given Highpoint Activity Centre's regional role, and State and Local priorities for the community's everyday needs to be met locally, a gap analysis for local provision of social infrastructure has been undertaken. This gap analysis considers forecast demand from City of Maribyrnong's future residents, community needs voiced in the Annual Community Surveys, as well as additional demand due to the proposed development.

Social infrastructure opportunities that the gap analysis has identified are namely: a kindergarten (that can potentially be part of an integrated children and family hub), a youth centre (that can potentially be co-located with a library to offer an integrated learning hub or co-located with disability services for youths and young adults), an indoor recreation stadium (local 2-court facility), aged care facility, an arts studio or a community arts centre.

About 2,900 sqm GFA has been set aside in the proposed development for social infrastructure that supports a growing City of Maribyrnong. While the aged care facility (which typically needs about 4,000 to 5,000 sqm for a 90-beds facility) may not be accommodated, any of the other identified social infrastructure opportunities can potentially be accommodated within the proposed development, in various configurations.

Identified social infrastructure opportunities also support the contribution plan recently endorsed by City Development Special Committee on 29th October 2019. Among the range of social infrastructure opportunities, a provision gap for sports and recreation facilities (like indoor recreation stadiums or aquatic centres) has been identified. There is clearly a need either for new or upgraded sports and recreation facilities, which are among the projects that the endorsed contribution plan is aimed at funding (including the Aquatic Centre upgrade and Maribyrnong River Entertainment Leisure Centre.)

Besides supporting state and local planning policies, offering any of the proposed social infrastructure options at Highpoint Activity Centre will also contribute towards community satisfaction and a healthy and inclusive community.



POLICY CONTEXT: STATE POLICIES

OVERVIEW

- In undertaking this Social Infrastructure Assessment, State policies related to social infrastructure have been closely considered, in particular *Plan Melbourne 2017-2050* and the *Victorian Infrastructure Plan*.
- Our proposed Social Infrastructure responses to key State priorities, and their associated community benefits, are detailed in the adjacent table.
- State priorities for social infrastructure have been identified as:
 - Ensuring access to everyday needs locally
 - Investing in cultural, sporting and recreation spaces
 - Investing in facilities that encourage life-long learning (including integrated community centres)
 - Investing in health services and facilities to respond to population growth and an ageing population

PLAN MELBOURNE: KEY DIRECTIONS AND SOCIAL INFRASTRUCTURE

Key Directions	Social Infrastructure Response	Community Benefits
Create a city of 20-minute neighbourhoods: everyday needs within a 20-minute trip of home	Address social infrastructure gaps to ensure that residents have access to community facilities and services that they need, locally	<ul style="list-style-type: none"> • Builds a cohesive and inclusive community • Facilitates a thriving local economy • Reduces travel costs, congestion and carbon emissions
Deliver social infrastructure to support strong communities	Design social infrastructure that is accessible to all community members and supports healthy communities	<ul style="list-style-type: none"> • Encourages a healthy, vibrant and inclusive neighbourhood
Build on Melbourne's cultural leadership and sporting legacy	Expand or introduce new suburban sporting venues and community arts facilities	<ul style="list-style-type: none"> • Contributes towards health and wellbeing of residents • Promotes social inclusion by offering residents opportunities to participate in sporting and cultural activities

VICTORIAN INFRASTRUCTURE PLAN: KEY SECTORS AND SOCIAL INFRASTRUCTURE

Key Sectors	Social Infrastructure Response	Community Benefits
Invest in Culture, Community and Sport	Address gaps in local provision of cultural, sporting and recreation spaces	<ul style="list-style-type: none"> • Improves community health and well-being, and social cohesion • Creates local jobs in the culture and sporting sector
Invest in Education and Training (including integrated community centres)	Address gaps in local provision of integrated community centres that bring the local community together, foster community pride and encourage life-long learning	<ul style="list-style-type: none"> • Fosters an inclusive and cohesive local community • Creates life-long learning opportunities beyond the school
Invest in Health and Human Services	Address gaps in local provision of health services (medical clinics, hospitals and aged care) to respond to population growth and an ageing population	<ul style="list-style-type: none"> • Ensures health and wellbeing of the community • Facilitates ageing-in-place close to family, friends and community

POLICY CONTEXT: CITY OF MARIBYRNONG LOCAL POLICIES

OVERVIEW

- Alongside State policies, City of Maribyrnong's local policies which are relevant to social infrastructure provision have also been closely considered.
- Our proposed Social Infrastructure responses to key City of Maribyrnong priorities, and their associated community benefits, are detailed in the adjacent table.
- City of Maribyrnong's priorities are aligned with State priorities, with an additional local need:
 - Social infrastructure that supports and grows the local business economy
- In summary, key directions guiding this Social Infrastructure Assessment in response to *both State and Local Policies* are:
 - **Address gaps in local provision of social infrastructure that residents need (as expressed in Annual Community Surveys) to contribute towards community satisfaction**
 - **Identify opportunities to deliver on cultural, sporting and recreation spaces; integrated community centres (with learning facilities); and health facilities, which contribute towards healthy and inclusive communities**
 - **Identify opportunities to provide social infrastructure that supports and grows the local business economy**

COUNCIL PLAN 2017/21: STRATEGIC OBJECTIVES AND SOCIAL INFRASTRUCTURE

Strategic Objectives	Social Infrastructure Response	Community Benefits
Healthy and inclusive communities	Address gaps in local provision of sports and recreation, community centre, early years/children/youth/family, arts and culture facilities	<ul style="list-style-type: none"> • Builds a strong, healthy and inclusive community by meeting the needs of families and encouraging participation in community-based arts and culture, sports and recreation, and lifelong learning activities
Quality places and spaces	Address community satisfaction surveys to identify opportunities for improvement of social infrastructure	<ul style="list-style-type: none"> • Improves community satisfaction with social infrastructure • Facilitates the delivery and maintenance of quality places and spaces in City of Maribyrnong
Growth and prosperity	Identify opportunities to provide social infrastructure that supports and grows the local business economy	<ul style="list-style-type: none"> • Contributes towards a strong local economy • Creates local job opportunities for residents

MARIBYRNONG 2040: COMMUNITY PLAN PRIORITIES AND SOCIAL INFRASTRUCTURE

Community Plan Priorities	Social Infrastructure Response	Community Benefits
Living Well: a healthy community where health and wellbeing is embraced	Address gaps in local provision of social infrastructure and services that support the mental, emotional, physical and social health of residents	<ul style="list-style-type: none"> • Fosters an inclusive, healthy and vibrant community
Working and Learning: strong education infrastructure and encouragement of new local businesses	<p>Identify opportunities to support Victoria University's role and address gaps in local provision of facilities that encourage learning</p> <p>Identify opportunities to provide facilities that support local businesses</p>	<ul style="list-style-type: none"> • Encourages a thriving local economy with access to business support services and a skilled talent pool • Fosters a healthy and inclusive community with strong families who can access community-based learning opportunities

ANNUAL COMMUNITY SURVEYS: COMMUNITY NEEDS AND SATISFACTION (2018)

KEY HIGHLIGHTS

- In order to understand the community's needs, we have examined the City of Maribyrnong's 2018 Community Survey. This is an annual survey to assess the community's needs and satisfaction with Council services and facilities. It is conducted through door-to-door interviews with eight hundred households.
- According to the 2018 Community Survey, community services and facilities relevant to social infrastructure provision and which are most important for City of Maribyrnong's residents are listed in the adjacent table. Key highlights are:
 - **Services for people with a disability (highest mean importance score).** As at 2016, more than 3,800 of City of Maribyrnong's residents need assistance with day-to-day core activities.
 - **Local library (increased in importance from 2017 to 2018, with a higher mean importance score than the Metropolitan Melbourne benchmark).**
- The same 2018 Community Survey also revealed that among the community's priority needs, the following offer **opportunities to improve community satisfaction**:
 - **Services for people with a disability**
 - **Services for young people**

Both experienced declining community satisfaction that is lower than the Metropolitan Melbourne benchmark.
- All the above community facilities/services offer opportunities to better deliver on the community's needs locally.

COMMUNITY'S PRIORITY COMMUNITY SERVICES/FACILITIES

Community Services/Facilities	2018 Mean Importance Score (0 – 10)	2017 Mean Importance Score (0 – 10)	2016 Mean Importance Score (0 – 10)	2018 Metropolitan Melbourne Benchmark
Services for people with a disability	9.14	9.13	9.24	9.22
Local library	9.08	8.72	8.8	8.99
Services for seniors	8.95	8.98	9.07	9.12
Services for children	8.88	8.96	9.12	8.98
Services for young people	8.79	8.79	8.93	8.92

Note: Community Services/Facilities included are within the Top 12 most important community services and facilities as rated by residents in the 2018 Community Survey, and which are relevant to social infrastructure provision.

COMMUNITY'S SATISFACTION WITH PRIORITY COMMUNITY SERVICES/FACILITIES

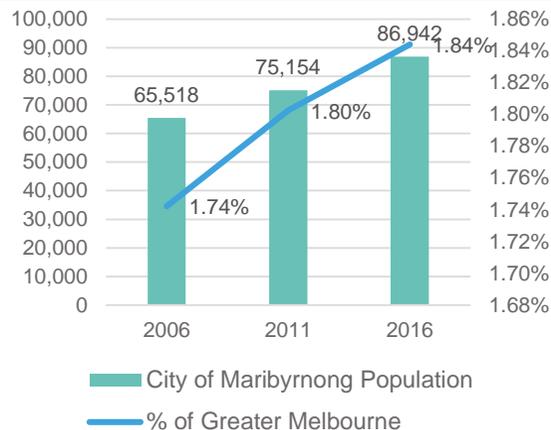
Community Services/Facilities	2018 Mean Satisfaction Score (0 – 10)	2017 Mean Satisfaction Score (0 – 10)	Level of Satisfaction	2018 Metropolitan Melbourne Benchmark
Services for people with a disability	7.24	7.31	Average	7.45
Local library	8.42	8.45	Above Average	8.28
Services for seniors	7.77	7.38	Above Average	7.71
Services for children	7.98	7.52	Above Average	7.97
Services for young people	7.49	7.59	Average	7.55

DEMOGRAPHIC CHANGES OF RESIDENTS FROM 2006 - 2016

KEY HIGHLIGHTS

- From 2006 to 2016, some of the key demographic changes in City of Maribyrnong are:
 - **Significant resident population growth:** City of Maribyrnong's resident population (Figure 1) grew by more than 32%. Its proportion of Greater Melbourne's population also increased during that period, indicating a growth rate that was greater than the wider Greater Melbourne. This significant population growth suggests a need to assess if current social infrastructure has kept up with the needs of a growing resident population.
 - **Population growth has been concentrated in Footscray and Maribyrnong:** While Footscray and Maribyrnong experienced the greatest population growth (Figure 2), there was also sizeable population growth in Braybrook, Maidstone, Yarraville and West Footscray. There is evidently a need to closely analyse and monitor any social infrastructure provision gaps particularly in suburbs which have experienced sizeable population growth. Footscray and Maribyrnong are top of the list.
 - **A growing young workforce segment:** Across age groups (Figure 3), the age group that grew the most was the 25 to 39 years age bracket. This age bracket has unique needs for sports and recreation, employment and lifelong learning.
 - **Diverse household structures:** There is a diversity of household structures (Figure 4). Couples with Children grew the most, followed by Couples with No Children. Nevertheless, the distribution between the largest segments is relatively even. Consequently, social infrastructure will need to be inclusive, catering to various household types.

FIGURE 1: ESTIMATED RESIDENT POPULATION



Source: .id community (City of Maribyrnong); ABS 2006, 2011, 2016

FIGURE 3: AGE GROUPS

Age Group	2006	2011	2016	2006 to 2016
0-4	6.6%	7.3%	6.9%	+0.3%
5-11	7.0%	6.9%	6.9%	-0.1%
12-17	5.5%	5.1%	4.6%	-0.9%
18-24	11.0%	10.9%	10.9%	-0.1%
25-39	29.7%	31.2%	32.5%	+2.8%
40-59	24.6%	25.1%	24.7%	+0.1%
60+	15.6%	13.7%	13.6%	-2.0%

Source: .id community (City of Maribyrnong); Urbis

FIGURE 2: USUAL RESIDENT POPULATION GROWTH

Suburbs	2006	2016	2006 to 2016
Braybrook	6,950	9,200	+2,250
Footscray	11,400	16,350	+4,950
Kingsville	3,350	3,950	+600
Maidstone	6,050	9,050	+3,000
Maribyrnong	8,250	12,200	+3,950
Seddon	4,650	5,100	+450
West Footscray	9,800	11,450	+1,650
Yarraville	12,700	14,950	+2,250

Source: .id community. Tottenham is not included as it had no residents. Figures have been rounded for ease of interpretation.

FIGURE 4: HOUSEHOLD TYPES

Household Structure	2006	2011	2016	2006 to 2016
Couples with children	24.0%	26.1%	26.2%	+2.2%
Couples with no children	21.1%	21.9%	22.4%	+1.3%
One parent families	11.6%	10.1%	9.0%	-2.6%
Other families	2.3%	2.0%	2.1%	-0.2%
Group household	7.0%	7.3%	8.6%	+1.6%
Lone person	27.9%	25.3%	24.8%	-3.1%

Source: .id community (City of Maribyrnong); Excludes Visitor Only Households and Non-classifiable Households

FORECAST FUTURE DEMOGRAPHIC TRENDS: GLOBAL AND AUSTRALIA

KEY HIGHLIGHTS

In assessing Social Infrastructure needs to provide for current and *future residents* of City of Maribyrnong, it is important that wider future demographic trends are considered. These wider trends are likely to shape (at least to some extent) the future residents of City of Maribyrnong and their demand for Social Infrastructure.

Worldwide and in Australia, key demographic trends include:

- **Shrinking families:** There has been a trend towards fewer births per woman, which results in shrinking families. Fertility projections by the Australian Treasury, using the RIMGROUP projection model, forecast that Australia's fertility rate will continue to decline as Australians are having children later or not having children at all.
- **Ageing population:** Along with the rest of the world, a significant proportion of Australia's population (1 in 4 Australians) are forecast to be 60+ by 2040. ABS has projected that Australia's median age is likely to increase from 37.2 years (in 2017) to between 39.5 and 43 years (in 2066).
- **Shifting workforce skills:** World Economic Forum has projected a significant proportion of workforce skills will shift in the face of new technologies. There is an urgent need for Australians to upskill and engage in lifelong learning.
- **Meaning in community:** Compared to Millennials (born between 1983 and 1994), a larger proportion of the younger Gen Z cohort (born between 1995 and 2002) have aspirations to make a positive impact on their communities. Underlying this appears to be a growing sense of purpose from being part of a community and contributing towards it.

SUMMARY OF TRENDS



Declining fertility:

According to UN Population data, worldwide, the number of births per woman has plunged by **50%** from 1967 to 2017.

In Australia, the number of births per woman has declined from **2.9** (1967) to **1.8** (2017).



Ageing population:

According to UN Population projections*, by 2040, about 1 in 5 people will be 60+.

In Australia, about **1 in 4 people** are forecast to be **60+** by 2040.



Shifting workforce skills:

According to the World Economic Forum's *Future of Jobs Report*, from 2018 – 2022, **an average shift of 42% in required workforce skills** is anticipated.

Among Australian companies surveyed, **84% expect to hire new permanent staff with new skills** relevant to new technologies.



Meaning in Community:

According to the Deloitte Global Millennial Survey 2019 which interviewed more than 13,000 Millennials and Gen Z globally, around 46% have the ambition of making positive impacts on community. In *Australia*, **41% of Australian Millennials and 52% of Australian Gen Z have aspirations to make a difference in their communities.**

*Population projections have been based on a constant fertility rate, for a conservative estimate. With declining fertility rates, the proportion of 60+ will likely be even higher.

FORECAST FUTURE DEMOGRAPHIC TRENDS: CITY OF MARIBYRNONG

OVERVIEW

• Within City of Maribyrnong and over the period from 2021 to 2041, key trends that are relevant to this Social Infrastructure assessment include:

- **Greatest concentration of population growth in Footscray and Maribyrnong:**

Across the City of Maribyrnong, sizeable population growth is projected at around 57,000 additional residents. The greatest concentration of this growth, however, is in Footscray (about 45%) and Maribyrnong (18%) (Figure 5). As a result, there is a corresponding need to deliver social infrastructure (particularly in Footscray and Maribyrnong) to meet population growths across City of Maribyrnong.

- **Growing segment of older residents (60+):**

Age group composition (Figure 6) of City of Maribyrnong is forecast to remain by-and-large the same, except that older residents (60+) are projected to grow in proportion. Across age groups, the 60+ age bracket is forecast to experience the strongest growth. This is in line with wider trends towards an ageing population and signals a need to assess if current social infrastructure is adequate to meet the needs of this growing segment of older residents.

- **Smaller household types:**

In line with broader trends towards shrinking families, Lone Person and Couples with No Dependents are the household types that are projected to grow the most (Figure 7,8). These household types that have no dependents have their own unique needs for sports and recreation, as well as personal development through lifelong learning.

FIGURE 5: POPULATION GROWTH (SUBURBS)

Suburbs	2021	2041	2021-2041
Braybrook	10,500	14,450	+3,950
Footscray	23,150	49,000	+25,850
Kingsville	4,350	4,900	+550
Maidstone	10,400	16,800	+6,400
Maribyrnong	15,600	26,100	+10,500
Seddon	5,700	7,100	+1,400
West Footscray	13,250	15,300	+2,050
Yarraville	16,850	23,200	+6,350

Source: Forecast ID (City of Maribyrnong). Tottenham is not included as it has no residents.

FIGURE 7: HOUSEHOLD TYPES

Household Structure	2021	2031	2041	2021 to 2041
Couples with dependents	26.7%	25.5%	24.8%	-1.9%
Couples with no dependents	23.8%	24.1%	24.1%	+0.3%
One parent families	8.9%	8.6%	8.5%	-0.4%
Other families	3.6%	3.5%	3.5%	-0.1%
Group household	9.7%	9.8%	9.6%	-0.1%
Lone person	27.3%	28.4%	29.5%	+2.2%

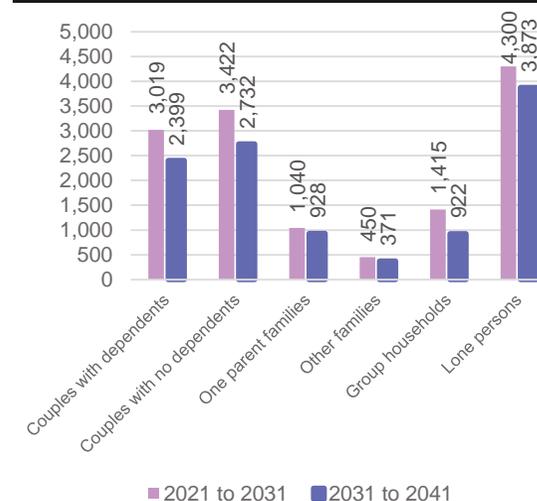
Source: Forecast ID (City of Maribyrnong)

FIGURE 6: AGE GROUP FORECASTS

Age Group	2021	2031	2041	2021 to 2041
0-4	7.2%	7.0%	6.7%	-0.5%
5-11	6.5%	6.4%	6.2%	-0.3%
12-17	4.9%	4.6%	4.6%	-0.3%
18-24	11.3%	11.7%	11.5%	+0.2%
25-39	32.3%	31.9%	30.9%	-1.4%
40-59	23.5%	22.7%	22.7%	-0.8%
60+	14.2%	15.7%	17.5%	+3.3%

Source: Forecast ID (City of Maribyrnong),

FIGURE 8: CHANGES IN HOUSEHOLD TYPES



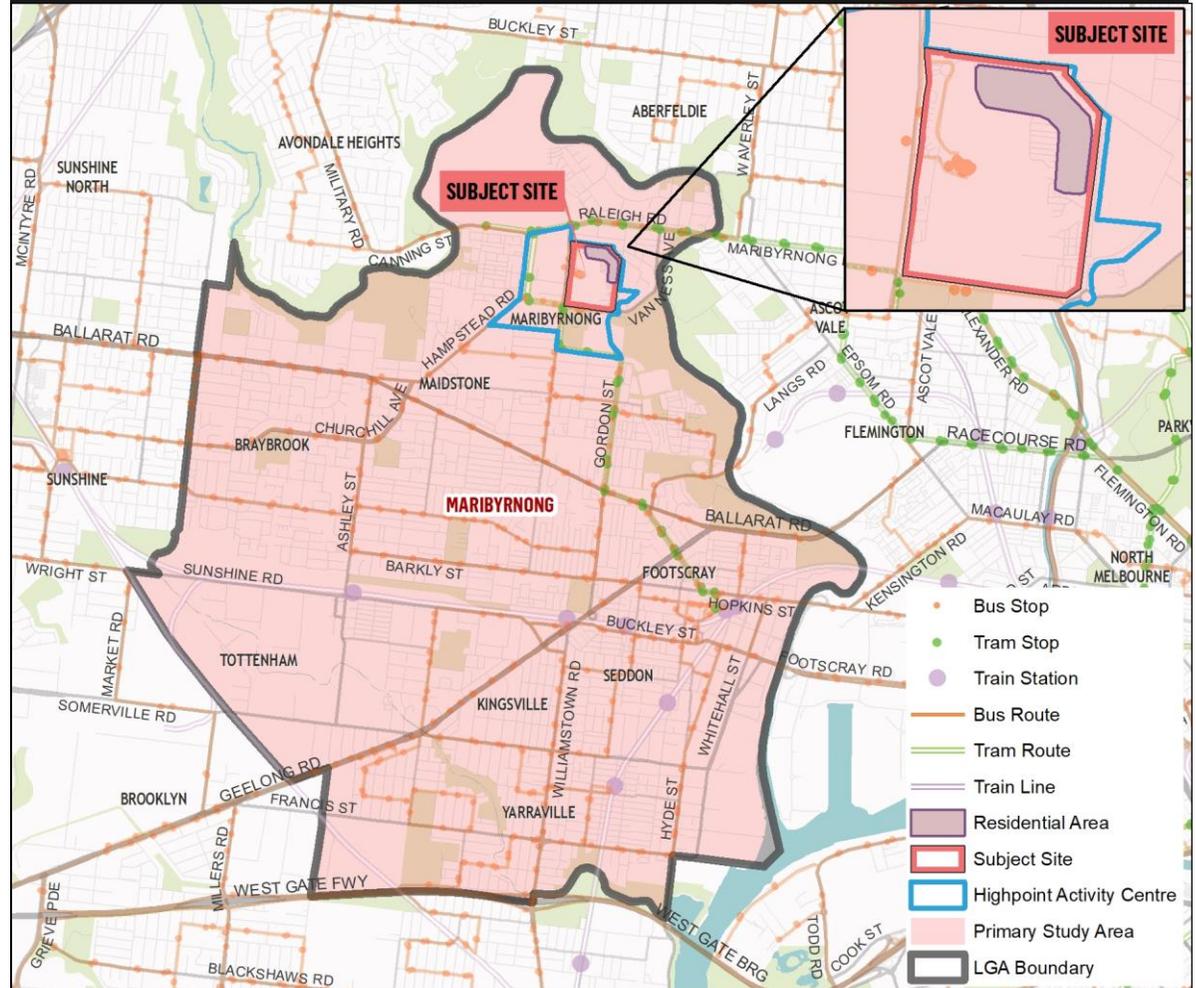
Source: Forecast ID (City of Maribyrnong)

SITE CONTEXT

OVERVIEW

- The site is located in Maribyrnong within an area known as the Highpoint Activity Centre in the Maribyrnong Planning Scheme.
- The Highpoint Activity Centre has been identified by Plan Melbourne 2017-50 as a Major Activity Centre which is intended to offer a good mix of housing, as well as good access to *jobs, services* and public transport.
- Beyond its immediate vicinity, pursuant to Schedule 17 to Clause 43.04 in the Maribyrnong Planning Scheme, the vision for Highpoint Activity Centre is to positively impact on the wider City of Maribyrnong region (Maribyrnong LGA) by providing “*regional* high quality living, working and recreation opportunities around a prominent town centre”.
- Given that Highpoint Activity Centre is envisaged to assume a prominent regional role in the City of Maribyrnong, it is important to assess Highpoint Activity Centre’s contribution towards the wider regional needs of City of Maribyrnong.
- The study area for this social infrastructure assessment is therefore the entire City of Maribyrnong that comprises of the following suburbs which are governed by the Maribyrnong LGA: Braybrook, Footscray, Kingsville, Maidstone, Maribyrnong, Seddon, West Footscray, Tottenham and Yarraville.

STUDY AREA MAP



SOCIAL INFRASTRUCTURE PROVISION BENCHMARKS

OVERVIEW

- In conducting this social infrastructure assessment, the Australian Social & Recreation Research (ASR)'s provision benchmarks have been used for the following reasons:
 - It is a comprehensive set of provision benchmarks covering a wide range of social infrastructure facilities
 - ASR benchmarks are adopted in various state and local government community infrastructure needs assessments, including most recently, the Shenstone Park Community Infrastructure and Open Space Needs Assessment (September 2019).
 - ASR benchmarks were developed for growth areas and are therefore designed for areas experiencing significant urban development and population growth.
- Relevant ASR benchmarks for the purpose of this social infrastructure assessment are listed in the adjacent table.
- In addition to a gap analysis based on ASR's provision benchmarks, relevant City of Maribyrnong strategies and policies for each type of social infrastructure are also considered.

Note: Unless otherwise stated, population forecasts are sourced from Forecast ID. Forecast ID's population forecasts have assumed 800 dwellings at Highpoint. With this proposed development offering potentially 4,000 dwellings, 3,200 additional dwellings will need to be accounted for. Additional population due to this proposed development has been assumed to be 3,200 additional dwellings x forecast average household size for Maribyrnong (2.48). Forecasts on the size of specific demographic segments are based on proportions of the demographic segment on Page 11 applied to the forecast total population (that includes additional population due to the proposed development).

SOCIAL INFRASTRUCTURE PROVISION BENCHMARKS

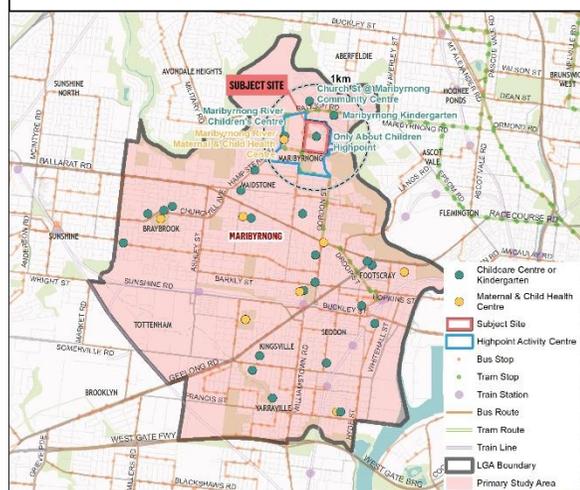
Social Infrastructure	Australian Social & Recreation Research study into Planning for Community Infrastructure in Growth Areas, 2008)
Early Years Centres (Childcare Centres)	43 community-based places per 1,000 children aged 0 to 5 years 107 private-for-profit places per 1,000 children aged 0 to 5 years
Kindergarten Services	1 place per 4-year old (assumed 100% participation rate) <i>Maribyrnong Strategy for Children adopts a 95% participation rate. Hence, for this assessment, the ASR benchmark is applied to 95% of projected 4-year old population.</i>
Proximal Health & Maternal Services	1 dual M&CH facility (assuming 20 M&CH sessions per week) for every 280 children aged 0 years of age
Youth Facilities	Youth Resource Centre: 1 dedicated youth centre per 30,000 – 60,000 residents
Libraries	1 library per 30,000 to 60,000 residents
Aged Care	44 beds per 1,000 residents aged 70+ years (high care and low care)
Sports and Recreation Facilities	1 Council Aquatic Leisure Centre per 40,000 to 50,000 residents 1 Indoor Recreation Stadium (Local 2-court facility approx. 2,000 sqm) per 20,000 to 30,000 residents
Arts and Culture	Flexible, multi-purpose shared use community art space: 1 per 8,000 to 10,000 residents 1 community arts centre per 40,000 to 60,000 people
Health Services	Local community-based health care: 1 per 10,000 to 50,000 residents Municipal community-based health care: 1 per 100,000 to 200,000 residents
Disability Centre	Can potentially be incorporated in a multi-purpose community centre (1 centre per 8,000 residents)

GAP ANALYSIS: CHILD CARE AND KINDERGARTEN SERVICES, PROXIMAL HEALTH AND MATERNAL SERVICES

KEY INSIGHTS

- *Maribyrnong Strategy for Children 2015-18* has identified a need to improve proximal health & maternal services, childcare and kindergartens to national standards, as well as to enhance engagement of children and families from diverse backgrounds.
- Provision of these services were first analysed to identify if there are any local forecast gaps.
- A *kindergarten provision gap* of about 250 places as at 2031 has been identified.
- Considering *Maribyrnong Strategy for Children 2015-18*, there is also an opportunity to offer an integrated child and family hub, in a major activity centre like Highpoint. This will enhance convenience for young families whilst fostering connections, inclusion and engagement.

Map of existing provision of Childcare, Kindergarten and Proximal Health & Maternal Services



GAP ANALYSIS

Type of Facility	Estimated existing supply (Appendix 1)	Estimated upcoming supply (Appendix 2)	Forecast demand in 2041 (<i>excluding on-site additional demand</i>)	Forecast additional demand due to proposed development	ASR Benchmark	Gap
Proximal Health & Maternal Services	9 facilities	N/A	~1,140 births ¹	No available data	1 dual M&CH facility (assuming 20 M&CH sessions per week) for every 280 children aged 0 years of age	Adequate provision
Childcare – Long Day (Community-based)	~830 places	N/A	10,535 (0 to 4 years)	530 (0 to 4 years)	43 community-based places per 1,000 children aged 0 to 5 years	Adequate provision
Childcare-Long Day (Private-for-profit)	~850 places	~500 places	10,535 (0 to 4 years)	530 (0 to 4 years)	107 private-for-profit places per 1,000 children aged 0 to 5 years	Adequate provision
Kindergarten	~1,000 places ²	N/A	~1,250 ³	No available data	1 place per 4-year-old	Gap of ~ 250 places as at 2031. As at 2041, gap could be wider due to population increase.

1 Calculated based on 95% of births in 2016. This is in line with forecast decrease by 5% of births per woman from 1.89 in 2017 to 1.8 in 2041 (Source: forecast id).

2 791 licensed places in 2016 according to Maribyrnong Strategy for Children + places for licenses granted after 2016 (Appendix 1).

3 Projected 4-year old population in 2031 x 95% participation rate (Source: Maribyrnong Strategy for Children)

GAP ANALYSIS: COMMUNITY SERVICES (YOUTH CENTRES AND LIBRARIES)

KEY INSIGHTS

Libraries

- The library emerged as the second most important community facility for City of Maribyrnong's residents in the Annual Community Survey 2018. Mean satisfaction with existing libraries is also above average. Retaining the Maribyrnong Library is critical.

Youth Centres

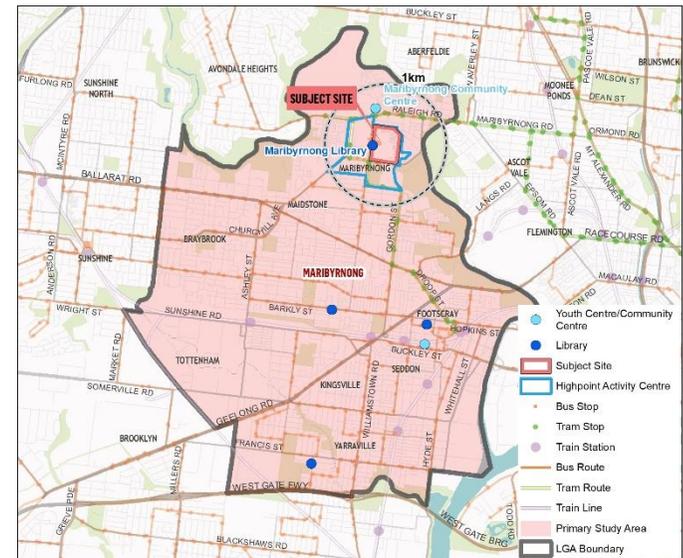
- In order to ensure that all young people have the same opportunities and support in life, the *Maribyrnong Strategy for Young People 2014-18* has identified priority actions around:
 - Family strengthening initiatives
 - Expanding youth outreach services
 - Programs surrounding stress
 - Linking young people to learning supports, employment and opportunities to participate in the community
 - Dedicated youth centres play an integral role by serving as a hub for young people to access the services and programs that they need, while connecting with other young people in the community. Services for Youths also emerged in the Annual Community Survey 2018 as an area for community satisfaction improvement.
- A gap analysis has revealed that there is a provision gap of about 4 dedicated youth centres in the City of Maribyrnong, with the only youth centre in Footscray.
- Co-locating the youth centre with Maribyrnong library further offers the opportunity for an integrated learning hub.
- Services for youths and young adults with disabilities can also be co-located. This can help enhance community satisfaction by improving disability services that have been identified as a priority community need in the Community Survey 2018.

GAP ANALYSIS

Type of Facility	Estimated existing supply	Estimated upcoming supply+	Forecast demand in 2041 (<i>excluding on-site additional demand</i>)	Forecast additional demand due to proposed development	ASR Benchmark	Gap
Youth Centre	1 facility (Phoenix Youth Hub in Footscray)	N/A	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	1 dedicated youth centre per 30,000-60,000 residents	Gap of 4 Youth Centres (Based on 1 centre per 30,000 residents)
Library	4 facilities (Yarraville, West Footscray, Footscray, Maribyrnong)	N/A	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	1 library per 30,000 to 60,000 residents	Gap of 1 Library (Based on 1 library per 30,000 residents)

* Rounded for ease of interpretation
+ Redevelopment and extensions of existing facilities are not included

Map of existing provision of Youth Centres and Libraries



GAP ANALYSIS: AGED CARE FACILITIES

KEY INSIGHTS

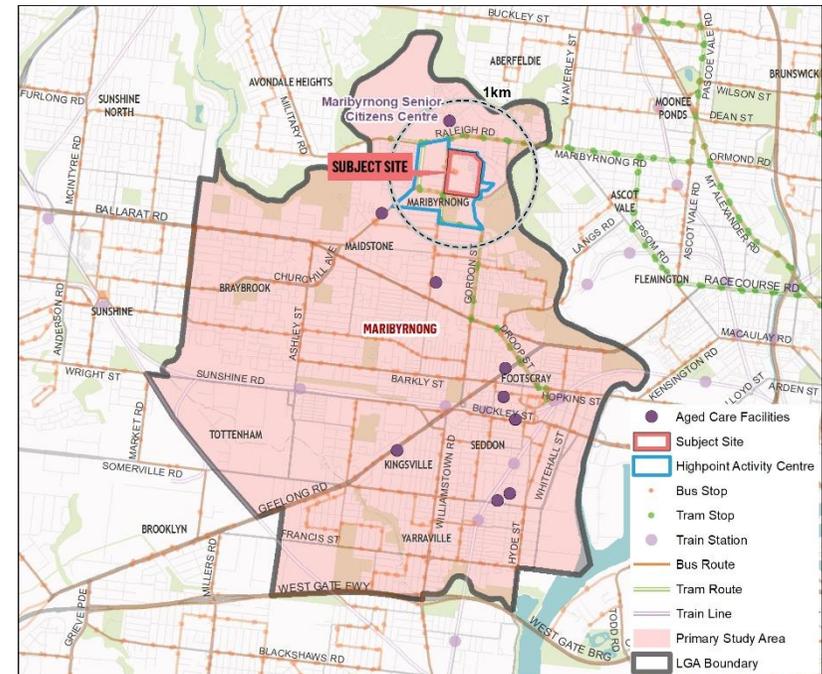
- The *Maribyrnong Housing Strategy* has identified a need to respond to growing demand for aged care residences as the proportion of residents in the 60+ age bracket is forecast to grow to 17.5% in 2041.
- Through a local provision analysis, there appears to be adequate provision of aged care residences in City of Maribyrnong.
- There is an opportunity, to relocate existing aged care residences to Highpoint Activity Centre, which offers attractive retail amenities and public transport access. Pursuant to Clause 16.01-7S of the Maribyrnong Planning Scheme, aged care facilities require appropriate locations close to services and public transport.
- Close to the Highpoint Activity Centre is also the Maribyrnong Senior Citizens Centre, which can complement an aged care facility by offering residents a meeting hub with activities and programs.
- Furthermore, existing aged care residences are concentrated around Footscray, Yarraville and Kingsville.
- Those located in Maidstone and Maribyrnong are also relatively less accessible without an alternative public transport option to buses.
- Relocating an existing aged care facility to Highpoint Activity Centre will offer the retail amenities, services and public transport that can give senior residents a better quality of life. Senior residents towards the north-west of City of Maribyrnong will also have more choices to age within their communities, without having to relocate to Footscray, Yarraville and Kingsville, where aged care facilities are currently concentrated.
- There is also the potential to co-locate disability services which emerged as an area for customer satisfaction improvement in the Annual Community Survey 2018.

GAP ANALYSIS

Type of Facility	Estimated existing supply (Appendix 3)	Estimated upcoming supply+	Forecast demand in 2041 (excluding on-site additional demand)	Forecast additional demand due to proposed development	ASR Benchmark	Gap
Aged Care	~ 680 beds	NIL based on Cordell Connect	~15,600 residents aged 70+ years	~800 residents aged 70+ years	44 beds per 1,000 residents aged 70+ years (high care and low care)	Adequate provision (gap of about 40 beds); opportunity to relocate aged care to be closer to an activity centre (and expand)

+ Redevelopment and extensions of existing facilities are not included

Map of existing provision of Aged Care Facilities



GAP ANALYSIS: SPORTS AND RECREATION FACILITIES

KEY INSIGHTS

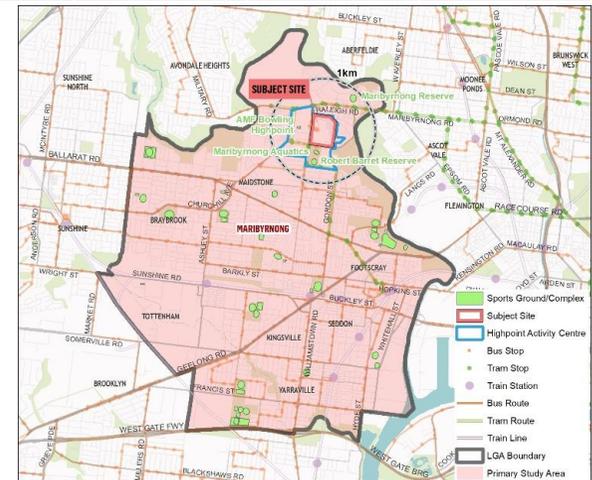
- Sports and Recreation Facilities have been identified as a priority investment sector in State and Local planning policies.
- Sports and Recreation Facilities also cater to a wide range of residents across life stages and demographics, ranging from singles and couples with no children, to families with children. In this way, Sports and Recreation Facilities foster community connections and build a healthier and more inclusive community.
- Based on a local provision analysis, while there is potentially a gap of 1 aquatic leisure centre, this additional aquatic centre should probably be situated towards the west of City of Maribyrnong where this is no existing provision.
- The provision analysis has identified an opportunity to offer an indoor recreation centre or stadium (local 2-court facility at approx. 2,000 sqm), which can contribute towards meeting the gap of about 3 indoor recreation centres or stadiums.
- The majority of existing Sports and Recreation Facilities in City of Maribyrnong are outdoor, which nevertheless need to be maintained as quality outdoor recreation spaces. There is a community need, however, for more indoor recreation stadiums and centres to enjoy indoor community sports and recreation.
- Offering an indoor recreation stadium at Highpoint will deliver significant community benefits by encouraging a healthy and inclusive community. Furthermore, it can also draw residents of all age groups to Highpoint Activity Centre, establishing Highpoint Activity Centre as a quality place to live, work and play for the region.

GAP ANALYSIS

Type of Facility	Estimated existing supply (Appendix 4)	Estimated upcoming supply+	Forecast demand in 2041 (excluding on-site additional demand)	Forecast additional demand due to proposed development	ASR Benchmark	Gap
Aquatic Leisure Centre	2 facilities	NIL according to Cordell Connect	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	1 Council Aquatic Leisure Centre per 40,000 to 50,000 residents	Gap of 2 Aquatic Leisure Centres (Based on 40,000 residents per facility)
Indoor Recreation Stadium (Local 2-court facility. Approx 2,000 sqm)	5 facilities	No active projects according to Cordell Connect	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	1 Indoor Recreation Stadium per 20,000 to 30,000 residents	Gap of ~3 Indoor Recreation Centres/ Stadiums

* Rounded for ease of interpretation
 + Redevelopment and extension of existing facilities have not been included

Map of existing provision of Sports Facilities & Grounds (Outdoor and Indoor)



GAP ANALYSIS: HEALTH SERVICES

KEY INSIGHTS

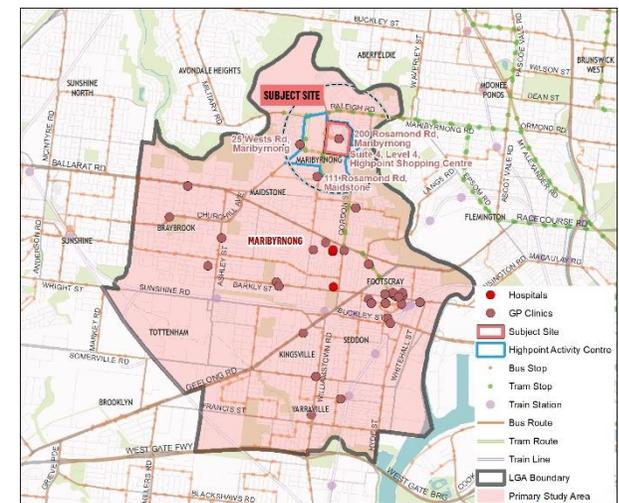
- Health service investments have been prioritised by State and Local policies to respond to an ageing and growing population.
- In consideration of this priority, a local provision analysis has been undertaken for health services (medical clinics and centres, as well as hospitals).
- The local provision analysis has revealed that there appears to be an adequate provision of health services within the City of Maribyrnong.
- Health services are also well distributed across City of Maribyrnong, offering all residents access locally.

GAP ANALYSIS

Type of Facility	Estimated existing supply (Appendix 5)	Estimated upcoming supply+	Forecast demand in 2041 (excluding on-site additional demand)	Forecast additional demand due to proposed development	ASR Benchmark	Gap
Medical clinics and centres	35 facilities	NIL on Cordell Connect	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	Local community-based health care: 1 per 10,000 to 50,000 residents	Adequate provision
Hospitals	3 facilities	1 facility (Footscray Hospital)	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	Municipal community-based health care: 1 per 100,000 to 200,000 residents	Adequate provision

* Rounded for ease of interpretation
+ Redevelopment and extension of existing facilities have not been included

Map of existing provision of Health Services



GAP ANALYSIS: ARTS AND CULTURE FACILITIES

KEY INSIGHTS

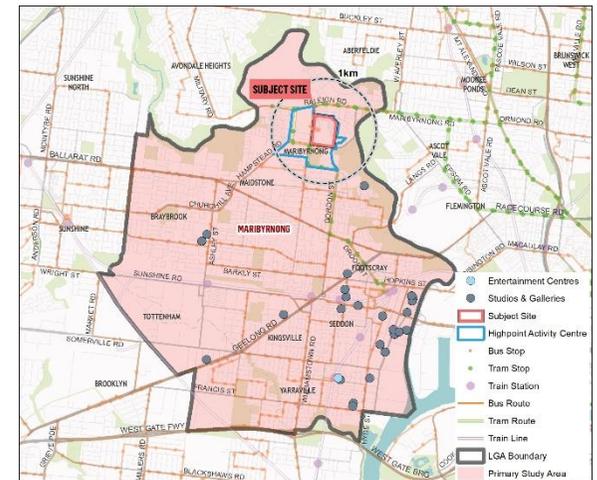
- Arts and culture facilities have been identified as opportunities in State and Local policies, including *City of Maribyrnong's Arts & Culture Strategy 2018-23*.
- Besides encouraging social participation of residents, arts and culture facilities can also contribute towards the local economy by creating job opportunities in the Arts and Culture sector.
- A local provision has been undertaken for studios/multipurpose spaces, as well as community arts centres.
- While there appears to be an adequate provision of studios, these studios are concentrated around Footscray, Seddon and Yarraville. There is an opportunity to relocate some of these arts studios to Highpoint Activity Centre, offering residents in the north-west of City of Maribyrnong access to these arts studios. In line with *City of Maribyrnong's Arts & Culture Strategy 2018-23*, arts studios also provide artists and creative industry workers with affordable spaces to carry out their creative practice.
- One other opportunity in the Arts and Culture sector is to deliver on the provision gap of 3 more Community Arts Centres. A Community Arts Centre will also contribute significantly towards establishing Highpoint Activity Centre as a regional destination to work, live and play for surrounding suburbs.
- With the retail amenities and public transport access that Highpoint Activity Centre has to offer, a Community Arts Centre at Highpoint can potentially draw significant resident participation to foster a vibrant arts and culture scene in the heart of Maribyrnong.

GAP ANALYSIS

Type of Facility	Estimated existing supply (Appendix 6)	Estimated upcoming supply+	Forecast demand in 2041 (excluding on-site additional demand)	Forecast additional demand due to proposed development	ASR Benchmark	Gap
Studio/multi-purpose spaces	25 facilities/venues	NIL according to Cordell Connect	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	Flexible, multi-purpose shared use community art space: 1 per 8,000 to 10,000 residents	Adequate provision; opportunities to redistribute some studios
Community Arts Centre	1 facility (Footscray Community Arts Centre)	NIL according to Cordell Connect	156,800* residents in City of Maribyrnong	7,950* additional residents due to proposed development	1 community arts centre per 40,000 to 60,000 people	Gap of 3 facilities

* Rounded for ease of interpretation
 + Redevelopment and extension of existing facilities have not been included

Map of existing provision of Arts and Culture Facilities



SOCIAL INFRASTRUCTURE THAT CAN BE PROVIDED AT HIGHPOINT

OVERVIEW

- By considering demographic trends, local provision, forecast demand, as well as State and local priorities, opportunities to offer social infrastructure listed in the adjacent table have been identified.
- Providing any of these social infrastructure options will contribute towards meeting the everyday needs of City of Maribyrnong's growing resident population, locally.
- Besides supporting state and local planning policies, offering any of these social infrastructure options at Highpoint Activity Centre will also contribute towards community satisfaction and a healthy and inclusive community.
- About 2,900 sqm has been allocated for social infrastructure in the proposed development. While the plan will not be able to accommodate an aged care facility, it can potentially accommodate the other social infrastructure opportunities in different configurations.
- Identified social infrastructure opportunities also support the contribution plan recently endorsed by City Development Special Committee on 29th October 2019. Among the range of social infrastructure opportunities, a provision gap for sports and recreation facilities (like indoor recreation stadiums or aquatic centres) has been identified. There is clearly a need either for new or upgraded sports and recreation facilities, which are among the projects that the endorsed contribution plan is aimed at funding (including the Aquatic Centre upgrade and Maribyrnong River Entertainment Leisure Centre.)

Note: Estimated Building Area is from Recommended Planning Standards in *Planning for Community Infrastructure in Growth Areas* (Australian Social & Recreation Research, 2008), unless otherwise stated.

SOCIAL INFRASTRUCTURE OPTIONS THAT CAN BE PROVIDED AT HIGHPOINT

Social Infrastructure	Gap/Need Identified	Estimated Building Area	Community Benefit
Kindergarten	More than 250 places Can potentially be part of an integrated children and family hub.	~ 400 sqm (plus min. of 420 sqm external play area)	<ul style="list-style-type: none"> • Stronger families • Social inclusion and community sense of belonging • Learning development of children
Youth Centre	About 4 additional Youth Centres Can potentially be co-located with Maribyrnong Library to be part of an integrated learning hub offering. Can also co-locate disability services for youths and young adults.	~900 sqm (Based on Phoenix Youth Centre Footscray)	<ul style="list-style-type: none"> • Stronger families • Social inclusion and community sense of belonging • Lifelong learning is encouraged among youths
Aged Care Facility (Can potentially co-locate disability services)	There is a need to redistribute aged care facility distribution which is currently concentrated around Footscray, Yarraville and Kingsville. Can potentially co-locate disability services.	~4,000 to 5,000 sqm for 90-bed facility	<ul style="list-style-type: none"> • Social inclusion and community sense of belonging • Offering Senior residents more choices to age within the community
Indoor Recreation Stadium (Local 2-court facility. Approx 2,000 sqm)	About 3 additional Indoor Recreation Stadiums. Existing Sports and Recreation Facilities are mainly outdoor.	~2,000 sqm	<ul style="list-style-type: none"> • Stronger families • Social inclusion and community sense of belonging • Health and wellbeing of the community
Arts Studio	There is a need to redistribute Arts Studios which are currently concentrated around Footscray, Yarraville and Seddon.	~800 sqm	<ul style="list-style-type: none"> • Jobs creation • Social inclusion and community sense of belonging
Community Arts Centre	About 3 additional Community Arts Centres	~1,250 sqm	<ul style="list-style-type: none"> • Jobs creation • Social inclusion and community sense of belonging

APPENDIX 1: EXISTING CHILDCARE & KINDERGARTEN SERVICES, PROXIMAL HEALTH & MATERNAL SERVICES

Suburb	Name	Address	Maternal & Child health Centre	Three Year Old Program	Four Year Old Kindergarten	Integrated Kindergarten	Long Day Childcare	Private Childcare	Private Kindergarten	Maximum Approved Places	License Approval Year
BRAYBROOK	Braybrook Early Learning Centre	107-139 Churchill Avenue								85	2015
BRAYBROOK	Braybrook Maternal and Child Health Centre	107-139 Churchill Ave								N/A	N/A
BRAYBROOK	Cherry Crescent Preschool	1 Cherry Crescent								26	2012
BRAYBROOK	Goodstart Early Learning Braybrook	1 Vine Street								80	2012
BRAYBROOK	Harmony Early Learning Journey Braybrook	90 - 98 South Rd								116	2016
BRAYBROOK	Little Champs	97A - 101 Hargreaves Crescent								90	2012
FOOTSCRAY	Angliss Children's Centre	13 Vipont St								68	2012
FOOTSCRAY	Angliss Maternal and Child Health Centre	13 Vipont Street								N/A	N/A
FOOTSCRAY	Brenbeal Children's Centre	8 Rayner Street								70	2012
FOOTSCRAY	Hyde Street Kindergarten	10a Hyde Street								29	2012
FOOTSCRAY	Saltwater Child Care Centre	14 Nicholson Street								47	2012
FOOTSCRAY	The Learning Sanctuary Footscray	398 Barkly St								100	2017
FOOTSCRAY	Town Hall Maternal and Child Health Centre	Community Services Building Corner Hyde and Napier Streets								N/A	N/A
FOOTSCRAY	Victoria University Children's Centre - Footscray Nicholson	Albert Street								39	2012
FOOTSCRAY	Victoria University Children's Centre - Footscray Park	8 Geelong Road								42	2012
KINGSVILLE	The Hive Early Learning Centre Kingsville	31 Bishop Street								66	2012

Source: Maribyrnong City Council's List of Early Learning Centres and Maternal & Child Health Centres, Australian Children's Education and Care Quality Authority

APPENDIX 1: EXISTING CHILDCARE & KINDERGARTEN SERVICES, PROXIMAL HEALTH & MATERNAL SERVICES

Suburb	Name	Address	Maternal & Child health Centre	Three Year Old Program	Four Year Old Kindergarten	Integrated Kindergarten	Long Day Childcare	Private Childcare	Private Kindergarten	Maximum Approved Places	License Approval Year
MAIDSTONE	Dobson Kindergarten	Corner Burns and Sonley Streets								99	2012
MAIDSTONE	Explorers Early Learning - Maidstone	Level 1, Unit 30/50 Hampstead Road								160	2012
MAIDSTONE	Little VIP's	36 Burns Street								60	2012
MAIDSTONE	Maidstone Child and Family Centre	Corner Burns and Sonley Streets								N/A	N/A
MAIDSTONE	North Maidstone Kindergarten	145 Mitchell Street								29	2012
MARIBYRNONG	Church Street @ Maribyrnong Community Centre	9 Randall Street								40	2016
MARIBYRNONG	Highpoint Kinder Haven	2A Mephan Street								105	2007
MARIBYRNONG	Maribyrnong Kindergarten	5 Warrs Road								60	2012
MARIBYRNONG	Maribyrnong River Children's Centre	6 Wests Road								107	2012
MARIBYRNONG	Maribyrnong River Maternal and Child Health Centre	6 Wests Road								N/A	N/A
MARIBYRNONG	Only About Children Highpoint	Highpoint Shopping Centre, 4001-4006, 120 Rosamond Rd								70	2015
WEST FOOTSCRAY	Bulldogs Community Children's Centre	19 Hocking Street								108	2012
WEST FOOTSCRAY	Bulldogs Maternal and Child Health Centre	19 Hocking Street								N/A	N/A
WEST FOOTSCRAY	Kingsville Kindergarten	35a Roberts Street								Not reported	Not reported
WEST FOOTSCRAY	Roberts Street Maternal and Child Health Centre	35a Roberts Street								N/A	N/A

Source: Maribyrnong City Council's List of Early Learning Centres and Maternal & Child Health Centres, Australian Children's Education and Care Quality Authority

APPENDIX 1: EXISTING CHILDCARE & KINDERGARTEN SERVICES, PROXIMAL HEALTH & MATERNAL SERVICES

Suburb	Name	Address	Maternal & Child health Centre	Three Year Old Program	Four Year Old Kindergarten	Integrated Kindergarten	Long Day Childcare	Private Childcare	Private Kindergarten	Maximum Approved Places	License Approval Year
YARRAVILLE	Clare Court Maternal and Child Health Centre	40 Court Street								N/A	N/A
YARRAVILLE	Gowrie Victoria Clare Court	40 Court Street								165	2012
YARRAVILLE	Merriwa Kindergarten	60a Bishop Street								Not reported	Not reported
YARRAVILLE	Norfolk Street Child Care Centre	2 Norfolk Street								66	2012
YARRAVILLE	Norfolk Street Maternal and Child Health Centre	2 Norfolk Street								N/A	N/A
YARRAVILLE	The Learning Sanctuary Yarraville	107 Gamon St								80	2017
YARRAVILLE	Yarraville Community Kindergarten	2 Norfolk Street								34	2017

Source: Maribyrnong City Council's List of Early Learning Centres and Maternal & Child Health Centres, Australian Children's Education and Care Quality Authority

APPENDIX 2: POTENTIAL UPCOMING CHILDCARE & KINDERGARTEN DEVELOPMENTS

Name	Address	Suburb	Estimated Completion	Type of Facility	No. of Places
Geelong Road Childcare Centre	282 - 288 Geelong Rd	FOOTSCRAY WEST	2020	Private Childcare	145
Footscray Learning Precinct	Not indicated	FOOTSCRAY	2021	Precinct which will also include an integrated early learning centre	N/A
Williamstown Road Childcare Centre	307 Williamstown Rd	YARRAVILLE	2021	Private Childcare	170
Indwe Street Mixed Use Development	25-27 Indwe St	FOOTSCRAY WEST	2023	Mixed use development which will also include an 80-place childcare centre	80
Happy Hippo Kindergarten and Childcare	11-13 Pickett St	FOOTSCRAY	2021	Private Childcare	100
Whitehall Street Childcare Centre	58 Whitehall St	FOOTSCRAY	2020	Private Childcare	N/A
Footscray Integrated Early Learning Centre	8A Hyde St	FOOTSCRAY	2020	State-owned	N/A

Source: Cordell Connect

Note: This list excludes redevelopments and upgrades.

APPENDIX 3: EXISTING AGED CARE FACILITIES

Suburb	Name	Address	No. of Beds
Footscray	Doutta Galla Footscray Aged Care Facility	48 Geelong Road	102
Footscray	Royal Freemasons Footscray Aged Care	25 Mephan Street	60
Kingsville	Uniting AgeWell Kingsville Community	319 Geelong Road	68
Yarraville	Doutta Galla Yarraville Village Aged Care Facility	34 A Somerville Road	45
Footscray	James Barker House	64 Buckley Street	120
Footscray	Baptcare Westhaven Community	50 Pickett Street	128
Maidstone	Arcare Maidstone	31 Hampstead Road	98
Yarraville	Yarra West Aged Care	44 Stephen Street	60

Sources: Daily Care, My Aged Care (Department of Health), Aged Care Online

APPENDIX 4: EXISTING INDOOR SPORTS FACILITIES

Suburb	Name	Address	Type of Facility
Maribyrnong	Maribyrnong Aquatic Centre	1 Aquatic Drive	Aquatic Centre
Footscray	Footscray Park Aquatic and Fitness Centre	LOT 1 Ballarat Road	Aquatic Centre/Indoor Recreation Stadium
Braybrook	Recwest Braybrook	39 Lily Street	Indoor Recreation Stadium
Maribyrnong	AMF Highpoint Bowl	169 Rosamond Road	Indoor Recreation Stadium
Footscray	Recwest Footscray	Corner Essex and Market Streets	Indoor Recreation Stadium
West Footscray	Victoria University Community Sports Stadium	417 Barkly Street	Indoor Recreation Stadium

Sources: Department of Environment, Land, Water and Planning

APPENDIX 5: EXISTING HEALTH SERVICES

Suburb	Name	Address	Type of Facility
Braybrook	Central West Medical Centre	67 Ashley Street, BRAYBROOK 3019, VIC	General Practitioner
Braybrook	Western Family Practice	267 Ballarat Road, BRAYBROOK 3019, VIC	General Practitioner
Footscray	Asylum Seeker Resource Centre	214-218 Nicholson Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	CoHealth Health Works	4-12 Buckley Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Western Health Collective	571 Barkly Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Ramesh Ramchand Melvani	80 Paisley Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Pha Huu Ngo	13 Leeds Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Sy Lieu Pham	32C Leeds Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Tan Phat Bach	Shop 1, 76 Nicholson Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Drug Health and Addiction Medicine Services	3-7 Eleanor Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Footscray Medical Centre	73B Nicholson Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Footscray Medical Clinic	39 Leeds Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Footscray West Medical Clinic	65 Gordon Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Le Phan Medical Centre	43 Byron Street, FOOTSCRAY 3011, VIC	General Practitioner

Sources: Department of Health

APPENDIX 5: EXISTING HEALTH SERVICES

Suburb	Name	Address	Type of Facility
Footscray	Mandalay Family Clinic	59 Hopkins Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Binh Phuoc Le	42B Byron Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Millennium Medical Centre	Metrowest Shopping Centre, Corner Paisley and Albert Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Xuan Dung Tran	146 Hopkins Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Nguyet Thai	72 Nicholson Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	SIA Medical Centre	Level 1, 190 Barkly Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	The Clinic Footscray	Suite 1, 91 Paisley Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Dr. Dac Thong Bui	126 Hopkins Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Westmed Medical Centre	95 Droop Street, FOOTSCRAY 3011, VIC	General Practitioner
Footscray	Tweddle Child & Family Health Service	53 Adelaide Street, FOOTSCRAY 3011, VIC	Hospital
Footscray	Western Hospital	160 Gordon Street, Footscray Vic 3011	Hospital

APPENDIX 5: EXISTING HEALTH SERVICES

Suburb	Name	Address	Type of Facility
Kingsville	The Medical Centre - Kingsville	259-265 Geelong Road, KINGSVILLE 3012, VIC	General Practitioner
Maidstone	Ashley Street Medical Centre	88 Ashley Street, MAIDSTONE 3012, VIC	General Practitioner
Maidstone	Rosamond Medical Centre	111 Rosamond Road, MAIDSTONE 3012, VIC	General Practitioner
Maribyrnong	Edgewater Medical Centre	Shop 1, 46 Edgewater Boulevard, MARIBYRNONG 3032, VIC	General Practitioner
Maribyrnong	Guardian Medical Centre Highpoint	200 Rosamond Road, MARIBYRNONG 3032, VIC	General Practitioner
Maribyrnong	Ultimate Health Care	Suite 14, Level 4, Highpoint Shopping Centre, 200 Rosamond Road, MARIBYRNONG 3032, VIC	General Practitioner
Maribyrnong	Wests Road Medical Centre	25 Wests Road, MARIBYRNONG 3032, VIC	General Practitioner
West Footscray	Barkly Street Medical Clinic	602 Barkly Street, WEST FOOTSCRAY 3012, VIC	General Practitioner
Yarraville	Yarraville Village Family Medical Centre	93 Anderson Street, YARRAVILLE 3013, VIC	General Practitioner
Yarraville	Inner West Medical Centre	304 Williamstown Road, YARRAVILLE 3013, VIC	General Practitioner
Yarraville	The Western Medical Centre	168-170 Somerville Road, YARRAVILLE 3013, VIC	General Practitioner
Yarraville	Yarraville Village Family Medical Centre	93 Anderson Street, YARRAVILLE 3013, VIC	General Practitioner

Sources: Department of Health

APPENDIX 6: EXISTING ARTS & CULTURE FACILITIES

Suburb	Name	Address	Type of Facility
Braybrook	Fortune Digital Studio	Level 2, 4 South Road 3019 Braybrook Victoria 3019	PHOTOGRAPHY, DANCE, FILM STUDIO, PHOTOGRAPHY AND FILM LOCATION
Footscray	Docklands Cotton Mills	91 Moreland Street Footscray Victoria 3011	PHOTOGRAPHY STUDIO, FASHION STUDIO, MULTI-USE SPACE, PHOTOGRAPHY AND FILM LOCATION, COWORKING SPACE
Footscray	Phoenix Youth Hub	72 Buckley Street Footscray Victoria 3011	COMMUNITY HALL, DANCE STUDIO, MULTI-USE SPACE, MUSIC PERFORMANCE VENUE, MUSIC REHEARSAL SPACE, REHEARSAL SPACE, PERFORMANCE VENUE, SOUND RECORDING STUDIO
Footscray	Hyde St Studio	131 Hyde St Footscray Footscray Victoria 3011	CINEMA, CO-WORKING SPACE, DESIGN STUDIO, FILM EDITING SUITE, HOT DESK, MULTI-USE SPACE, OFFICE SPACE, PHOTOGRAPHY STUDIO, RESIDENCY, SOUND RECORDING STUDIO, THEATRE, WAREHOUSE, PHOTOGRAPHY AND FILM LOCATION
Footscray	Yin Yang Heart Space	76 Geelong road Footscray Victoria 3011	MULTI-USE SPACE
Footscray	FAB9	90 Maribyrnong St, Footscray Victoria 3011	MANUFACTURING/FABRICATION SPACE, MAKERSPACE (SHARED OPEN SPACE FOR MAKING)
Footscray	FCAC Basement Theatre	45 Moreland Street Footscray Victoria 3011	CINEMA, DANCE STUDIO, MUSIC PERFORMANCE VENUE, PERFORMANCE VENUE, PHOTOGRAPHY AND FILM LOCATION, REHEARSAL SPACE, THEATRE, MULTI-USE SPACE
Footscray	Footscray Community Arts Centre	45 Moreland Street Footscray Victoria 3011	COMMUNITY ARTS CENTRE
Footscray	Upstairs Footscray	Upstairs, 43 Victoria Street Footscray Footscray Victoria 3011	CO-WORKING SPACE, FILM EDITING SUITE, HOT DESK, OFFICE SPACE

Sources: Creative Spaces

APPENDIX 6: EXISTING ARTS & CULTURE FACILITIES

Suburb	Name	Address	Type of Facility
Footscray	Body Voice Centre Large Studio aka Helen's Studi...	50 Wolverhampton Street Footscray Victoria 3011	STUDIOS FOR DANCE, YOGA, THEATRE REHEARSALS
Footscray	Kindred Studios	3 Harris St Footscray Victoria 3011	MUSIC PERFORMANCE VENUE, REHEARSAL SPACE, MUSIC REHEARSAL SPACE, CINEMA, DANCE STUDIO, MULTI-USE SPACE, THEATRE, ART GALLERY, HOT DESK, OFFICE SPACE, SOUND RECORDING STUDIO
Footscray	Fundere Studios	1 Cromwell Parade West Footscray Victoria 3012	VISUAL ART STUDIO, MAKERSPACE (SHARED OPEN SPACE FOR MAKING)
Footscray	Inventions Studio	99 Moreland St Footscray Victoria 3011	MUSIC REHEARSAL SPACE, FILM EDITING SUITE, PERFORMANCE VENUE, REHEARSAL SPACE, SOUND RECORDING STUDIO, PHOTOGRAPHY STUDIO
Footscray	124 Whitehall St - Warehouse	124 Whitehall St Footscray Victoria 3011	ART GALLERY, CINEMA, COMMUNITY HALL, MANUFACTURING/FABRICATION SPACE, MULTI-USE SPACE, MUSIC PERFORMANCE VENUE, NON TRADITIONAL, PERFORMANCE VENUE, PHOTOGRAPHY STUDIO, POP-UP SPACE, RESIDENCY, THEATRE, WAREHOUSE
Footscray	Bluestone Church Arts Space	8A Hyde Street Footscray Victoria 3011	DANCE STUDIO, MULTI-USE SPACE, MUSIC PERFORMANCE VENUE, MUSIC REHEARSAL SPACE, REHEARSAL SPACE, PERFORMANCE VENUE, THEATRE
Footscray	Five Walls Studios	119 Hopkins St Footscray Victoria 3011	VISUAL ART STUDIO
Footscray	Zip's Warehouse	381-384 Barkly Street Footscray Victoria 3011	COWORKING SPACE
Footscray	The LINE	2 Yewers Street Footscray Victoria 3011	ART GALLERY, CINEMA, MARKETS, MULTI-USE SPACE, MUSIC PERFORMANCE VENUE, NON TRADITIONAL, PERFORMANCE VENUE, PHOTOGRAPHY AND FILM LOCATION, POP-UP SPACE, REHEARSAL SPACE, RETAIL SPACE, VISUAL ART STUDIO, WAREHOUSE
Maribyrnong	Piecework Projects	Jack's Magazine Maribyrnong Victoria 3032	MAKERSPACE (SHARED OPEN SPACE FOR MAKING), VISUAL ART STUDIO, PHOTOGRAPHY AND FILM LOCATION

Sources: Creative Spaces

APPENDIX 6: EXISTING ARTS & CULTURE FACILITIES

Suburb	Name	Address	Type of Facility
Seddon	Gather	4 Alexander Street, Seddon Victoria 3011	CREATIVE STUDIO, PHOTOGRAPHY AND FILM LOCATION
Seddon	Florence Street Studio	4 Florence Street Seddon Victoria 3011	REHEARSAL SPACE, DANCE STUDIO, THEATRE
Seddon	Open Plan Studio	84b Charles Street, Seddon Victoria 3011	CO-WORKING SPACE, FASHION STUDIO, MAKERSPACE (SHARED OPEN SPACE FOR MAKING), MULTI-USE SPACE, OFFICE SPACE, DESIGN STUDIO
Yarraville	OfficeOurs	Suite 201/175B Stephen Street Yarraville Victoria 3013	CO-WORKING SPACE, HOT DESK, OFFICE SPACE
Yarraville	Wootown Studios - Film Studio Hire	177b Stephen Street Yarraville Victoria 3013	FILM EDITING SUITE, PHOTOGRAPHY STUDIO, SOUND RECORDING STUDIO
Yarraville	The HIIT Factory	27 Hall Street, Yarraville Victoria 3013	MUSIC PERFORMANCE VENUE, PHOTOGRAPHY STUDIO, WAREHOUSE, PERFORMANCE VENUE
Yarraville	Circa47	9 Castle Street Yarraville Victoria 3013	PHOTOGRAPHY AND FILM LOCATION, RESIDENCY

Sources: Creative Spaces



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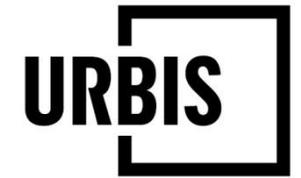
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APPENDIX C

**HOUSING DIVERSITY REPORT (URBIS
PTY LTD)**

HIGHPOINT SHOPPING CENTRE REDEVELOPMENT – HOUSING DIVERSITY REPORT

The GPT Group



NOVEMBER 2019

This report is dated **November 2019** and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (Urbis) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of **The GPT Group** (Instructing Party) for the purpose of a **Highpoint Shopping Centre Redevelopment – Housing Diversity Report** (Purpose) and not for any other purpose or use. Urbis expressly disclaims any liability to the Instructing Party who relies or purports to rely on this report for any purpose other than the Purpose and to any party other than the Instructing Party who relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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All surveys, forecasts, projections and recommendations contained in or made in relation to or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

Urbis has made all reasonable inquiries that it believes is necessary in preparing this report but it cannot be certain that all information material to the preparation of this report has been provided to it as there may be information that is not publicly available at the time of its inquiry.

In preparing this report, Urbis may rely on or refer to documents in a language other than English which Urbis will procure the translation of into English. Urbis is not responsible for the accuracy or completeness of such translations and to the extent that the inaccurate or incomplete translation of any document results in any statement or opinion made in this report being inaccurate or incomplete, Urbis expressly disclaims any liability for that inaccuracy or incompleteness.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in the previous paragraphs. Further, no responsibility is accepted by Urbis or any of its officers or employees for any errors, including errors in data which is either supplied by the Instructing Party, supplied by a third party to Urbis, or which Urbis is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Urbis from liability arising from an opinion expressed recklessly or in bad faith.

Urbis staff responsible for this report were:

Director	Mark Dawson
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Project code	P0015495
Report number	1/2 – Housing Diversity

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You must read the important disclaimer appearing within the body of this report.

CONTENTS

INTRODUCTION	[PAGE 4]
EXECUTIVE SUMMARY	[PAGE 5]
STRATEGIC VISION FOR MELBOURNE AND CITY OF MARIBYRNONG	[PAGE 6]
IMPORTANCE OF HOUSING DIVERSITY	[PAGE 7]
SITE CONTEXT	[PAGE 8]
CITY OF MARIBYRNONG'S CHANGING DEMOGRAPHICS 2006-2016	[PAGE 9]
FUTURE DEMOGRAPHIC TRENDS: GLOBAL AND AUSTRALIA	[PAGE 10]
FUTURE DEMOGRAPHIC TRENDS: GREATER MELBOURNE	[PAGE 11]
FUTURE DEMOGRAPHIC TRENDS: CITY OF MARIBYRNONG	[PAGE 12]
HOUSING POLICY CONTEXT – KEY DIRECTIONS AND PRIORITIES	[PAGE 13]
HOUSING DIVERSITY IN CITY OF MARIBYRNONG - CURRENT STATE	[PAGE 14]
HOUSING DIVERSITY IN CITY OF MARIBYRNONG - FUTURE OPPORTUNITIES	[PAGE 15]
HOUSING AFFORDABILITY IN CITY OF MARIBYRNONG – FUTURE OPPORTUNITIES	[PAGE 16]
FUTURE REDEVELOPMENT PROJECTS	[PAGE 17]
PROPOSED ACCOMMODATION OPTIONS TO PROVIDE RESIDENTS WITH CHOICE	[PAGES 18 & 19]
CONCLUSION	[PAGE 20]

INTRODUCTION

PROJECT BACKGROUND

- The GPT Group is seeking to submit a Development Plan for approval under the Maribyrnong Planning Scheme under DPO17. Once approved, this Development Plan will provide the over-arching planning consent, under which more streamlined planning applications can be lodged.
- The Development Plan will include four key precincts, being:
 1. Office Precinct, Rosamond Road
 2. Town Square and Retail Precinct
 3. Residential (high-density), Warrs Road Precinct
 4. Residential, Northern Interface Precinct
- As a way of retaining management rights of the land, long-term lease is the preferred tenure type, rather than options that involve strata sales.

PURPOSE OF THE STUDY

- Our work is to prepare assessments on housing diversity and social infrastructure with the following aim:
 - The Housing Diversity Report (this report) will identify the mix of housing typologies and household sizes proposed, having regard to market demand, housing supply, key demographics and housing choice. Housing affordability has also been addressed through the breadth of accommodation being offered (including affordable options and alternatives).
 - The Social Infrastructure Report will analyse demographic data, review existing provision of social infrastructure (e.g. schools, libraries, preschools and childcare, health services, police and fire stations, recreation and sports facilities) and identify potential gaps. The report will also cover what could be provided on the Highpoint site (including working spaces for creative industries as part of delivering on affordability).

OUR APPROACH

- Our approach comprises an assessment of:
 - Strategic Vision for Melbourne and City of Maribyrnong
 - Why Housing Diversity is important in achieving that Strategic Vision
 - Site Context
 - Changing demographics from 2006 to 2016
 - Future Demographic Trends
 - a) Global, Australia, Greater Melbourne
 - b) City of Maribyrnong
 - Housing Policy Context
 - Housing Diversity in City of Maribyrnong:
 - a) Evaluation of Current State
 - b) Opportunities to enhance Housing Diversity
 - Major Future Development Projects in Pipeline
 - Accommodation Options

EXECUTIVE SUMMARY

The site, known as Highpoint Activity Centre in the Maribyrnong Planning Scheme, is envisaged for transformation into a vibrant mixed-use centre offering high quality living, working and recreation opportunities.

GPT Group is planning to submit a development plan aimed at making Highpoint Activity Centre an exciting place to live, work and visit. The proposed development offers the prospect of 4,000 new dwellings, seven towers of quality office space and distinctive retail amenities. At the heart of this development is a town square and urban park for community activation. The development also enjoys good transport connections with bus stops and tram stops in close proximity. To further enhance public transport accessibility, a public transport interchange is proposed to be integrated within the development. Overall, the proposed development is anticipated to meet around 17% of total additional housing demand in City of Maribyrnong by 2041. It will also meet about 24% of housing demand from smaller household formations which are forecast to grow significantly.

A requirement for the Development Plan is the submission of a Housing Diversity Report. This Housing Diversity Report assists in understanding market demand for a wide range of accommodation uses while identifying a varied mix of housing typologies, product types, age & character and tenure type to offer residents housing choice and to meet changing household needs.

This report has identified that the proposed development is aligned with State and Local policies and housing strategies. Demographic and market trends suggest there is a community need for housing diversity to manage changes occurring within the City of Maribyrnong. These changes include an aging population, growing demographic segments each with their own unique needs, and evolving generational lifestyle preferences and priorities. Long term lease is the preferred tenure type which enables the land to remain in single ownership, rather than selling to individuals. Single ownership facilitates further opportunities to repurpose land uses on the site according to changing community needs.

A range of proposed accommodation uses can potentially make significant contributions to housing diversity and support the local economy through creation of local jobs. However, legislation and overall growth of the City of Maribyrnong will also influence the feasibility of these accommodation options.

In close proximity to the site, there are several major urban renewal projects that are being planned, namely the Maribyrnong Defence Site and Maidstone Hampstead Road East precinct. There are no firm plans and timelines to-date with the Maribyrnong Defence Site having to undergo site remediation, prior to redevelopment. Should these projects proceed, Highpoint Activity Centre is centrally located to offer future residents of these surrounding projects, rich amenities and services within walking distance.

The scale of the site and its proposed development naturally expands the breadth of uses and housing diversity that can be offered. This scale also enhances the regional role of Highpoint Activity Centre visually and economically to support the future growth of City of Maribyrnong.



STRATEGIC VISION FOR MELBOURNE AND CITY OF MARIBYRNONG

OVERVIEW

- In close alignment with Plan Melbourne's 9 Principles (*Plan Melbourne 2017-2050*) and Maribyrnong City Council's Strategic Objectives (*Council Plan 2017/21*), this project adopts a housing response that contributes towards strategic visions of the Victorian Government and Maribyrnong City Council:

"Melbourne will continue to be a global city of opportunity and choice"

~ *Plan Melbourne 2017-2050*

Maribyrnong will be "a vibrant, diverse and progressive city striving for a sustainable future"

~ *Maribyrnong City Council's Council Plan 2017-21*

- Key themes that resonate across our proposed housing response (detailed in adjacent tables) are:
 - *Diverse housing options* to provide residents with choice
 - *High quality living close to amenities and services*
 - *Integrated approach to housing provision that explores community facilities* (including arts and culture opportunities) *and local job creation*
 - *Environmentally sustainable housing design*

MELBOURNE: A GLOBAL CITY OF OPPORTUNITY AND CHOICE

Plan Melbourne 2017-2050: 9 Principles	Housing Response
A distinctive Melbourne	High quality living in an attractive neighbourhood
Environmental resilience and sustainability	Environmentally sustainable housing design
Strong and healthy communities	Diverse housing options to support diverse, healthy and inclusive communities
A globally connected and competitive city	Housing in close proximity to amenities and services for an attractive and liveable Melbourne
Living locally – 20 minute neighbourhoods	Integrated, innovative approach to housing provision that presents opportunities for local job creation and services
Infrastructure investment that supports balanced city growth	Holistic approach to housing provision that explores potential public and/or private community facilities
A city of centres linked to regional Victoria	Quality housing as part of a compact, highly accessible and distinctive place
Social and economic participation	Diverse housing options close to local jobs to encourage social and economic participation of every resident
Leadership and partnership	In housing provision, collaborating closely with government and community for Melbourne's growth

MARIBYRNONG: A VIBRANT, DIVERSE AND PROGRESSIVE CITY STRIVING FOR A SUSTAINABLE FUTURE

Maribyrnong City Council's Strategic Objectives	Housing Response
Strong leadership	In housing provision, collaborating closely with Council to deliver housing that meets Council's community priorities
Healthy and inclusive communities	Integrated approach to housing provision that explores arts and culture opportunities that can enhance residents' social connection
Quality places and spaces	Quality housing as part of a compact, highly accessible and distinctive place
Growth and prosperity	Diverse and high quality housing that supports community growth and needs
Mobile and connected city	Accessible housing in key activity centres with good transport connections
Clean and green	Environmentally sustainable housing design

IMPORTANCE OF HOUSING DIVERSITY

OVERVIEW

- Among key themes driving the proposed housing response, the focus of this Housing Diversity report is on ensuring *diverse housing options to provide residents with choice*.
- Remaining key themes will be covered in either the Social Infrastructure Report or the Environmentally Sustainable Design Strategy.
- Housing Diversity has been defined by Plan Melbourne 2017-50 and Maribyrnong Housing Strategy 2018 (see adjacent) to broadly cover a range of housing features, costs, typologies, and tenures.
- As identified in earlier analysis, Housing Diversity contributes towards strategic visions of the Victorian Government and Maribyrnong City Council.
- Other benefits of Housing Diversity are listed adjacent.

DEFINITION 1 OF HOUSING DIVERSITY

“Housing diversity relates to the *size, cost, number of bedrooms, character and age of dwellings*. It also extends to *other types of housing*, such as low-cost rental aged care, supported accommodation for people with disability, rooming houses, student accommodation and social housing.”

~ Plan Melbourne 2017-50

DEFINITION 2 OF HOUSING DIVERSITY

“‘Diversity’ includes a mix of *dwelling types, sizes, tenures* (including social housing).”

~ Maribyrnong Housing Strategy 2018

BENEFITS OF HOUSING DIVERSITY

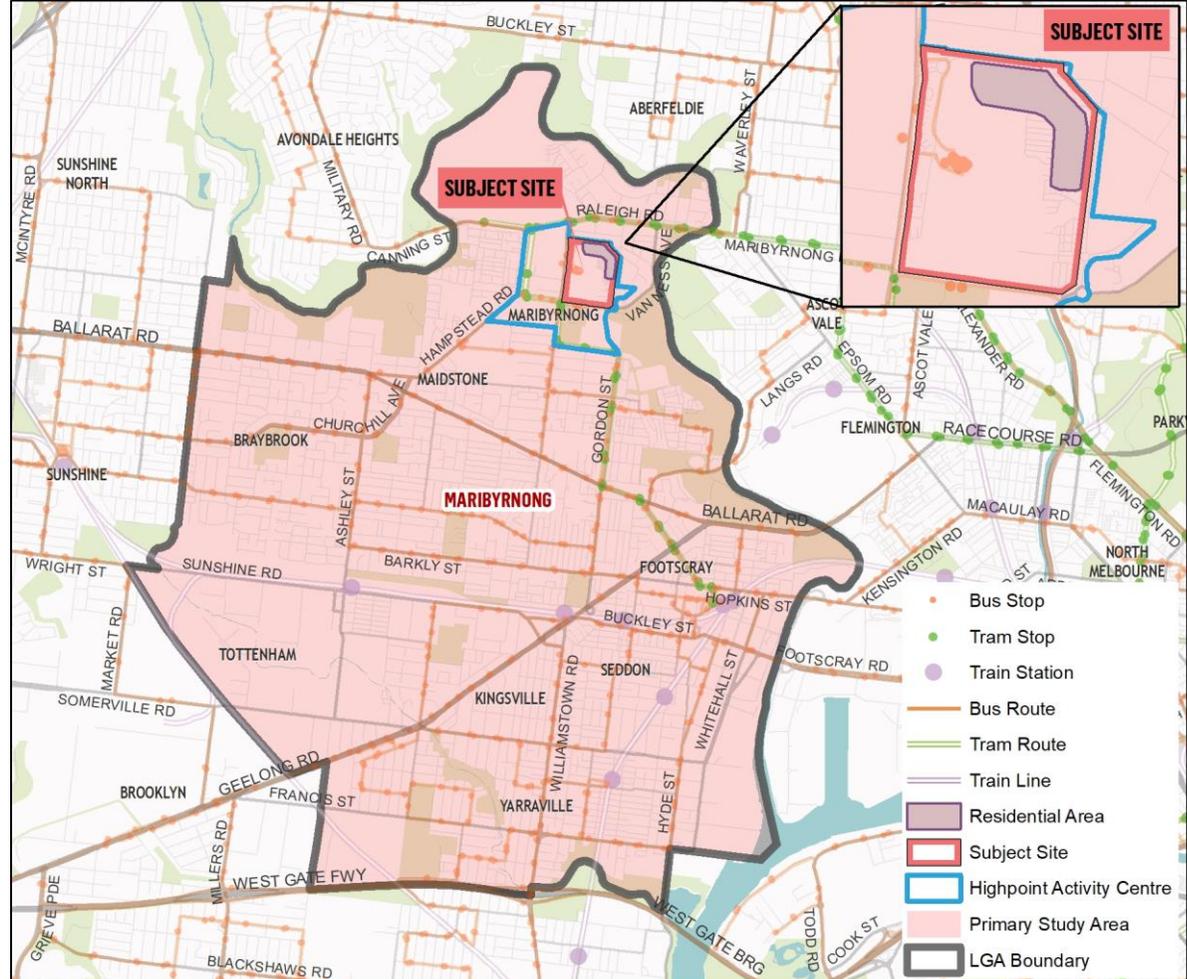
- *Housing choices* for residents of all life stages and economic circumstances
- *Broader affordability and accessibility* for disadvantaged community groups
- *Opportunities to increase metropolitan housing densities* for a more consolidated and sustainable Melbourne
- *Social connection and inclusiveness* from enabling residents to remain in a preferred location or community in spite of changing life circumstances (e.g. newly formed households and older couples)
- *Improved access* to jobs, services and transport

SITE CONTEXT

OVERVIEW

- The site is located in Maribyrnong within an area known as the Highpoint Activity Centre in the Maribyrnong Planning Scheme.
- The Highpoint Activity Centre has been identified by Plan Melbourne 2017-50 as a Major Activity Centre which offers opportunities for job creation and medium-and-higher density development close to jobs and services.
- Pursuant to Schedule 17 to Clause 43.04 in the Maribyrnong Planning Scheme, the vision for Highpoint Activity Centre is broadly “to create a compact, highly accessible and distinctive place that provides regional high quality living, working and recreation opportunities around a prominent town centre”.
- In support of Plan Melbourne’s directions for Major Activity Centres and the Maribyrnong Planning Scheme’s vision for Highpoint Activity Centre, the proposed development offers a high quality mix of residential, office and retail opportunities.
- The proposed Master Plan offers the prospect of 4,000 new dwellings that are closely integrated with retail, office and recreational choices within a high quality and distinctive development
- Residential offerings frame the site’s borders to enjoy significant views of Maribyrnong Valley, the city and the Maribyrnong River, whilst visually reinforcing the development’s regional significance.

SITE MAP

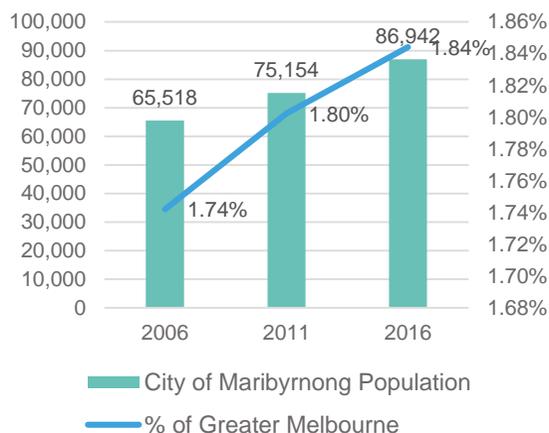


CITY OF MARIBYRNONG'S CHANGING DEMOGRAPHICS 2006-2016

OVERVIEW

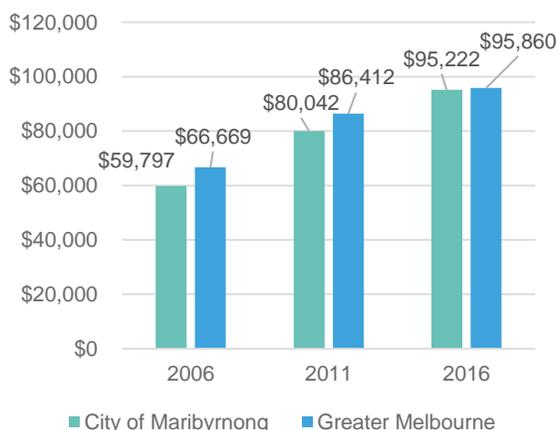
- Key demographic changes in the City of Maribyrnong from 2006 to 2016 are:
 - A growing resident population:** From 2006 to 2016, City of Maribyrnong's resident population increased by almost 33%, which is higher than Greater Melbourne's population growth of about 24%. Consequently, the City of Maribyrnong's proportion of Greater Melbourne's population has increased.
 - A growing young workforce segment:** The young workforce segment in the 25 to 39 age bracket has experienced the greatest growth from 2006 to 2016. Correspondingly, the proportion of older residents (60+) has decreased.
 - Rising average household income:** Average household income in City of Maribyrnong has also increased significantly by almost 60% (compared to Greater Melbourne at some 44%). Although City of Maribyrnong's average household income was still slightly below Greater Melbourne as at 2016, the gap has narrowed significantly over the years.
 - Key household structures remain diverse:** Over the years, some household structures have increased in proportion, namely couples with children, couples with no children and group households. Others have decreased in proportion, namely one parent families and lone person households. Amidst these changes, key household structures remain diverse and there is an almost even distribution between couples with children, couples with no children and lone persons.

A GROWING RESIDENT POPULATION



Source: .id community (City of Maribyrnong); ABS 2006, 2011, 2016

RISING AVERAGE HOUSEHOLD INCOME



Source: ABS 2006, 2011, 2016; Urbis

GROWING YOUNG WORKFORCE SEGMENT

Age Group	2006	2011	2016	2006 to 2016
0-14	16.4%	16.5%	16.0%	-0.4%
15-24	13.8%	13.5%	13.2%	-0.6%
25-39	29.7%	31.2%	32.5%	+2.8%
40-59	24.6%	25.1%	24.7%	+0.1%
60+	15.6%	13.7%	13.6%	-2.0%

Source: .id community (City of Maribyrnong); Urbis

KEY HOUSEHOLD STRUCTURES REMAIN DIVERSE

Household Structure	2006	2011	2016	2006 to 2016
Couples with children	24.0%	26.1%	26.2%	+2.2%
Couples with no children	21.1%	21.9%	22.4%	+1.3%
One parent families	11.6%	10.1%	9.0%	-2.6%
Other families	2.3%	2.0%	2.1%	-0.2%
Group household	7.0%	7.3%	8.6%	+1.6%
Lone person	27.9%	25.3%	24.8%	-3.1%

Source: .id community (City of Maribyrnong); Excludes Visitor Only Households and Non-classifiable Households

FUTURE DEMOGRAPHIC TRENDS: GLOBAL AND AUSTRALIA

OVERVIEW

- Globally and in Australia, the following key trends are forecast to drive housing needs in the future:
 - **Aging population:** With higher life expectancies and an aging population, median age is forecast to increase worldwide and in Australia. As populations age, there will be a growing need for aged care facilities and dwellings that facilitate aging in place.
 - **Millennials are starting families and buying homes later:** Having children and buying homes are no longer a top priority for Millennials worldwide (including in Australia). Interestingly, for younger Gen Z in Australia, buying their own homes is a top priority. As children of Baby boomers, Gen Z could have been influenced by Baby boomers' values. By 2040, however, Gen Z (born in 1990s and 2000s) will be middle aged, whereas children of Millennials will be young adults. These children of Millennials may be influenced by Millennials' values which are less focused on homeownership. This suggests a need for a range of tenure types to cater to different generations.
 - **Tertiary education is becoming increasingly important:** As tertiary education is becoming more prevalent worldwide, Australia's international education sector (namely higher education and VET) is forecast to continue growing. This trend offers student housing opportunities to cater to the needs of tertiary international students.

Note: Millennials are defined here as those born between 1983 and 1994 and Gen Z are those born between 1995 and 2002.

TRENDS GLOBALLY AND IN AUSTRALIA

Trends	Global Forecasts	Australia Forecasts
Aging population	UN forecasts that the global median age will increase from 30 years (in 2018) to 36.1 (in 2050).	ABS forecasts that Australia's median age will increase from 37.2 years (in 2017) to between 39.5 and 43 years (in 2066).
Millennials are starting families and buying homes later	Having children and buying homes are no longer a top priority for Millennials and Gen Zs worldwide (Deloitte Global Millennial Survey, 2019).	For Australian millennials, travel is the number one priority. For their younger Australian Gen Z counterparts, however, buying a home is a top priority. This is unique to Australian Gen Z. (Deloitte Global Millennial Survey, 2019).
Tertiary education is becoming increasingly important	Worldwide, those with post secondary education will grow by about 65% from 2020 to 2040, reaching 1.38 billion in 2040. (Wittgenstein Centre for Demography and Global Human Capital, 2015).	Australia's international education sector is forecast to grow from 650,000 enrolments in 2016 to 940,000 by 2025 (CAGR of 3.8%). The fastest growing sectors are expected to be in higher education and VET. (Austrade, 2016).

FUTURE DEMOGRAPHIC TRENDS: GREATER MELBOURNE

OVERVIEW

- In line with global and Australian trends towards an aging population, the **age group that is forecast to grow most significantly in Greater Melbourne is the 60+ years age group.**
- Greater Melbourne's **age structure and household type composition remain relatively evenly distributed** between some key segments namely:
 - Age structure: The dominant age group in 2041 is forecast to be the older worker segment (40 – 59) followed by a relatively equal distribution between the young workforce segment (25 – 39) and seniors segment (60+).
 - Household type composition: The dominant household structure in 2041 is forecast to be the couples with children household structure, followed by a relatively equal distribution between couples with no children and lone persons.

Overall, however, all these key demographic segments are sizeable.

- Greater Melbourne will need housing that caters to these key segments' diverse needs.

TRENDS IN GREATER MELBOURNE

GREATER MELBOURNE: AGE GROUP FORECAST*

Age Group	2021	2031	2041	2021 to 2041
0-14	18.4%	17.6%	16.7%	-1.7%
15-24	13.0%	13.2%	12.7%	-0.3%
25-39	25.2%	23.2%	22.3%	-2.9%
40-59	24.4%	25.3%	26.6%	+2.2%
60+	19.1%	20.5%	21.7%	+2.6%

GREATER MELBOURNE: HOUSEHOLD FORECAST*

Household Structure	2021	2031	2041	2021 to 2041
Couples with children	34.2%	33.8%	33.1%	-1.1%
Couples with no children	24.9%	25.2%	25.7%	+0.8%
One parent families	10.3%	10.6%	10.9%	+0.6%
Other families	1.4%	1.4%	1.3%	-0.1%
Group household	5.2%	4.9%	4.6%	-0.6%
Lone person	23.9%	24.2%	24.3%	+0.4%

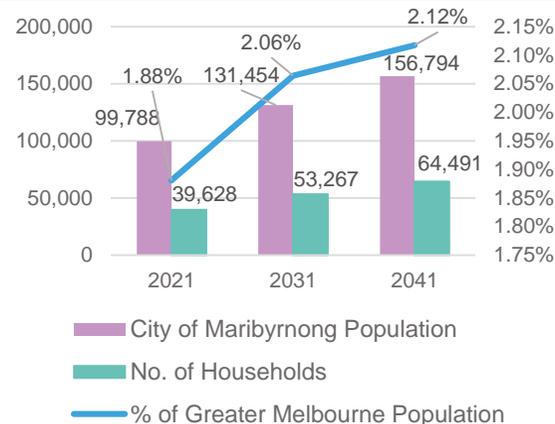
* Source: Victoria in Future (2019)

FUTURE DEMOGRAPHIC TRENDS: CITY OF MARIBYRNONG

OVERVIEW

- Population Forecasts:** City of Maribyrnong's resident population is forecast to grow more significantly than the rest of Greater Melbourne, resulting in its proportion of Greater Melbourne's population expected to trend upwards. At the same time, City of Maribyrnong's Average Household Size is forecast to decrease from 2.48 in 2021 to 2.43 in 2031 and 2.4 in 2041. More housing is needed to support this growing number of households, including smaller households.
- Age Group Forecasts:** Similar to Greater Melbourne, the age group expected to grow most significantly is the 60+ age group. This is in line with wider trends towards an aging population. Dominant age groups remain the young workforce (25 to 39) and older workers (40 – 59).
- Household Type Forecasts:** In line with the rest of Greater Melbourne, it is forecast that City of Maribyrnong's key household types will be diverse, ranging from couples with dependents and couples with no dependents to lone persons. Lone person households are expected to grow most significantly at 2.2%, compared to a modest 0.4% in the wider Greater Melbourne. This is not entirely surprising since City of Maribyrnong is made up by inner city suburbs that appeal to the lone person lifestyle.
- Change in Household Type Forecasts:** While lone person households are expected to grow most significantly, couples with no dependents and couples with dependents are also expected to grow significantly on the back of population growth trends. A diverse range of housing is needed to cater to the growing number of households across different household types.

RESIDENT POPULATION FORECASTS



Source: Forecast ID (City of Maribyrnong), Victoria in Future (2019)

HOUSEHOLD TYPE FORECASTS

Household Structure	2021	2031	2041	2021 to 2041
Couples with dependents	26.7%	25.5%	24.8%	-1.9%
Couples with no dependents	23.8%	24.1%	24.1%	+0.3%
One parent families	8.9%	8.6%	8.5%	-0.4%
Other families	3.6%	3.5%	3.5%	-0.1%
Group household	9.7%	9.8%	9.6%	-0.1%
Lone person	27.3%	28.4%	29.5%	+2.2%

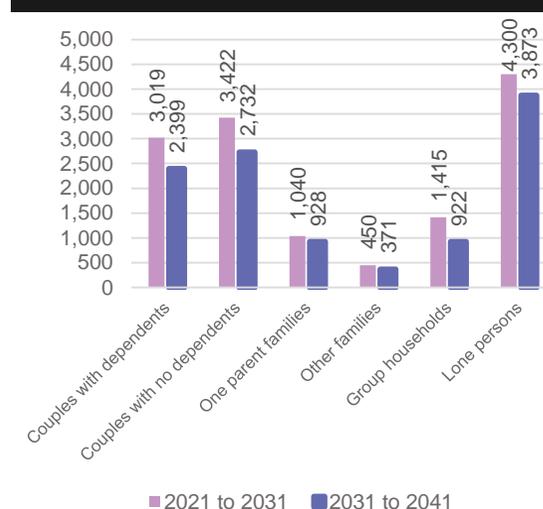
Source: Forecast ID (City of Maribyrnong)

AGE GROUP FORECASTS

Age Group	2021	2031	2041	2021 to 2041
0-14	16.1%	15.5%	15.0%	-1.1%
15-24	13.9%	14.2%	13.9%	0.0%
25-39	32.3%	31.9%	30.9%	-1.4%
40-59	23.5%	22.7%	22.7%	-0.8%
60+	14.2%	15.7%	17.5%	+3.3%

Source: Forecast ID (City of Maribyrnong)

CHANGE IN HOUSEHOLD TYPE FORECASTS



Source: Forecast ID (City of Maribyrnong)

HOUSING POLICY CONTEXT – KEY DIRECTIONS AND PRIORITIES

01

Higher Density Mixed Use Developments in Activity Centres

Plan Melbourne 2017-50 and Maribyrnong Housing Strategy 2018 have identified *opportunities in Activity Centres to facilitate higher density mixed use developments*. Supported by public transport connections, these Activity Centres can offer a good mix of employment, services and housing options. In this way, they provide communities with good access to jobs and housing, as well as a wide range of retail, community, entertainment, cultural and transport services.

02

Housing Choice for All Stages of Life and Socio-Economic Backgrounds

Plan Melbourne 2017-50 and Maribyrnong Housing Strategy 2018 have identified the *need for a greater mix of housing to offer housing choice and to meet changing household needs*. Diverse housing stock offers choice for all stages of life and socio-economic backgrounds. Maribyrnong Housing Strategy 2018 has further identified that achieving a diverse mix of housing in City of Maribyrnong needs the development of smaller dwellings for smaller household formations, as well as three or more bedroom dwellings across housing typologies to cater to diverse household structures.

03

Housing Close to Jobs and Services

In order to grow *strong and healthy communities*, one of Plan Melbourne 2017-50's key outcomes is to *facilitate medium to higher density housing close to jobs and services*. For a more equitable and accessible Melbourne, housing choice needs to be offered in locations where people want to live and with access to jobs and services. For this reason, Plan Melbourne 2017-50 seeks to locate at least 65 percent of new housing in established areas of Melbourne, rather than growth areas.

04

Housing for Specific Groups Forecast to Grow: Students and 65+

City of Maribyrnong forecasts that its population profile is changing with proportions of residents 65 years and over, and students, set to continue growing significantly. Consequently, there is a *growing demand for specialised housing that caters to these growing demographic groups*. Specialised housing opportunities include aged care housing, disability housing and student housing near tertiary education facilities and public transport.

HOUSING DIVERSITY IN CITY OF MARIBYRNONG – CURRENT STATE

OVERVIEW

- As identified in Plan Melbourne 2017-50 and Maribyrnong Housing Strategy 2018, housing diversity offers a range of housing options in terms of housing typology, number of bedrooms (size), tenure and broadly, age and character. High-level assessments of City of Maribyrnong's current state of housing diversity according to each of these criteria are detailed in the adjacent table. Key insights are:
 - Housing typology is currently primarily low-density housing (townhouses and separate houses) with high-density housing concentrated in specific locations.
 - There is limited smaller stock (Studios and One-bed) to cater to lone persons and couples with no children, and larger stock (Four-bed+) to cater to larger families.
 - Tenure is relatively evenly distributed between renting and home ownership. Tenure type in convenient locations close to amenities and services tends to be renting.
 - Except select suburbs like Footscray which has undergone significant development in recent years, current stock tends to be older stock, broadly speaking.
- Future opportunities to improve Housing Diversity in City of Maribyrnong are identified in the next slide.

SUMMARY: CITY OF MARIBYRNONG'S CURRENT STATE OF HOUSING DIVERSITY

Housing Characteristics	High-level measures	Housing Diversity Evaluation
Housing typology	Apartments: ~25% Townhouses: ~25% Separate houses: ~50% (ABS, 2016)	<ul style="list-style-type: none"> • Primarily low density housing (townhouses or separate houses) • High-density housing is concentrated only around Seddon Railway station, Footscray Railway station and Victoria University.
No. of Bedrooms	Studios: 0.7% One-bed: ~10% Two-bed: ~35% Three-bed: ~40% Four-bed+: ~15% (ABS, 2016)	<ul style="list-style-type: none"> • Majority of housing stock is larger stock (Three or more bedrooms) • Limited smaller stock (Studios and One-bed) • With lone persons and couples with no children making up about 49% of the population, there may be a need for more smaller housing stock. • Limited stock that is Four-bed+ which may be needed to cater to larger families
Tenure	Owned outright: ~22% Owned with mortgage: ~32% Rented: 46% (ABS, 2016)	<ul style="list-style-type: none"> • Relatively evenly distributed between home ownership and renting overall • Around tertiary institutions, train stations and activity centres, dominant tenure type tends to be renting.
Age & character	Some suburbs like Footscray have relatively more newbuilds, having undergone significant development in recent years. Generally, current stock (especially low-density) tends to be older stock.	<ul style="list-style-type: none"> • Broadly, current stock (especially low-density) tends to be older stock

HOUSING DIVERSITY IN CITY OF MARIBYRNONG – FUTURE OPPORTUNITIES

Housing Characteristics	Future Opportunities	Housing Diversity Benefits	Supporting Planning Policies
Housing typology	Opportunity to introduce more high-density housing around activity centres	Offers housing choice for young adult and older demographics who may prefer apartment living for its amenities	Plan Melbourne 2017-50 Outcome 2 Maribyrnong Housing Strategy 2018 VPP Clause 11.01-1R, Clause 16.01-3S Schedule 17 to Clause 43.04 in the Maribyrnong Planning Scheme
Product type	<p>Opportunity to introduce smaller housing stock (Studios, One-bed) to cater to significant lone persons and couples with no children household segments</p> <p>Opportunity to introduce larger housing stock (Four-bed+) to cater to larger families</p>	<p>Offers choice for tertiary students, young adults and older couples with no children</p> <p>Offers choice for a range of family sizes</p>	<p>Plan Melbourne 2017-50 Outcome 2</p> <p>Maribyrnong Housing Strategy 2018</p> <p>VPP Clause 16.01-3S</p> <p>Schedule 17 to Clause 43.04 in the Maribyrnong Planning Scheme</p>
Tenure	Opportunity to offer more housing for rent	Home ownership at around 54% still outweighs rented housing at around 46%. Offering additional rental stock can improve the balance between tenure types to support different generations and life stages	Plan Melbourne 2017-50 Outcome 2 Maribyrnong Housing Strategy 2018 VPP Clause 16.01-3S
Age & character	Opportunity to offer more new-builds	Introducing new-builds can improve the mix of new-builds and older stock to cater to different housing preferences. New-builds can also potentially attract new residents to City of Maribyrnong.	Plan Melbourne 2017-50 Outcome 2 Maribyrnong Housing Strategy 2018 VPP Clause 16.01-3S
Specialised housing	Opportunities for aged care and student housing	Introducing residential aged care and student housing will contribute towards housing choice and cater to these growing segments	VPP Clause 16.01-7S VPP Clause 16.01-1S LPP Clause 21.07-3

HOUSING AFFORDABILITY IN CITY OF MARIBYRNONG – FUTURE OPPORTUNITIES

OVERVIEW

- Opportunity to improve housing affordability:** Based on analysing City of Maribyrnong residents' household incomes and rentals, as at 2016, a majority (circa. 56%) are not experiencing rental stress. Rental stress has been defined as spending more than 30% of income on rent. However, there is a sizeable (44%) who are paying rents that are > 30% of household income. Although these households are concentrated in the low household income bracket, there are also sizeable numbers of middle-income households that are facing rental stress. This suggests the importance of housing diversity to meet the needs of a diverse community including households of various income levels.
- The breadth of offering in the proposed development can contribute towards broader housing affordability** in City of Maribyrnong in the following ways:
 - Providing alternative housing stock to standalone houses that are typically larger and command higher rents
 - Offering housing choice for smaller household formations that may only need smaller dwelling types. By offering smaller households with the choice of smaller dwelling types, the supply of larger housing types is opened to families who may need them
 - Across the accommodation options proposed, a certain percentage can be set aside to meet the need for affordable housing among low to moderate income households and key workers (for instance health workers at Footscray Hospital)
- Beyond housing, the proposed development can also contribute towards broader affordability through employment creation, as well as social infrastructure and services that are available locally.**

CITY OF MARIBYRNONG RESIDENTS: HOUSEHOLD INCOME TO RENTAL

30% of income to rent threshold

About 5,000 residents paying > 30% of income rental threshold

Weekly & (Annual) Household Income Range	Weekly Rent Paid										Total
	< \$300	\$300-\$349	\$350-\$399	\$400-\$449	\$450-\$549	\$550-\$649	\$650-\$749	\$750-\$849	\$850-\$949	> \$950	
\$1-\$149 (\$1-\$7,799)	123	16	13	7	0	0	0	0	0	0	159
\$150-\$299 (\$7,800-\$15,599)	345	39	11	5	0	0	0	0	0	0	400
\$300-\$399 (\$15,600-\$20,799)	465	38	30	6	6	0	0	0	0	0	545
\$400-\$499 (\$20,800-\$25,999)	550	84	41	16	11	0	0	0	0	0	702
\$500-\$649 (\$26,000-\$33,799)	364	102	51	24	31	0	4	0	0	0	576
\$650-\$799 (\$33,800-\$41,599)	425	158	101	63	31	9	0	0	0	0	787
\$800-\$999 (\$41,600-\$51,999)	431	239	140	87	46	3	0	0	0	3	949
\$1,000-\$1,249 (\$52,000-\$64,999)	470	295	229	129	66	21	7	0	0	11	1,228
\$1,250-\$1,499 (\$65,000-\$77,999)	319	299	213	111	75	15	10	8	0	8	1,058
\$1,500-\$1,749 (\$78,000-\$90,999)	207	230	186	132	94	7	3	0	0	6	865
\$1,750-\$1,999 (\$91,000-\$103,999)	111	172	199	128	88	30	7	4	0	4	743
\$2,000-\$2,499 (\$104,000-\$129,999)	155	250	363	296	255	72	14	6	0	17	1,428
\$2,500-\$2,999 (\$130,000-\$155,999)	48	97	165	167	190	59	12	4	0	5	747
\$3,000-\$3,499 (\$156,000-\$181,999)	19	52	77	94	119	68	13	7	0	0	449
\$3,500-\$3,999 (\$182,000-\$207,999)	19	29	46	49	125	64	17	3	4	0	356
\$4,000-\$4,499 (\$208,000-\$233,999)	3	13	13	23	46	16	7	3	0	0	124
\$4,500-\$4,999 (\$234,000-\$259,999)	4	3	7	21	44	26	12	0	0	0	117
\$5,000-\$5,999 (\$260,000-\$311,999)	0	0	3	13	31	15	13	0	0	0	75
\$6,000-\$7,999 (\$312,000-\$415,999)	0	3	0	0	21	19	4	0	0	0	47
\$8,000 or more (\$416,000 or more)	0	0	0	0	0	0	0	0	0	0	0
Total	4,058	2,119	1,888	1,371	1,279	424	123	35	4	54	11,355

Spending too much on housing

Can afford to pay more

Note: Each cell reflects the number of households in each income/rent expenditure category. Incomes are pre-tax.

Source: ABS, Urbis

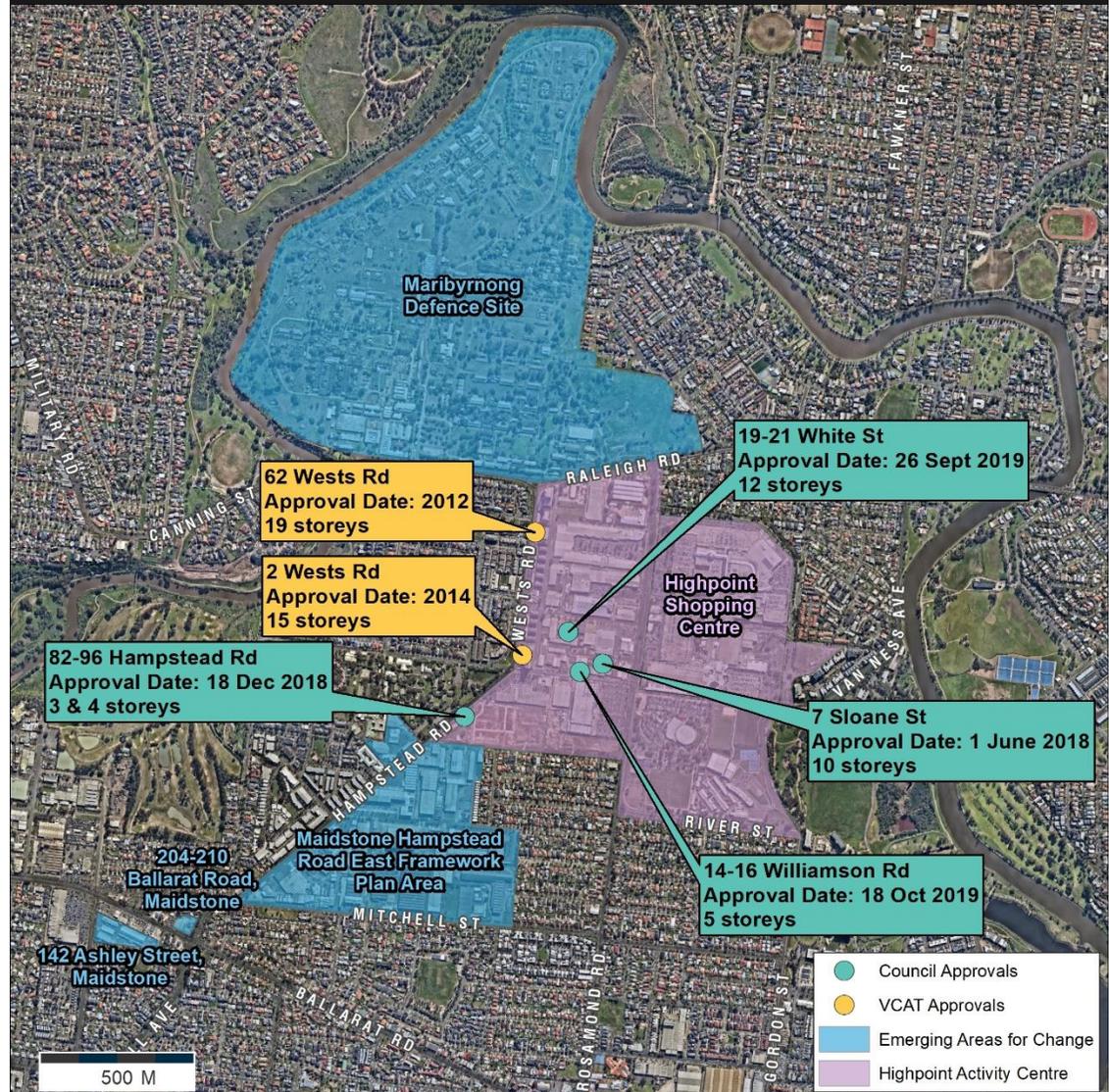
FUTURE REDEVELOPMENT PROJECTS

OVERVIEW

- There are several planned major redevelopment projects in proximity to the site. However, to-date there are no firm timelines.
 - **Maribyrnong Defence Site:** Department of Defence has commenced an open market disposal process to sell the site. The Victorian Government has set out its high-level expectations for the development of this site - around 3,000 dwellings, alongside employment and education opportunities (Defence Maribyrnong Site Statement of Policy Intent, June 2018). There are however no firm plans to-date with the site needing to undergo significant site remediation prior to development.
 - **Maidstone Hampstead Road East Framework Plan Area:** Maribyrnong City Council has identified that preferred land uses for the redevelopment of this site are mainly a mix of industrial and office uses with some residential (Maidstone Hampstead Road East Framework Plan, 2015). Since this site will be primarily industrial, it will be of a different nature to the proposed development at Highpoint.
 - **Victoria University Student Village in Maidstone:** Although the Maribyrnong Planning Scheme has identified possible closure of this facility, to date, there are no recent development applications.
 - **A residential development of apartments and townhouses:** Under construction at 82-96 Hampstead Road. This project will meet short to medium term housing demand but will probably not have significant impact on demand in 2040 and beyond.

While these major redevelopment projects offer significant land volume, none are able to offer the level of amenity, walkability and convenience that would be on offer at Highpoint Activity Centre.

MAP OF SURROUNDING KEY REDEVELOPMENT PROJECTS



PROPOSED ACCOMMODATION OPTIONS TO PROVIDE RESIDENTS WITH CHOICE

Area of Assessment	Residential Aged Care / Retirement Living	Student Housing / Co-living
Potential Target Market(s)	<ul style="list-style-type: none"> Senior residents (60+) who are currently living in City of Maribyrnong or who have children/grandchildren living in City of Maribyrnong. 	<ul style="list-style-type: none"> Students studying in tertiary institutions and technical colleges in City of Maribyrnong. Co-living may have the potential to tap into young adult market.
Demand Drivers	<ul style="list-style-type: none"> 60+ demographic is the age group that is forecast to see most significant growth in City of Maribyrnong from 2021 to 2041, estimated about 27,300 in 2041. Children below 10 (estimated 17,850 in 2041) in City of Maribyrnong may also draw their grandparents to live close by. Maribyrnong Senior Citizens Centre and Maribyrnong Community Centre are across the road from proposed site. 	<ul style="list-style-type: none"> As identified in earlier analysis, tertiary education is becoming increasingly important globally and the tertiary education sector in Australia is forecast by Austrade to attract a growing number of international students. Maribyrnong's Planning Scheme has identified that there is a need for more student housing to support the role of Victoria University. Incorporating co-living may expand the market beyond tertiary students to young adults (25 to 39) who are forecast to make up the largest segment in City of Maribyrnong in 2041 (approx. 48,400). To appeal to this market, co-living should probably be in a separate wing from Student Housing and equipped with more communal spaces and a community management team.
Supply Drivers (including Policy support)	<ul style="list-style-type: none"> Limited Residential Aged Care within a mixed use development that offers retail and public transport services. Planning support for residential aged care facilities in activity centres. 	<ul style="list-style-type: none"> Victoria University is situated within City of Maribyrnong, mainly concentrated in Footscray. Student Housing in Footscray may not be able to offer the same level of amenities as Student Housing that is part of Highpoint's quality mixed-use development. Planning support for Student Housing.
Contribution to Housing Diversity	<ul style="list-style-type: none"> Contributes towards the need for specialised housing (Page 15) to cater to aging residents, offering them choice of housing within their communities and close to families as they age. 	<ul style="list-style-type: none"> Contributes towards the need for specialised housing (Page 15) to cater to tertiary students, offering them choice of housing that meets their needs and with good connections to where they study. Student Housing also supports the tertiary education sector.
Overall Evaluation	<p>With attractive demand and supply drivers, this is a potential accommodation option.</p> <p>Residential aged care will also contribute towards housing diversity by offering housing choice to residents in City of Maribyrnong as they age.</p>	<p>With attractive demand and supply drivers, this is a potential accommodation option. It should be noted, however, that Victoria University is not within walking distance from Highpoint, hence Student Housing needs to be located close to Public Transport (tram or bus stop) that connects to Victoria University. The proposed development offers tertiary students good amenities and services in a quality mixed-use development. With a co-living component, a wider range of residents can be catered for, while promoting social inclusion through community activities and events.</p> <p>This accommodation option contributes towards housing diversity, broader affordability and social inclusion.</p>

PROPOSED ACCOMMODATION OPTIONS TO PROVIDE RESIDENTS WITH CHOICE

Area of Assessment	Build-to-Rent Apartments	Serviced Apartments/ Hotel
Potential Target Market(s)	<ul style="list-style-type: none"> • Young adults (lone persons and couples with no children) and older residents (60+) who are seeking the services and flexibility (no mortgage) that Build-to-Rent can offer. • Potential to tap into corporate market for recently relocated staff. 	<ul style="list-style-type: none"> • Tourists (leisure and business). • Potential to tap into corporate market for recently relocated staff.
Demand Drivers	<ul style="list-style-type: none"> • The proposed development offers seven towers of high-quality office space. As companies are drawn to take up space in these office towers, there is a ready catchment of corporates that can benefit from Build-to-Rent apartments where they can house recently relocated staff. • Young working professionals working in these office towers may consider living close to their workplace for convenience, • By 2041, young working adults and 60+, who are target markets for this accommodation option, are forecast to be sizeable segments at approx. 48,400 (25 – 39 years) and 27,300 (60+ years). 	<ul style="list-style-type: none"> • The proposed development offers seven towers of high-quality office space. As companies are drawn to take up space in these office towers, there is a ready catchment of corporates. These companies can benefit from serviced apartments where they can host recently relocated staff and/or business visitors. • City of Maribyrnong (unlike Melbourne CBD) is probably not a likely destination for leisure tourists. • A major hotel or serviced apartment is not recommended for this location as there is not a significant leisure tourist market to support it sustainably (at this point in time). • A modest offering of 50 to 70 rooms may be supportable by corporates in surrounding proposed office towers. However, it depends on whether a serviced apartment operator (e.g. Quest) is interested to manage a smaller serviced apartment/hotel offering. • This accommodation option can be offered in conjunction with Build-to-Rent.
Supply Drivers (including Policy support)	<ul style="list-style-type: none"> • Currently, legislation impediments around land tax and taxes on foreign capital exist. Interest in Build-to-Rent has been growing, however. There may be the possibility of more supportive legislation by 2040/41. • Close to the proposed site, the former Maribyrnong Defence Site and Maidstone's former University Village are potential areas for significant mixed-use development that may compete with the proposed site. There are no firm plans and timelines to-date. 	<ul style="list-style-type: none"> • Planning support for complementary hospitality uses in the vicinity of the enclosed shopping centre and along Rosamond Road • Only other key serviced apartment in Maribyrnong (Quest Serviced Apartments) is offering about 78 serviced apartments, hence no known major competitive supply to-date.
Contribution to Housing Diversity	<ul style="list-style-type: none"> • Contributes towards housing diversity by addressing future opportunities to improve housing diversity that have been identified on Page 15. By introducing high-density apartments that are new-build, covers a range of product types and are for-rent, this accommodation option contributes towards diversity of housing typology, product type, tenure and age and character. 	<ul style="list-style-type: none"> • While this accommodation option may not contribute directly towards housing diversity, it supports the business needs of corporate tenants in the development's proposed office towers. Consequently, it supports the creation of jobs and the local economy in the Highpoint Activity Centre. Ultimately, this benefits residents as amenities and services may be attracted to the area to support these businesses.
Overall Evaluation	<p>There are strong demand fundamentals to support this option. There is also the potential to offer significant housing diversity benefits. One other benefit of Build-to-Rent is that it enables the land to remain in single ownership, rather than selling to individuals. This offers further opportunities to repurpose land uses on the site according to changing community needs. The viability of this option will depend however on legislation that supports Build-to-Rent.</p>	<p>Given that Maribyrnong is not a typical destination for leisure tourists, only a modest serviced apartment offering (50 to 70 room) may be sustainable by corporate tenants in surrounding proposed office towers. This option can be offered in conjunction with Build-to-Rent apartments.</p>

CONCLUSION: PROPOSED DEVELOPMENT'S CONTRIBUTION TOWARDS CITY OF MARIBYRNONG'S FORECAST HOUSING DIVERSITY NEEDS

In conclusion, the proposed development contributes towards City of Maribyrnong's forecast housing diversity needs by:

- Meeting about 17% of forecast additional housing demand by 2041
- Meeting about 24% of forecast additional housing demand from Lone Persons, Groups and Couples with No Dependents (including Students and 60+)
- Offering the range of bedroom types needed to meet the full spectrum of needs from a diverse range of household types

In line with housing demand and *City of Maribyrnong's Housing Strategy*, the proposed development will have a relatively higher proportion of apartments. Apartments cater to the widest range of household types and make the greatest contribution towards housing diversity. There will also be a relatively higher proportion of smaller bedroom types (Studio, One-Bed, Two-Bed) to meet the needs of smaller household formations which are forecast to grow most significantly. These smaller household formations include specialist groups like students and seniors (60+).

Household Types	2021-2031 Additional No. of Households	2031-2041 Additional No. of Households	2021 – 2041 Total Additional No. of Households	Annual Growth in No. of Households	Proposed Bedroom Types	Student Housing	Apartments	Co-Living	Retirement/ Aged Care (60+)
Lone Person	4,300	3,900	8,200	410	Studio/One-bed	✓	✓	✓	✓
Group	1,400	900	2,300	115	Two-bed +	✓	✓	✓	✓
Couples with No Dependents	3,400	2,700	6,100	305	One-bed/ Two-bed		✓	✓	✓
Couples with Dependents	3,000	2,400	5,400	270	Two-bed +		✓		
One-parent Families	1,000	900	1,900	95	Two-bed+		✓		
Total Additional No. of Households (2021-2041)			23,900		Total No. of Dwellings from Proposed Development	4,000 dwellings			
Additional No. of Lone Person, Group and Couples with no Dependents Households (2021-2041)			16,600			Meets circa. 17% of total additional housing demand			
						Meets circa. 24% of additional housing demand from lone person, group and couples with no dependents households			

Note: Numbers have been rounded for ease of interpretation.



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APPENDIX D

LANDSCAPE & PUBLIC REALM CONCEPT PLAN (URBIS PTY LTD)

HIGHPOINT URBAN VILLAGE LANDSCAPE AND PUBLIC REALM CONCEPT PLAN

PREPARED FOR
GPT
11 NOVEMBER 2020
FOR SUBMISSION

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Project Code P0015495

Report Number REP_02

Project # P0015495

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CONTENTS

1.1	CONTEXT	5
1.2	PRINCIPLES: OPEN SPACE AND COMMUNITY INFRASTRUCTURE	6
1.3	PUBLIC REALM AND LANDSCAPE GUIDELINES	7
1.4	LANDSCAPE CONCEPT	8
1.5	OPEN SPACE OBJECTIVES	9
1.6	GREEN EDGE ALONG HIGHPOINT RING ROAD	11
1.7	STREET AND ACCESS	13
1.8	TYPICAL STREET TYPOLOGIES	14
1.9	KEY OPEN SPACES	15
1.10	PRIVATE COMMUNAL SPACES	27
1.11	MANAGEMENT	29
1.12	PLANTING AND TREES	31
1.13	MATERIAL AND LANDSCAPE ELEMENTS	34
1.14	EXISTING AND RETAINED TREES	36
1.15	CONCLUSION	36

REFERENCE TO DPO17

This 'Landscape and Public Realm Concept Report ' responds to the design guidelines as identified in the DPO17 in the following sections: (Refer Table 1)

S.no	Item	Refer Section
1	Principles for how future development will contribute to improving the public realm and promote	Section 1.2,1.3
2	Overall landscaping concepts.	Section 1.4
3	Landscape and urban design concepts for proposed open space and typical street cross sections.	Section 1.6,1.7,1.8
4	Details of how the plan responds to the requirements of any site remediation strategy for the land.	Dealt at detailed development stages

Table 1 Site analysis and design report- design guidelines as per DPO17

1.1 CONTEXT

Urbis Pty Ltd has been engaged by GPT to prepare a landscape design concept for the proposed Highpoint Urban Village development at Highpoint Shopping Centre (HPSC) at Maribyrnong.

The Highpoint Shopping Centre site is located at the City of Maribyrnong and is within the Highpoint Activity Centre. The site is 28.6 hectares and is sited just south of Raleigh Road, between Rosamond Road and Warrs Road

The Development Plan proposes to retain and incorporate various existing features of the site, including Highpoint Shopping Centre, which is a regional destination for shopping and entertainment.

The landscape concept explores opportunities to integrate the existing built form with the proposed new developments and ensure better linkages to the surrounding areas. The concept developed is cognizant of the various open space strategies in Maribyrnong Council. There are also various masterplan that have been prepared for the surrounding open spaces e.g Pipemakers Parks Environs Masterplan which are adjacent to the site, with opportunities to connect other open space areas like the Robert Barrett Reserve.

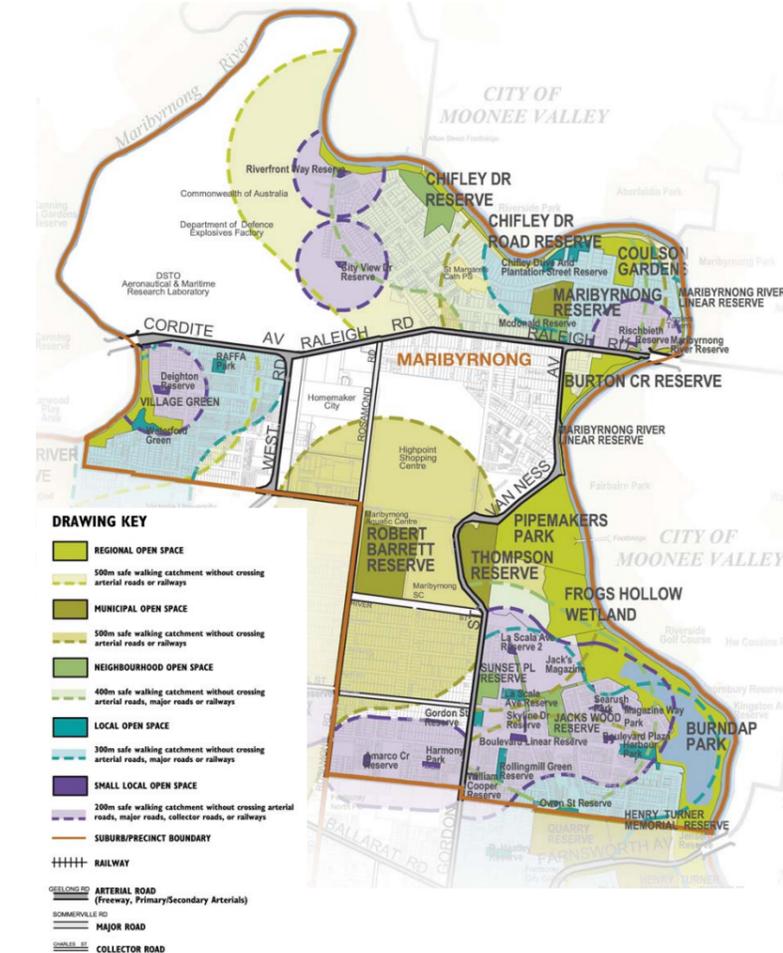


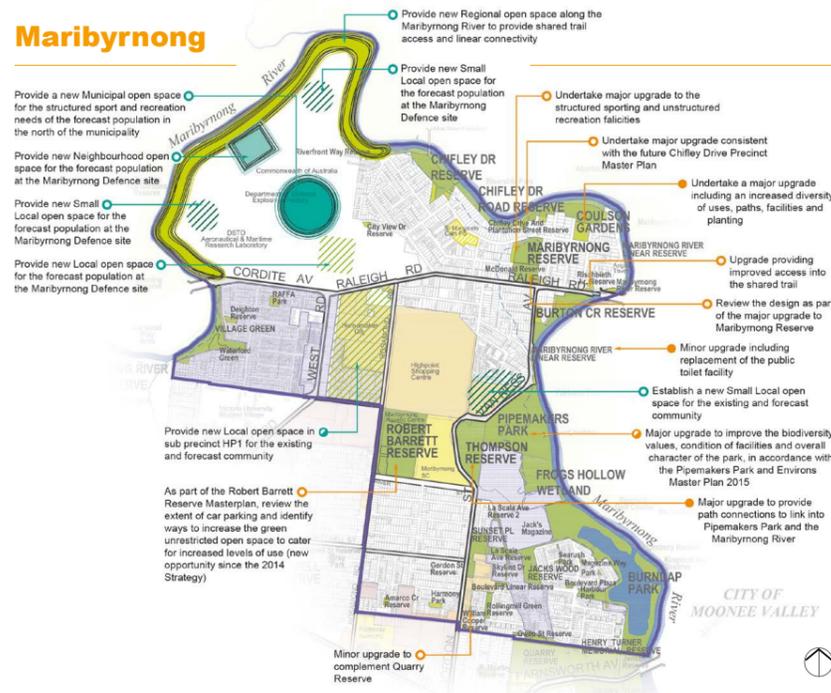
Figure 1 MCC 2031 Open space strategy excerpts
Source: MCC Open Space Strategy P.6, P.21

Being one of the larger land holding in the surrounding area, the concept plan aims to create an open space strategy that integrates land use, connectivity and public realm opportunities to ensure variety of public realm and open spaces that connects to the larger surrounding urban fabric and open spaces.

The landscape concept is based on the urban context analysis and the objective and character associated with the various precincts within the High Point Urban Village.

MCC 2031 OPEN SPACE STRATEGY KEY OBJECTIVES

- MCC 2031 Open Space Strategy (2020, 5 year addendum current review) provides a strategic direction for the future planning, provision, design and management of open space in the City of Maribyrnong from 2013 to 2031. The Strategy includes consideration of the forecast change in land use and population in planning for open space
- A key objective is to provide open space within an easy and safe walking distance of the existing and forecast community. A 500 metre walkable catchment is applied to all Regional and Municipal open space, reflecting the use of neighbourhood level facilities;



HIGHPOINT UDF: PRECINCT 6 HIGHPOINT HUB OPEN SPACE + COMMUNITY INFRASTRUCTURE

OBJECTIVES

To upgrade the existing public plaza fronting Rosamond Road and provide focal points at each end of the east-west pedestrian links

- To provide at least one small local open space
- To provide landscaping and street treatments that will contribute to Rosamond Road's role as a main street at the heart of the centre
- To provide for distinctive and substantial green walls or landscaped edges along the Highpoint Ring Road



Figure 2 Pipemakers Park and Environs Master Plan
Source: Maribyrnong City Council



The Open Space and Community Infrastructure Principles aims to provide open space and place making strategies to transform Highpoint Shopping Centre into a mixed use urban village with high-quality landscaped public realm and open spaces.

1.2 PRINCIPLES: OPEN SPACE AND COMMUNITY INFRASTRUCTURE

- Provide one "Small Local" open space easily accessible from Rosamond Road. As defined in Maribyrnong Open Space Strategy, it should be a minimum of 20m wide and 0.05 hectares in size.
- Provide a series of privately owned, but publicly accessible open spaces throughout the site, which are suitable for a range of uses.
- Provide high quality public open spaces that knit the precincts together and connects them to the broader region
- Create distinct streetscapes and landscaping that respond to the different neighbourhoods characteristics. Maintain the landscape buffer on the northern side of the ring road to provide separation to surrounding residential areas. Further landscaping on the southern side of the ring road should be provided where possible.
- Encourage communal open spaces such as podium rooftop gardens or courtyards that are well integrated with residential uses.
- Publicly accessible spaces should be designed with consideration for Crime Prevention Through Environmental Design (CPTED) principles.
- Integration of Water Sensitive Urban Design (WSUD) is encouraged.

1.3 OPEN SPACE AND LANDSCAPE GUIDELINES

The guidelines for Public Realm and Landscape are in line with the Highpoint Planning and Urban Design Framework

OBJECTIVES

- To deliver a well-connected accessible high quality public open space network that is diverse, multifunctional, and flexible with a range of typologies and functions appropriate to the future community's needs
- To integrate and improve the existing public realm, open spaces, connections with the proposed landscape and public realm interventions
- To provide public open space and private amenity spaces to service the higher density residential environment
- Landscaped streetscape as a key element to linking open spaces and precincts

GUIDELINES

- The proposed development should provide diverse scales and types of open spaces of open spaces to accommodate variety of amenities and activities that are universally accessible and DDA (Disability Discrimination Act) compliant.
- Provide open space as required by the MCC 2031 Open Space Strategy
- Buildings should be designed to ensure that one footpath on all streets receives sunlight between 10 am and 3 pm on 21 September, that one footpath along Rosamond Road between Highpoint Ring Road and Aquatic Drive receives sunlight between 11 am and 2pm on 21 June, and solar access to public open space is maximised where possible.
- Upgrade existing public plaza to be the new Town Plaza fronting Rosamond Road and new NE Plaza and Green Plaza are provided at focal points at each end of the E-W pedestrian links
- Provide street landscape edge and planting to ensure a landscaped buffer along the Highpoint Ring Road and Warrs Road reducing visual impact to the surrounding residential.
- Provide variety of small pocket parks and plazas both softscaped and hardscaped in key locations
- Public Art to be integrated in key public spaces
- High quality landscape treatments and plantings to be provided in accordance to responsible authorities' requirements
- Establish and support activity at the edges of public spaces, provide visual link by having windows and balconies of residential buildings to face public open spaces, and define the boundary or transition between public space and private spaces.
- Where appropriate, laneways, streetscapes and open spaces should integrate active uses along their frontage.
- Where appropriate weather protection measures for pedestrian must be provided in streets.
- Landscape strategies to mitigate wind impact on open spaces should incorporated in the design and construction of the open spaces
- Location of public realm elements such as lighting and telecommunication poles, street trees, outdoor furniture, parklets and other physical infrastructure should be located to minimise adverse impact on the public realm environment and ensure safety and amenity.
- Open spaces and landscapes to incorporate Water sustainable Urban Design strategies.
- Development of the precinct should consider the relevant policies of Clause 15.01 of the Maribyrnong Planning Scheme.

1.4 LANDSCAPE CONCEPT

The purpose of the landscape concept is to create high quality landscapes and public spaces which will create unique, comfortable, safe, and aesthetically pleasing precinct areas in Highpoint Urban Village. The public domain and landscape design is integral to creating a precinct that is successful and vibrant place to work and live, captures and enhances the local character, and integrates into the local context.

The Maribyrnong Open Space Strategy and DPO17 require a small public open space, along Rosamond Road. This Development Plan includes a number of open spaces along or close to the Rosamond Road frontage which can fulfil this requirement, including spaces marked as 12, 11, 7 and 8. It is noted that transfer of land is triggered upon subdivision of the site, under Clause 53.01 of the Maribyrnong Planning Scheme

Table 2 Open Space Summary

Open Space	Area
1 North East Entry Plaza	1,350 m ²
2 Rivergateway Entry Pocket Park	1,800 m ²
3 Aquatic Drive Entry Plaza	750 m ²
4 Central South Entry Plaza	850 m ²
5 Central Linear Link	3,000 m ²
6 Town Plaza	4,500 m ²
7 Rosamond Road Pocket Park 1	650 m ²
8 Rosamond Road Pocket Park 2	340 m ²
9 Retail Laneway	1,400 m ²
10 Entry Plaza North	1,275 m ²
11 Rosamond Road Pocket Park	1,200 m ²
12 Refurbished Public Park	2,000 m ²
Total	19,115 m²

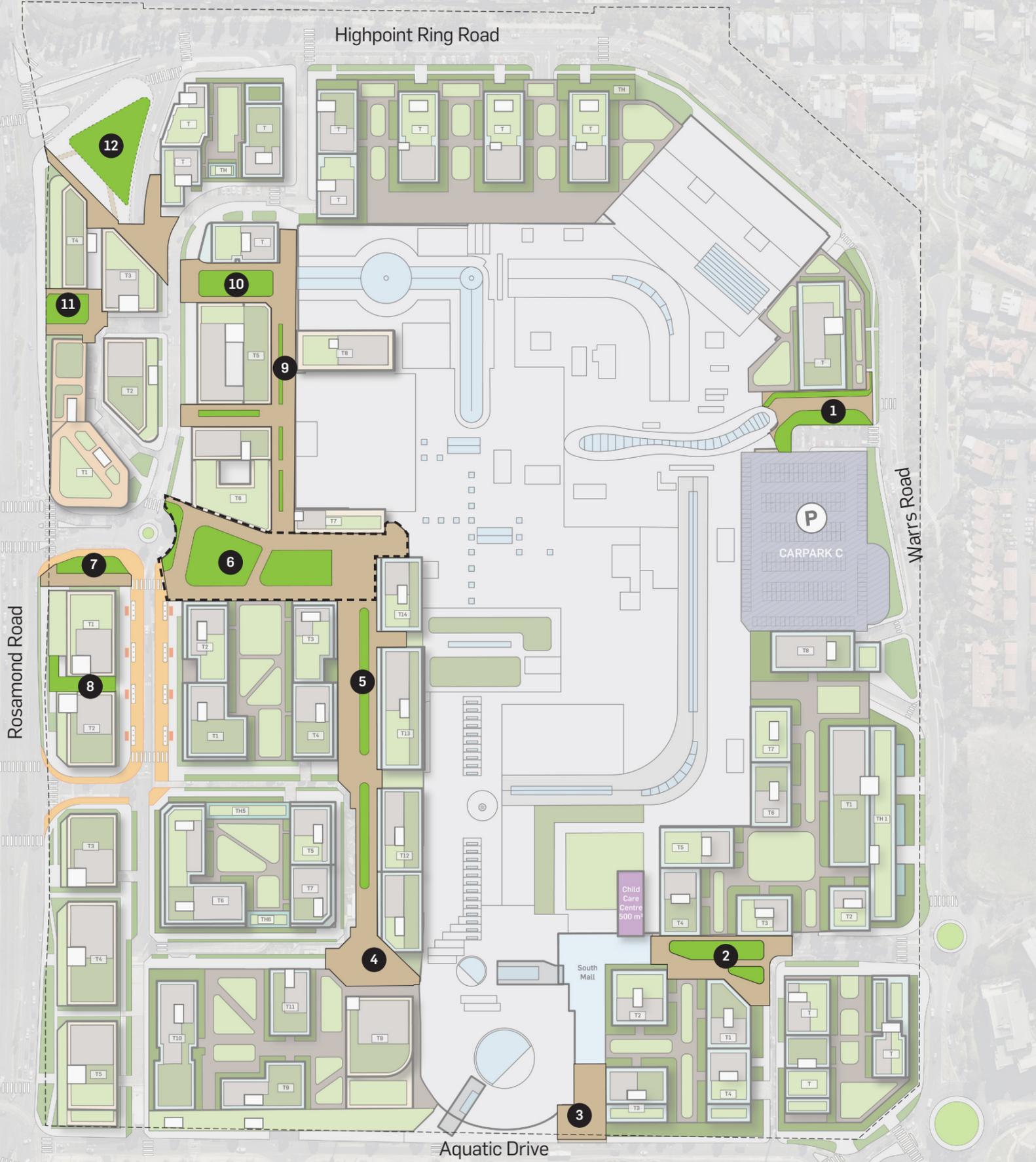


Figure 3 Open Space Plan

1.5 OPEN SPACE OBJECTIVES

The following are objectives and guidelines as they pertain to the public domain and landscape within the Highpoint Shopping Urban Village.

Objectives and guidelines have also been developed for the key open spaces to be addressed in the design of both public and private spaces to ensure a cohesive and high-quality outcome for the precinct.

OBJECTIVES

- To reinforce east west and north south through the Highpoint Shopping Centre precinct
- To provide for an active community public realm focused around the 'Town Plaza' at the transition of the location of the enter to the from Rosamond Road.
- To create 'entry gateways' along Rosamond Road and Warrs Road.
- To provide pocket parks to allow for visual relief within the development.
- To ensure clear, legible, and safe pedestrian and cycle connections, including links to the regional cycle network.
- To provide safe and comfortable streets for pedestrian though dedicated pedestrian green lanes and shared streets
- To deliver a well-connected, accessible, multi-functional public open space network.
- To develop Highpoint Ring Road as green boulevard ensuring a landscaped transition with the surrounding residential areas along the site periphery
- To ensure integral streets are green streets with adequate landscape and pedestrian amenities
- To deliver an environmentally and socially sensitive and responsive design that ensures the environmental qualities of surrounding landscapes are maintained or enhanced.
- To retain the existing landscapes and enhance visual linkages and connections to surrounding open spaces

Note: Site remediation strategies will be dealt with detailed development stages

LEGEND

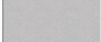
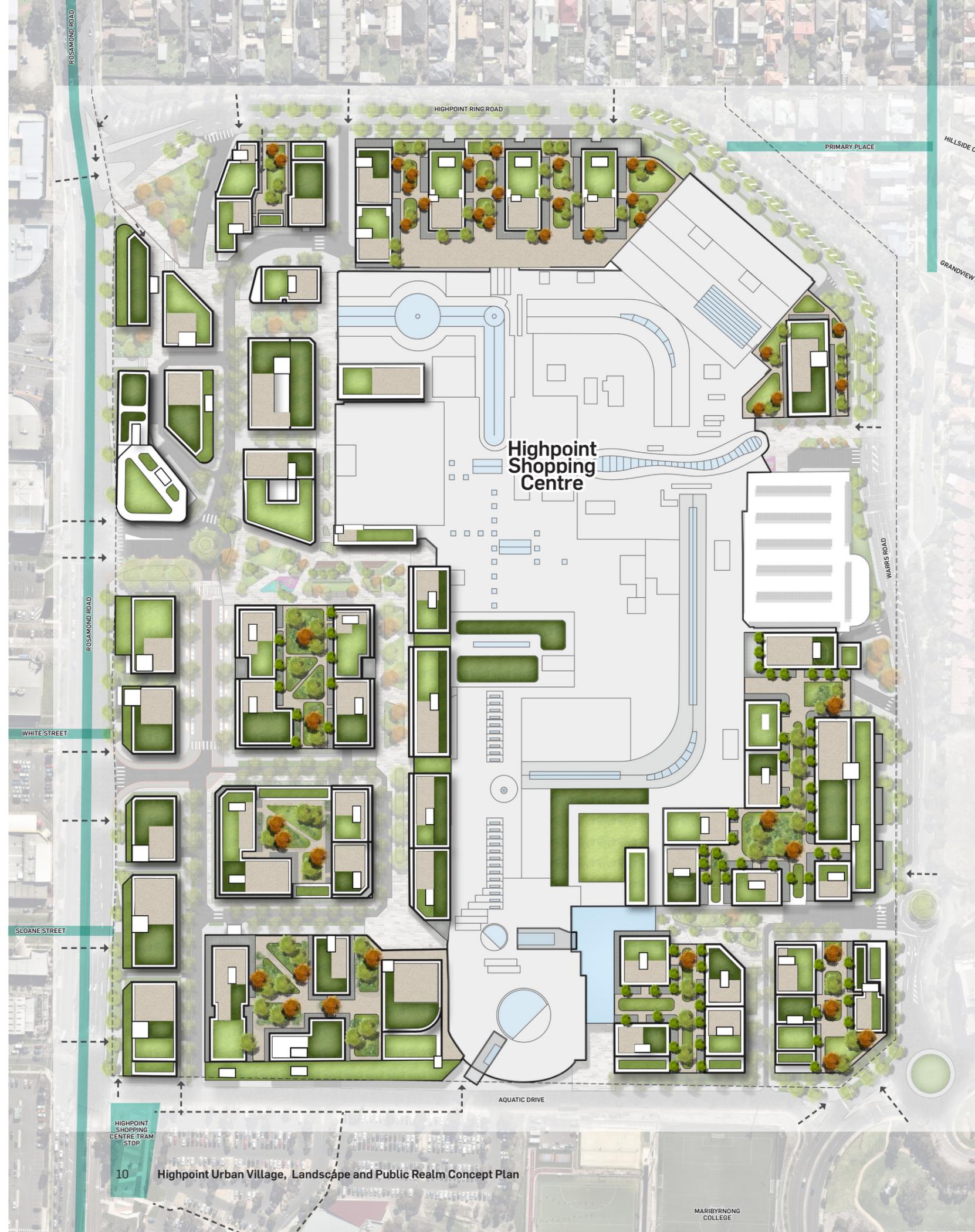
	Feature Tree - Large evergreen trees		Feature Paving (type 3) - e.g. Timber Decking
	Deciduous Tree		Feature Paving (type 4) - Childrens play- e.g. Soft fall, bark mulch, sand treatment
	Internal Street Tree - medium sized evergreen trees		Secondary Paving (type 1) - e.g. Exposed Aggregate, concrete paving
	External Street Tree - Large/medium Trees		Secondary Paving (type 2) -Internal Roads - e.g. shared space concrete paving/ bluestone, asphalt
	Feature Planting		Secondary Paving - External Roads
	Lawn - to activate communal area		Lighting
	Nature Strip Planting		Insitu concrete walls
	Feature Paving (type 1) - e.g. Bluestone/ Concrete paving treatment		Seat Wall - ontop of insitu concrete walls
	Feature Paving Ramp (type 2) - eg. Timber		

Figure 4 Indicative Concept Landscape Plan - Ground Level





LEGEND

- Feature Tree - Large evergreen trees
- Deciduous Tree
- Internal Street Tree - medium sized evergreen trees
- External Street Tree - Large/medium Trees
- Feature Planting
- Lawn - to activate communal area
- Nature Strip Planting
- Feature Paving (type 1) - e.g. Bluestone/Concrete paving treatment
- Feature Paving Ramp (type 2) - eg. Timber
- Feature Paving (type 3) - e.g. Timber Decking
- Feature Paving (type 4) - Childrens play-e.g. Soft fall, bark mulch, sand treatment
- Secondary Paving (type 1) - e.g. Exposed Aggregate, concrete paving
- Secondary Paving (type 2) - Internal Roads - e.g. shared space concrete paving/bluestone, asphalt
- Secondary Paving - External Roads
- Lighting
- In situ concrete walls
- Seat Wall - on top of in situ concrete walls

LEGEND

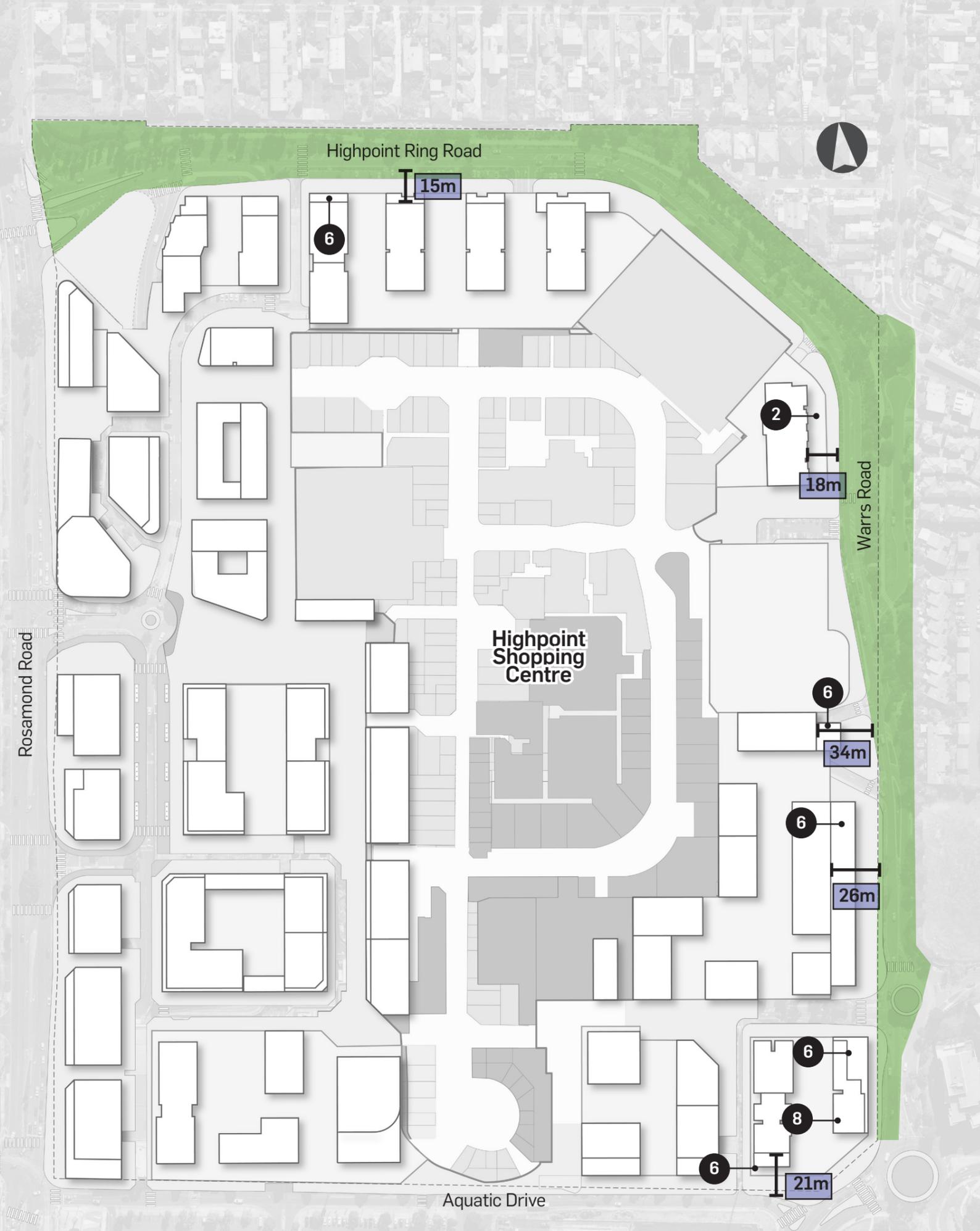
- Roof top planting
- Podium Courtyards
- Private Garden space

KEY FEATURES

- Pedestrian connection
- Key linkage



Figure 5 Landscape Plan - Overall



1.6 GREEN EDGE ALONG HIGHPOINT RING ROAD

The Green Edge is the interface of the Development Plan along Highpoint Ring Road and Warrs Road on the north and west. The Green Edge ensures the transformation of the existing street interface consisting of car parking into a residential character. It is envisioned to have ample landscaped/green building edge. The enhanced landscaped character of the Highpoint Ring Road along the Green Edge ensures a better transition to the surrounding residential uses.

A 15 metre landscaped/green building edge along the northern and eastern edges is provided from the kerb of the expanded Highpoint Road.

Buildings podium heights along the Green Edge is maintained at maximum height of 6 storeys within 15m of the expanded ring road, with either landscaping or green building edge. Higher built forms are located behind the 15m line.

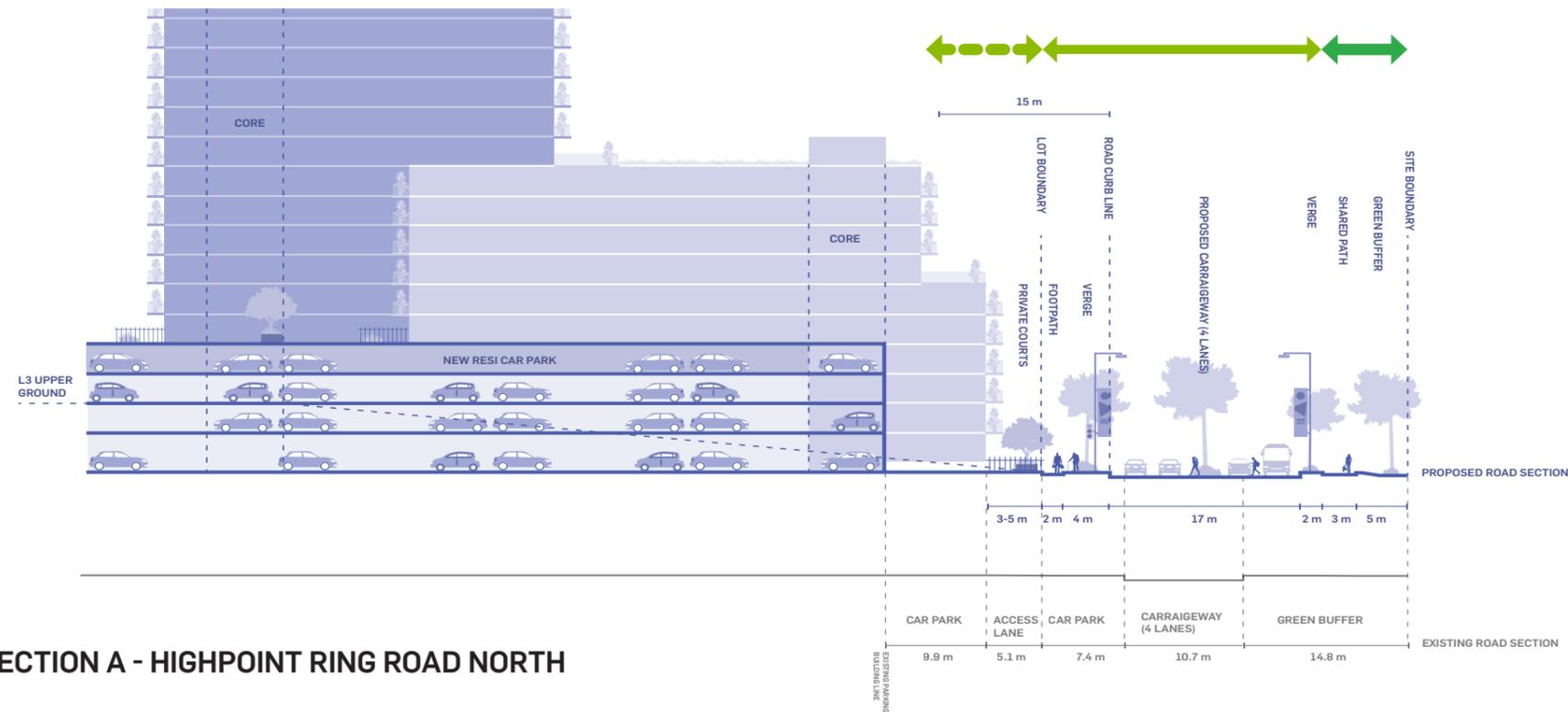


LEGEND

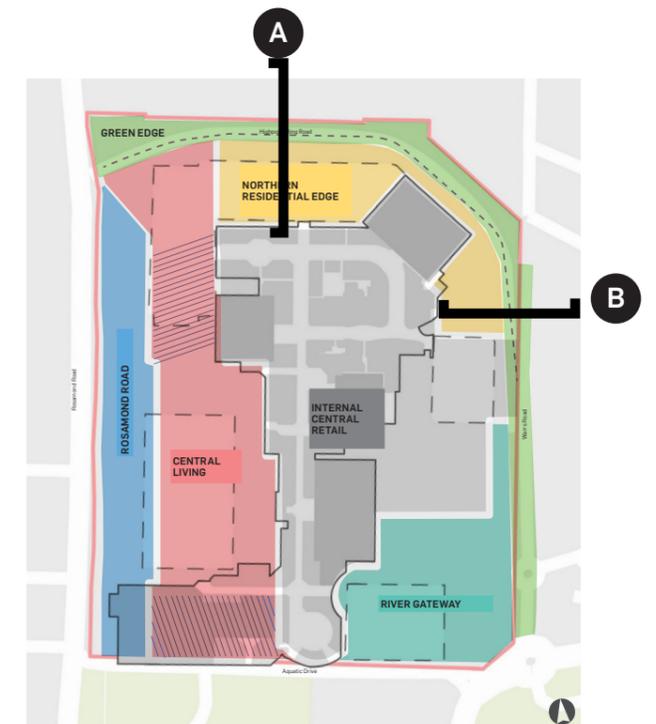
- Buildings
- Podium
- Footpath
- Edge of the new kerb
- 15 m distance from the edge of new kerb
- Illustrative distance from the edge of new kerb
- # No. of storeys from ground level

Figure 7 Landscape Buffer along Highpoint Ring Road

Figure 6 Preferred Building Heights and Streetscape Treatments
Source: Maribyrnong Planning Scheme



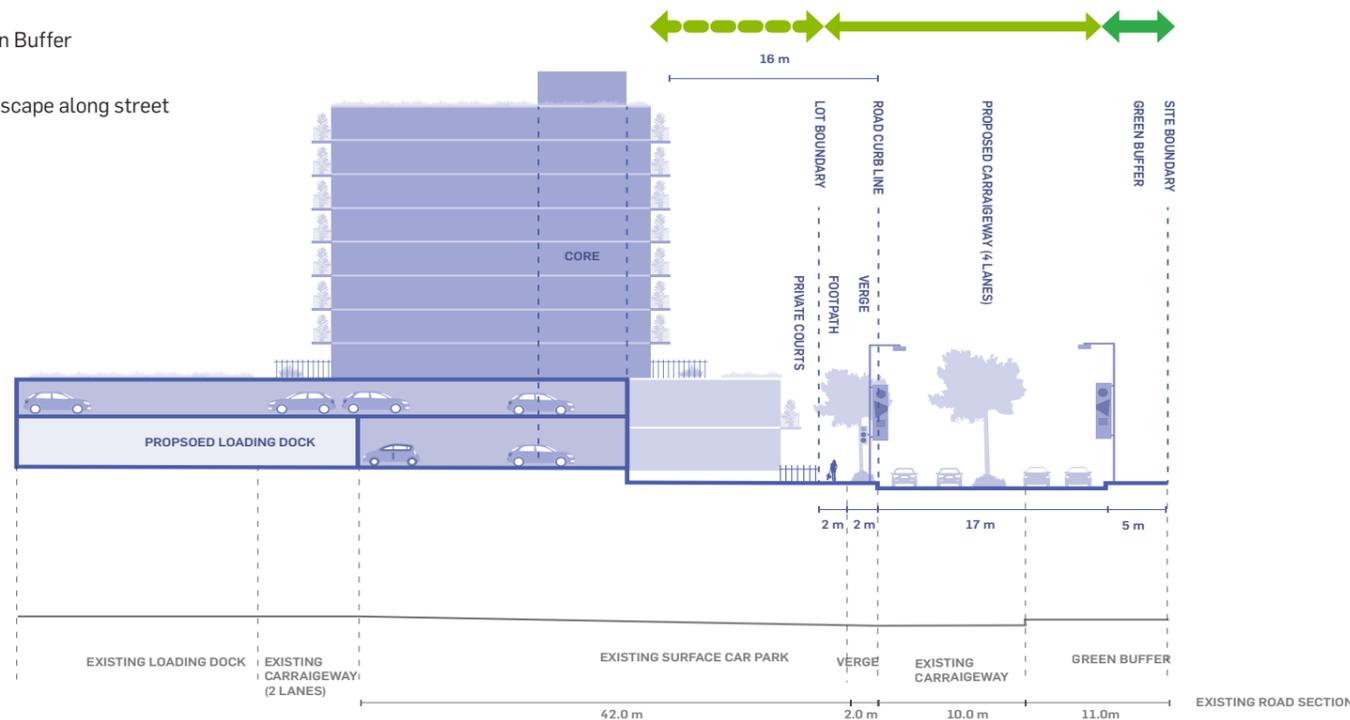
SECTION A - HIGHPOINT RING ROAD NORTH



KEY PLAN SHOWING PRECINCTS

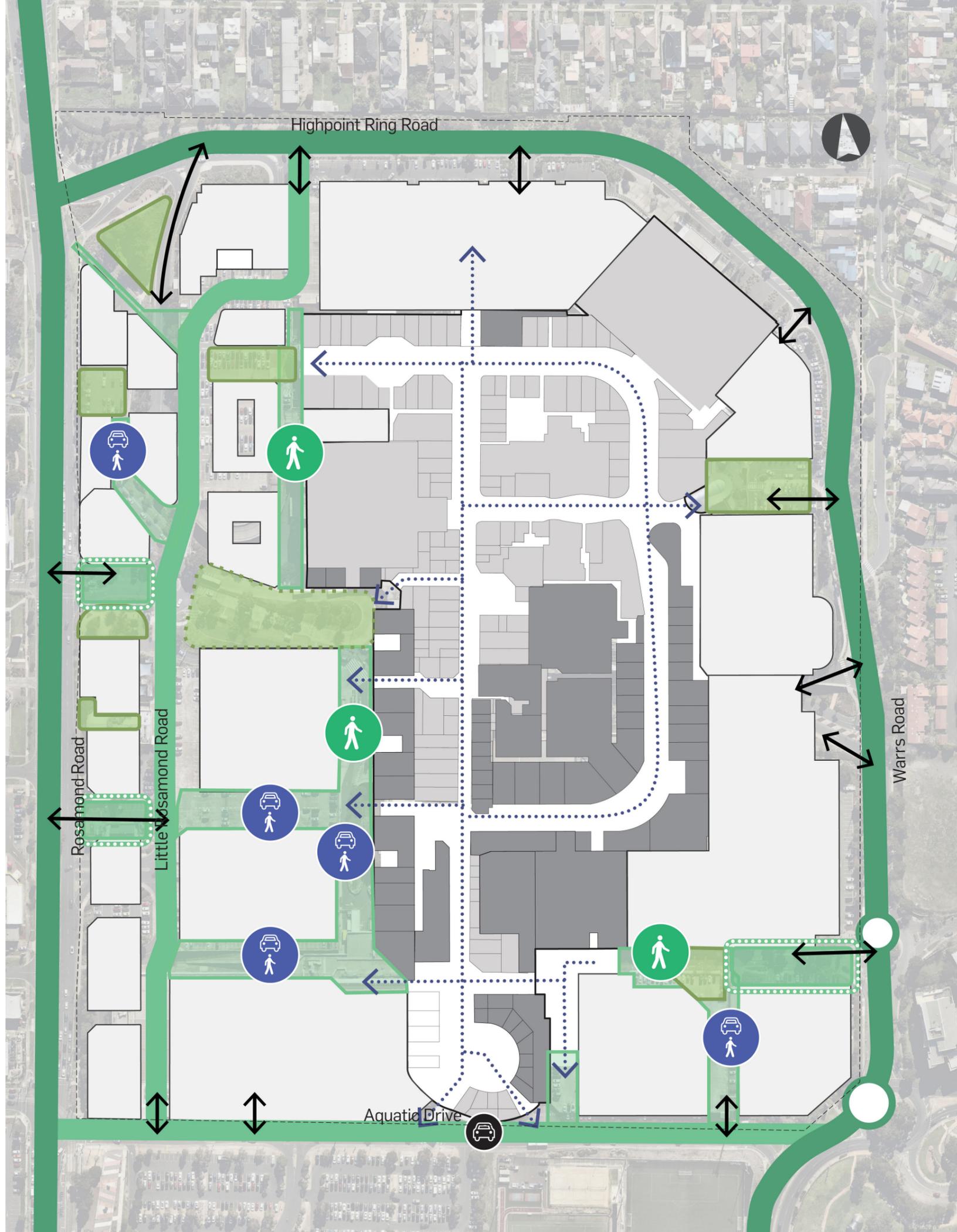
LANDSCAPED GREEN BUILDING EDGE

- Landscape Green Building Edge Zone
- Green Buffer
- Landscape along street



SECTION B - HIGHPOINT RING ROAD & WARRS ROAD EAST

Figure 8 Sections at landscape buffer along Highpoint Ring Road



1.7 STREET AND ACCESS

The Development Plan Overlay identifies the following access and movement objective relating to movement and access through the site: "To provide for future increased traffic capacity on the Highpoint Ring Road while retaining pedestrian and cyclist connectivity." The Development Plan Overlay identifies the following access and movement guideline relating to traffic: "The network of roads and paths should be generally in accordance with Map 1- Highpoint Activity Centre Framework Plan."

Green Boulevard - Increase Capacity on the Ring Road

To align with the strategic vision for the precinct, as envisaged by the PUDF, it is proposed to reduce reliance on vehicle access from Rosamond Road by improving the capacity of the Ring Road/Warrs Road. In this context, the Development Plan proposes the duplication and widening of the Ring Road/Warrs Road on the north and eastern frontage of the site.

The Ring Road/Warrs Road will provide access to most of the retail car parking which is higher turnover compared to the residential and office car parking. The Ring Road/Warrs Road will also be the key access route to the major retail loading areas (accommodating more frequent and larger loading vehicles than the residential and office loading areas).

Green Street - Internal Road

The proposed internal road network includes a north-south running parallel to Rosamond Road connecting the Ring Road and Aquatic Drive (identified as Little Rosamond Road). This Road has two connections at Rosamond Road.

In the southern section of the road between the two intersections the road section accommodates the proposed bus interchange.

Green Lane - Shared Street

Lower order internal shared streets provide access to the various development in the site. These streets primarily provide access to the internal car parks (primarily the lower generating office and residential car parks rather than the high turnover retail car parks), as well as drop off to various parts of the site, and can also accommodate surface parking. These landscaped shared streets promote through site pedestrian movement and have variety of active frontages interfaces.

Green Lane - Pedestrian

These landscaped links are intimately scaled pedestrian streets that connect key public open spaces and activity zones. They are programmed to be vibrant pedestrian activity spines that have street level retail frontages and entrances to residential and offices spaces and envisaged to be the distinctive urban lane-ways within the future activity centre.

LEGEND

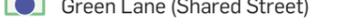
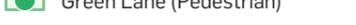
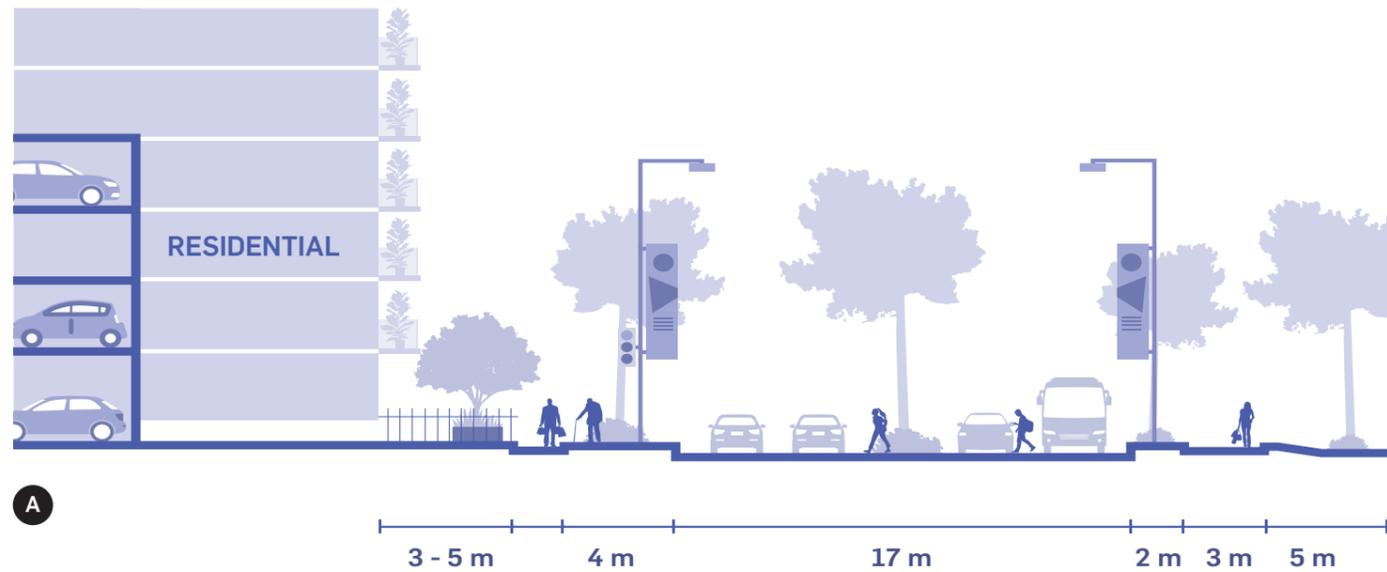
 Green Boulevard	 Pocket Parks
 Green Streets	 Vehicle connection
 Green Lane (Shared Street)	 Internal pedestrian circulation
 Green Lane (Pedestrian)	 Entry gateway

Figure 9 Street and Access Plan

1.8 TYPICAL STREET TYPOLOGIES

GREEN BOULEVARD

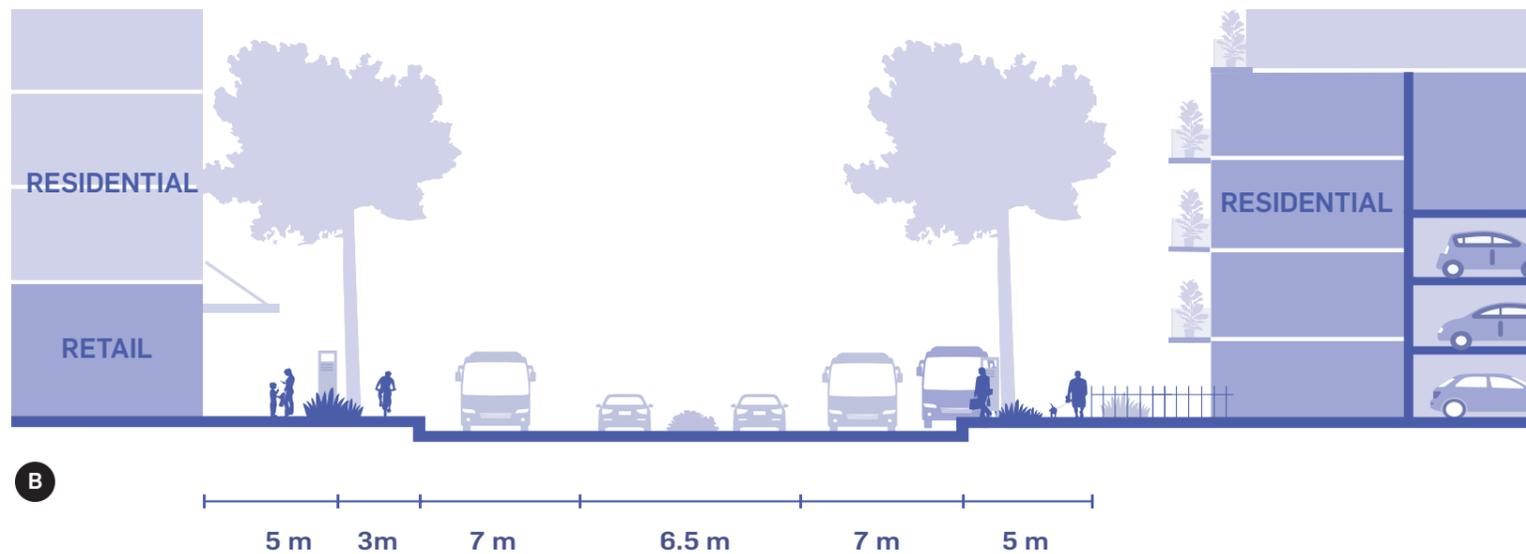
Highpoint Ring Road/ Warrs Road (Strategic Dual Carriageway)



A

GREEN STREET

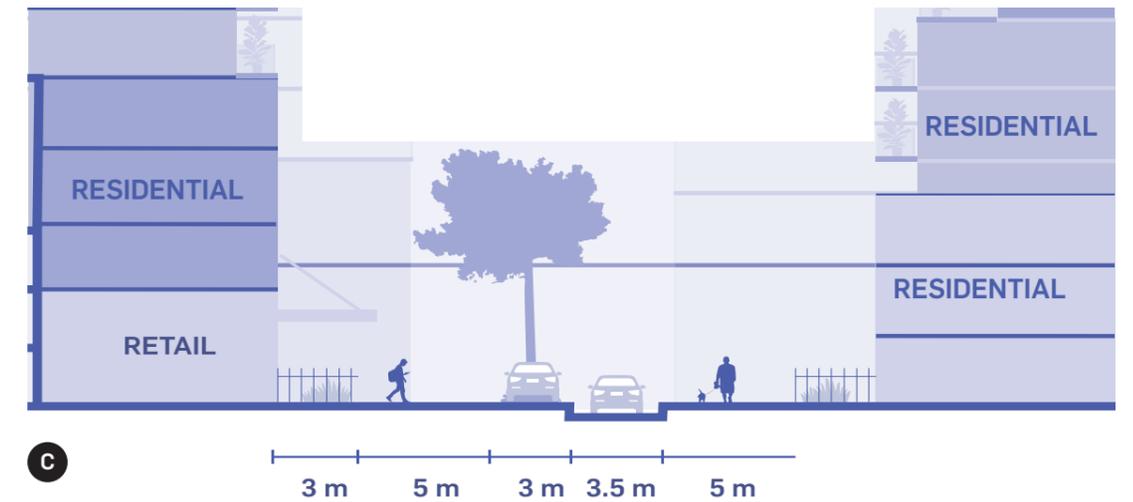
Little Rosamond Road (Internal Circulation)



B

GREEN LANE TYPE 2

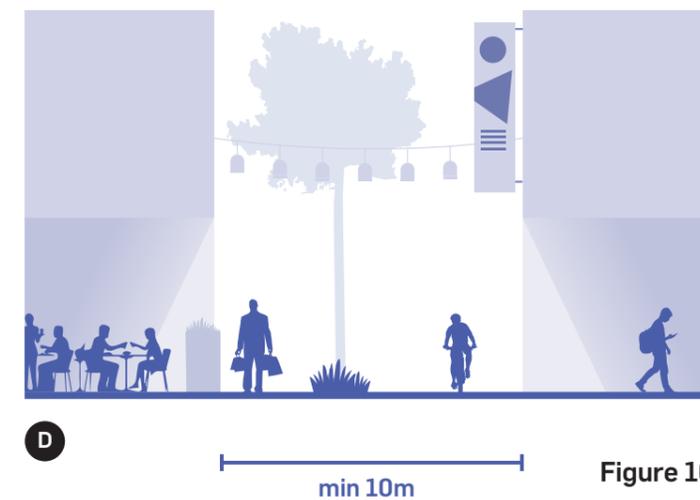
(Shared Pedestrian Space)



C

GREEN LANE TYPE 1

(Pedestrian Space)



D

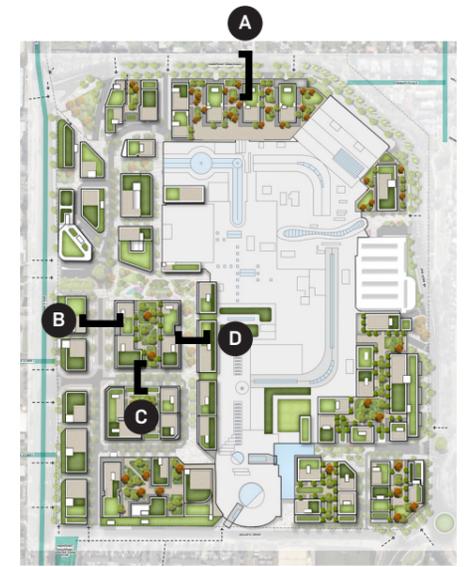


Figure 10 Typical Street Sections

1.9 KEY OPEN SPACES

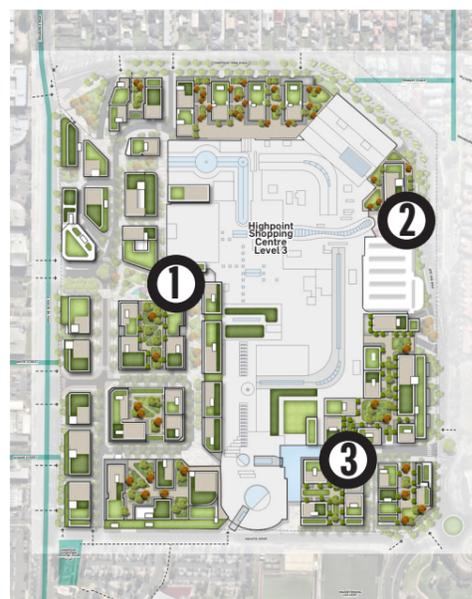
There are various public open spaces provided in the Highpoint Urban Village Development Plan, which includes softscape and hardscaped open spaces strategically located in the various precincts in the Highpoint Urban Village development. These open spaces are to be designed and landscaped to be the focal points for 'civic life' in the precinct. These spaces are also the transition zones between various uses and functions and are meant to be active and highly pedestrian.

The main types of open spaces includes:

- Urban Plazas
- Local parks & Pocket Parks
- Green Lanes (Pedestrian Links)

While there are various open spaces at Highpoint Shopping Centre, below are three key open spaces that have been identified as will form the entry gateway enhancing the E-W connections through the site. These are:

- Town Plaza located at Central Precinct
- North East Plaza located at Northern Residential Edge Precinct
- River Gateway Pocket Parks



Key plan with location of key Urban Plazas

TOWN PLAZA

OBJECTIVES

- To provide an active 'town plaza' as the community heart to the 'Central Living' precinct
- To reinforce the E-W pedestrian link between the Highpoint Shopping Centre and the Rosamond Road.

Guidelines

- To retain and integrate the existing trees along the approach road from Rosamond Road into the 'Town Plaza' landscape
- To provide public art and landscape features to ensure an engaging focal point to the 'Town Plaza'.
- Provide opportunities for outdoor dining along the building frontage in key locations.
- Provide the children friendly environment with water play and kids area.
- Provide for variety of public seating areas with some integrated with the landscape to allow to cater different needs both individual and group seating
- Providing adequate shading cover across the plaza through planting and various other shading elements
- New development close to the 'Town Plaza' to be integrated with community amenities to cater to a larger surrounding community
- To allow for adequate planting and wind impact mitigation strategies

LEGEND

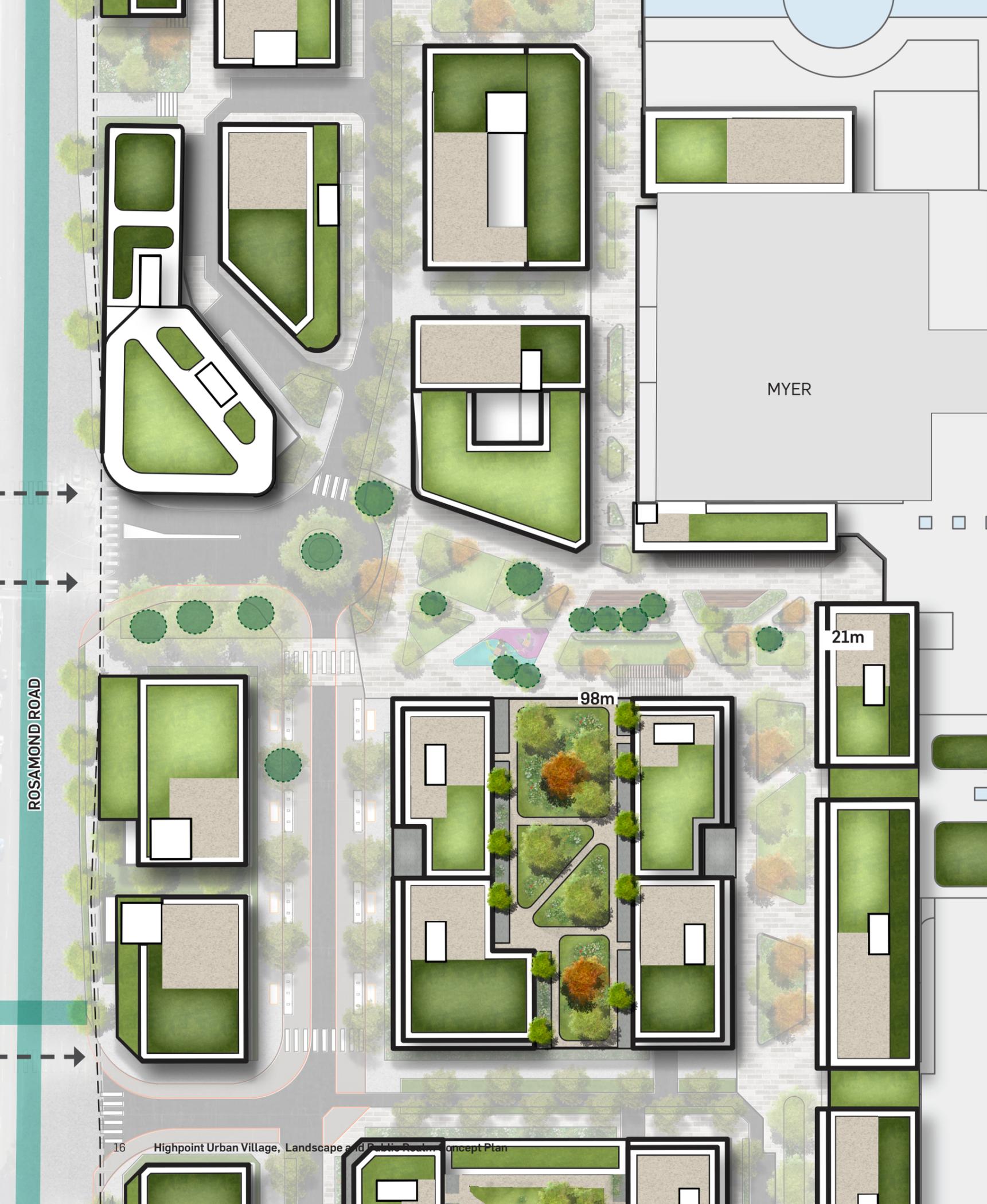
- 1 Town Plaza
- 2 NE Entry Plaza
- 3 River Gateway Pocket Park



Example Town Plaza - Eastland Shopping Centre



Existing tree to be retained and integrated into the landscape approach



key plan

LEGEND

-  Feature Tree - Large evergreen trees
 -  Deciduous Tree
 -  Internal Street Tree - medium sized evergreen trees
 -  External Street Tree - Large/medium Trees
 -  Feature Planting
 -  Lawn - to activate communal area
 -  Nature Strip Planting
 -  Feature Paving (type 1) - e.g. Bluestone/Concrete paving treatment, Permeable paving treatments
 -  Feature Paving Ramp (type 2) - eg. Timber
 -  Feature Paving (type 3) ,Stage area amphitheatre seat steps- e.g. Timber Decking
 -  Feature Paving (type 4) - Childrens play, water feature, water play- e.g. Soft fall, bark mulch, sand treatment,
 -  Secondary Paving (type 1) - e.g. Exposed Aggregate, concrete paving
 -  Secondary Paving (type 2) -Internal Roads - e.g. shared space concrete paving/ bluestone, asphalt
 -  Secondary Paving - External Roads
 -  Lighting
 -  Insitu concrete walls
 -  Seat Wall - ontop of insitu concrete walls
- TREE RETENTION**
-  Trees to be retained

Figure 11 Town Plaza- Indicative concept plan



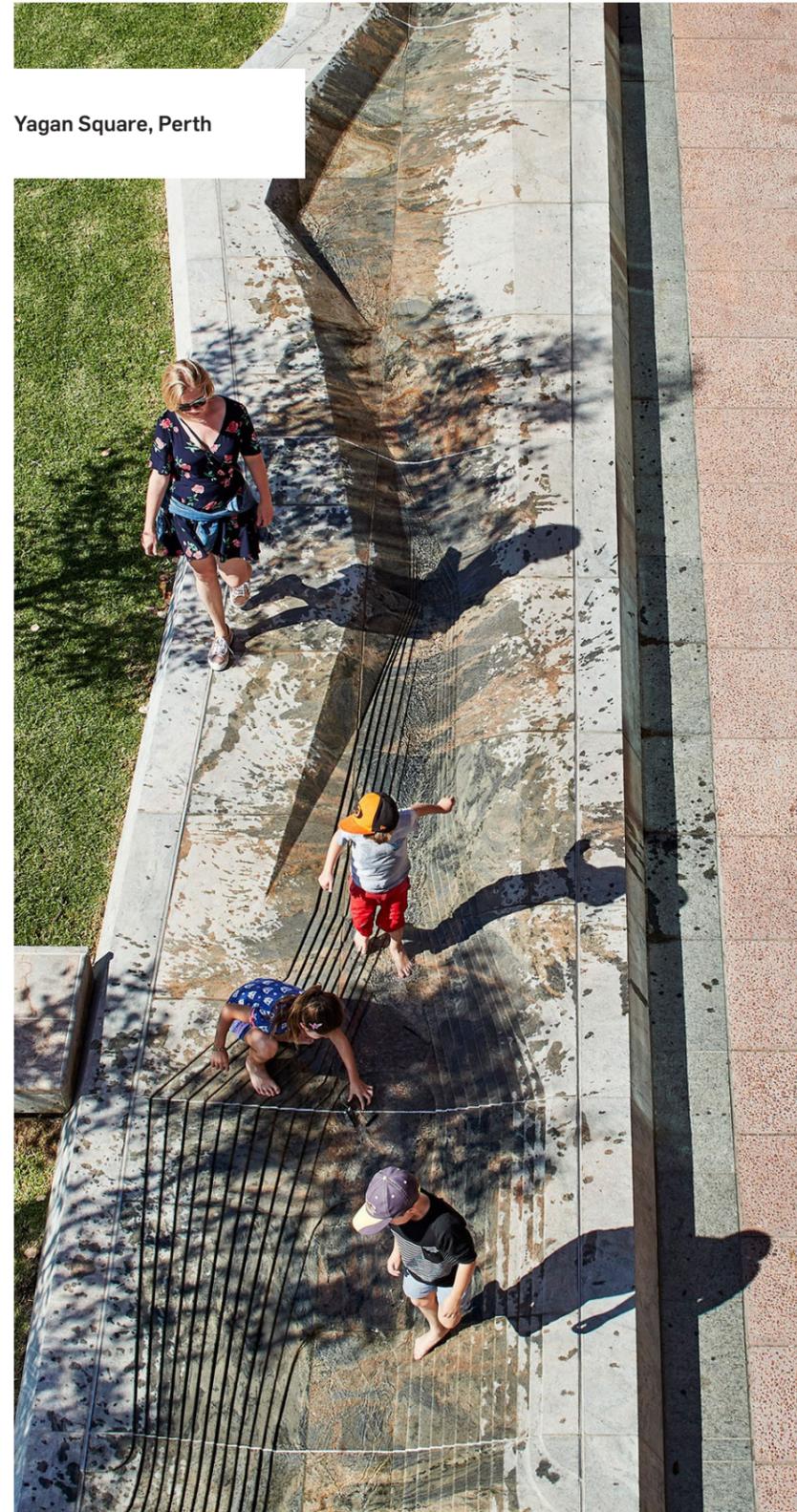
ILLUSTRATIVE VIEW- TOWN PLAZA

Illustration is indicative

LOOK & FEEL

TOWN PLAZA





Yagan Square, Perth



Television Centre, London, UK



Television Centre, London, UK

COMMUNITY HUB OF THE FUTURE WITH LIBRARY SPACE

- Centered in the areas of participation, making & creating, learning, new outreach and partnerships
- Gateways to information, education, and opportunity
- Community-focused spaces that house a multitude of different media and multi-use areas
- Outwardly community focused, more inclusive, and more innovative in their architecture, design, and program development
- Maker space - creative lab space with video and sound equipment for making and editing videos. Others provide patrons with a 3D printer, vinyl cutter, and a laser cutter.
- Offer large conference rooms and classrooms, many with video conferencing capabilities or a digital projection system



Existing community facilities



Example of community hub integrated with retail at Eastland Shopping Centre, Ringwood

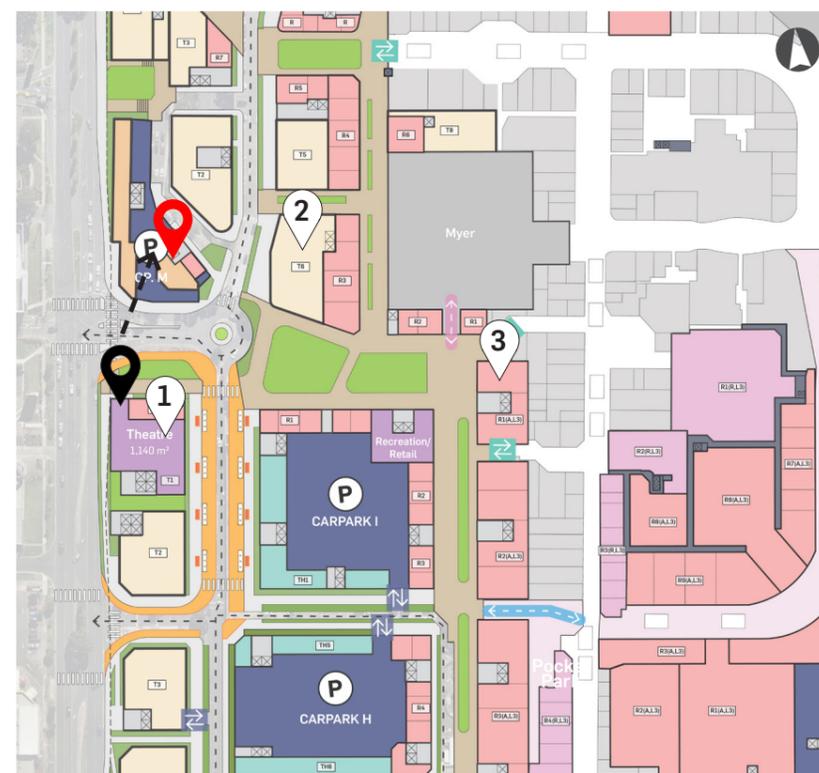


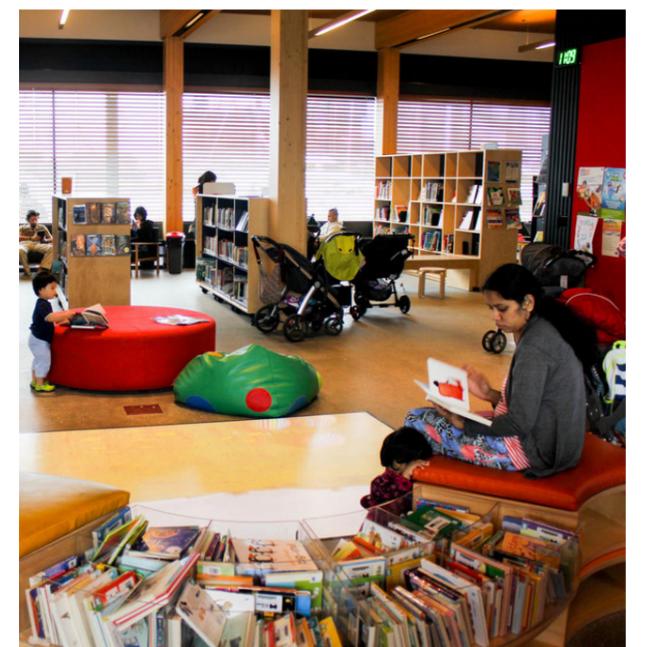
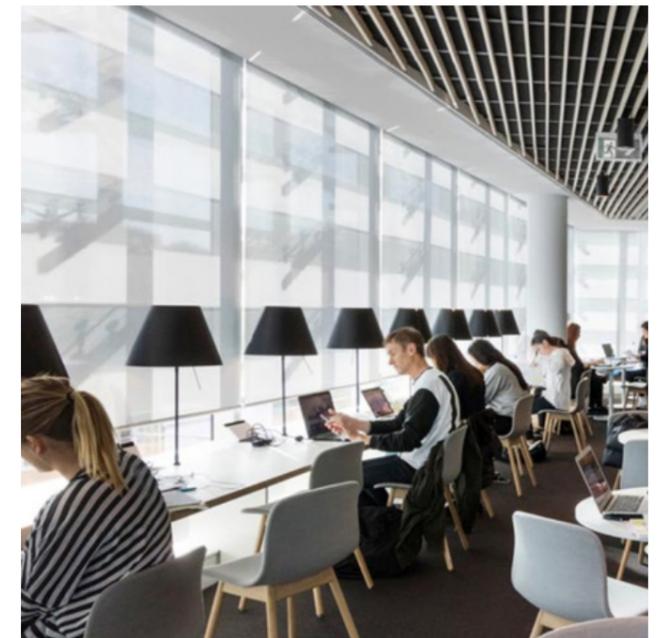
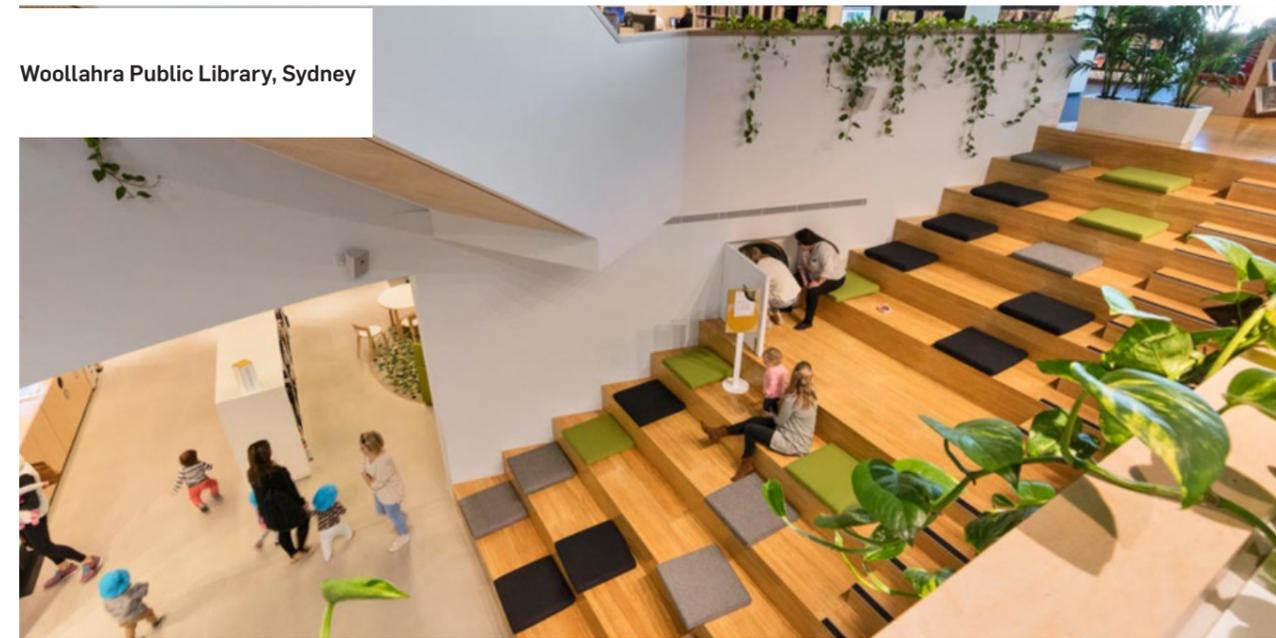
Figure 12 Proposed community and library hub options

LEGEND

-  Location of existing Maribyrnong Library
-  Potential temporary relocation of library
-  Potential location for final community hub/library

LOOK & FEEL

COMMUNITY HUB



NORTH EAST PLAZA

OBJECTIVES

- To provide an active 'North East Plaza' provides
- To reinforce the E-W pedestrian link between the Highpoint Shopping Centre and the surrounding developments to the east.

Guidelines

- Redevelop a new activated landscaped urban plaza fronting the entry to the shopping centre while retaining the access to the existing multi level car park C.
- To provide public art and landscape with opportunity for childrens play area as a engaging focal point to the 'NE Plaza.
- Provide opportunities for retail and cafe opportunities along the building frontage to activate the new plaza.
- Provide for variety of public seating areas with some integrated with the landscape to allow to cater different needs both individual and group seating
- Providing adequate shading cover across the plaza through planting and various other shading elements
- To allow clear pedestrian movement and crossing location along the highpoint ring road to ensure safe and easy pedestrian access.



key plan



GROUND FLOOR LEGEND

	Feature Tree - Large evergreen trees		Feature Paving (type 3) - e.g. Timber Decking
	Deciduous Tree		Feature Paving (type 4) - Childrens play- e.g. Soft fall, bark mulch, sand treatment
	Internal Street Tree - medium sized evergreen trees		Secondary Paving (type 1) - e.g. Exposed Aggregate, concrete paving
	External Street Tree - Large/medium Trees		Secondary Paving (type 2) - Internal Roads - e.g. shared space concrete paving/ bluestone, asphalt
	Feature Planting		Secondary Paving - External Roads
	Lawn - to activate communal area		Lighting
	Nature Strip Planting		Insitu concrete walls
	Feature Paving (type 1) - e.g. Bluestone/ Concrete paving treatment		Seat Wall - ontop of insitu concrete walls
	Feature Paving Ramp (type 2) - eg. Timber		

Figure 13 North East Plaza - Indicative concept plan

LOOK & FEEL

NORTH EAST PLAZA



RIVERGATEWAY POCKET PARK

OBJECTIVES

- To provide a safe and comfortable communal open space between developments in key locations
- To establish and support activity around pocket parks and edges of street spaces

GUIDELINES

- To locate communal open spaces and pocket parks in convenient location which is easily accessible to residents, visitors and workers
- Provide spaces of adequate sizes to accommodate variety of activities
- Arrangement of smaller open spaces layouts to have informal surveillance from adjacent buildings
- Provide sufficient deep soil areas within pocket parks where possible for trees to grow; provide alternative solutions for planting very deep soil is not possible
- Allow for lighting for safe evening use

GROUND FLOOR LEGEND

	Feature Tree - Large evergreen trees		Secondary Paving (type 2) - Internal Roads - e.g. shared space concrete paving/ bluestone, asphalt
	Deciduous Tree		Secondary Paving - External Roads
	Internal Street Tree - medium sized evergreen trees		Lighting
	External Street Tree - Large/medium Trees		Insitu concrete walls
	Feature Planting		Seat Wall - ontop of insitu concrete walls
	Lawn - to activate communal area	ROOFTOP LEGEND	
	Nature Strip Planting		Roof top planting
	Feature Paving (type 1) - e.g. Bluestone/ Concrete paving treatment		Podium Courtyards
	Feature Paving Ramp (type 2) - eg. Timber		Private Garden space
	Feature Paving (type 3) - e.g. Timber Decking	TREE RETENTION	
	Feature Paving (type 4) - Childrens play- e.g. Soft fall, bark mulch, sand treatment		Trees to be retained
	Secondary Paving (type 1) - e.g. Exposed Aggregate, concrete paving		



Figure 14 Rivergateway Entry Pocket Park- Indicative Concept Plan

LOOK & FEEL

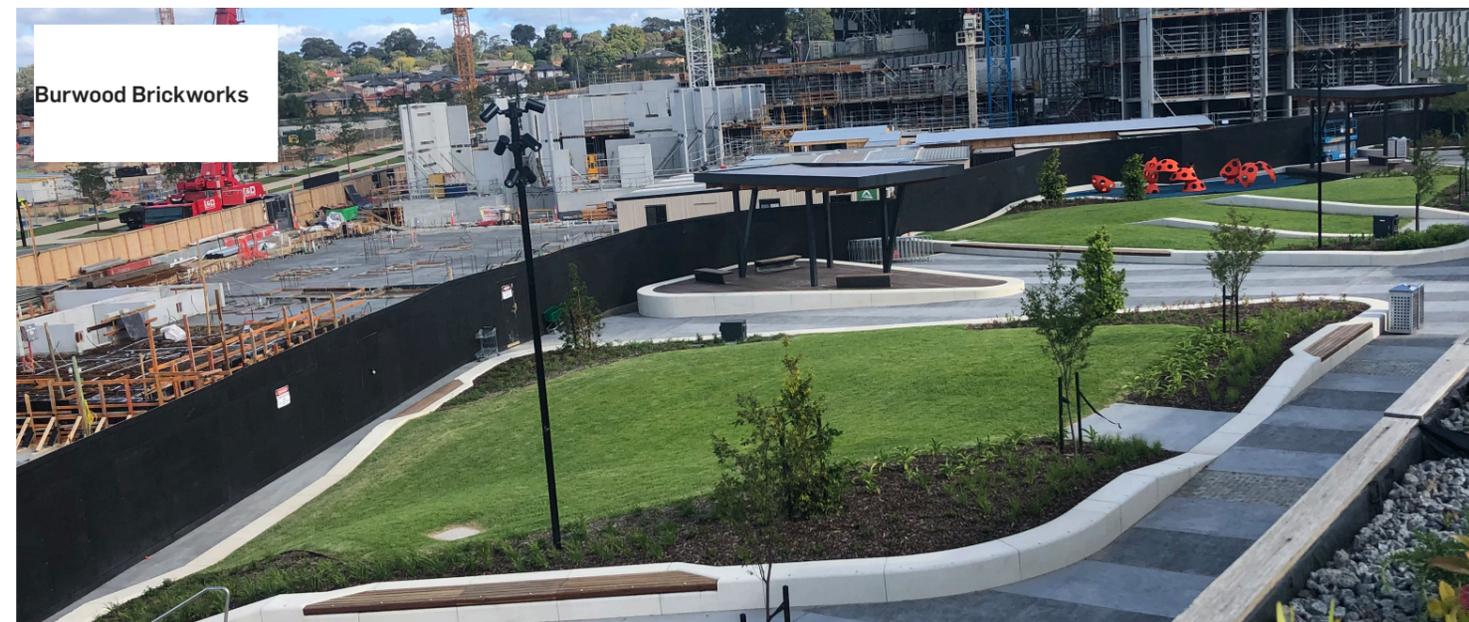


Westgate, Oxford, UK

Community roof top garden and child care learning



Burwood brickworks, VIC



Burwood Brickworks



Lexicon, Backnell, UK

GREEN LANES AND PEDESTRIAN LINKS

OBJECTIVES

- To provide safe and comfortable public pedestrian connection within the precinct internal streets

GUIDELINES

- Ensure ample visual connection in pedestrian routes to ensure safety through passive surveillance from surrounding residential developments.
- Ensure visual connection and clear line of sight along movement desire lines and reduce vehicular conflict.
- Provide bio-retention measures in line with the WSUD strategy where possible
- Provide planting for shading and adequate street lighting along the pedestrian movement pathways
- Allow for 'surprise and delight' in the urban spaces through integration with public art and activation strategies

GREEN LANE



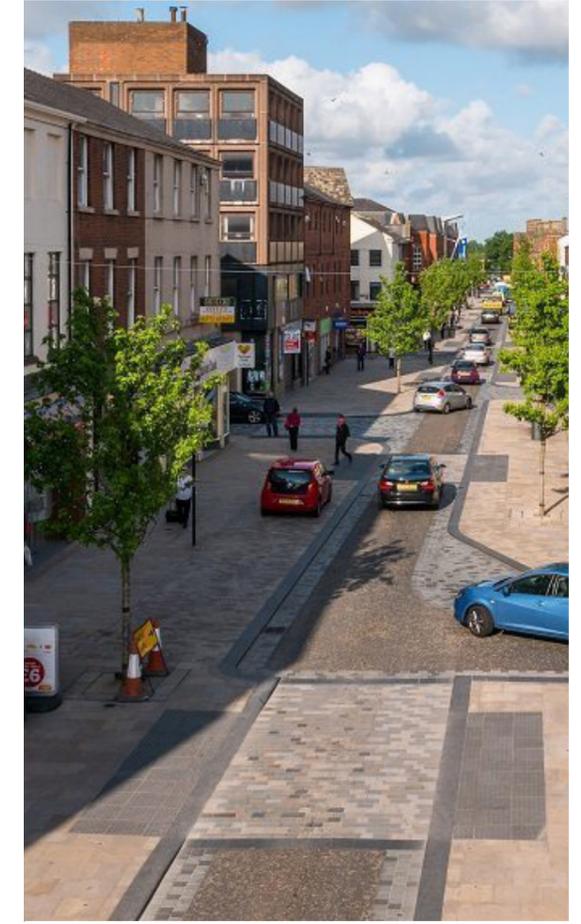
South Gate, Bath, UK

URBAN LANE



Steam Mill Lane, Darling Square

SHARED STREET



Preston Shared Street, UK

1.10 PRIVATE COMMUNAL SPACES

OBJECTIVES

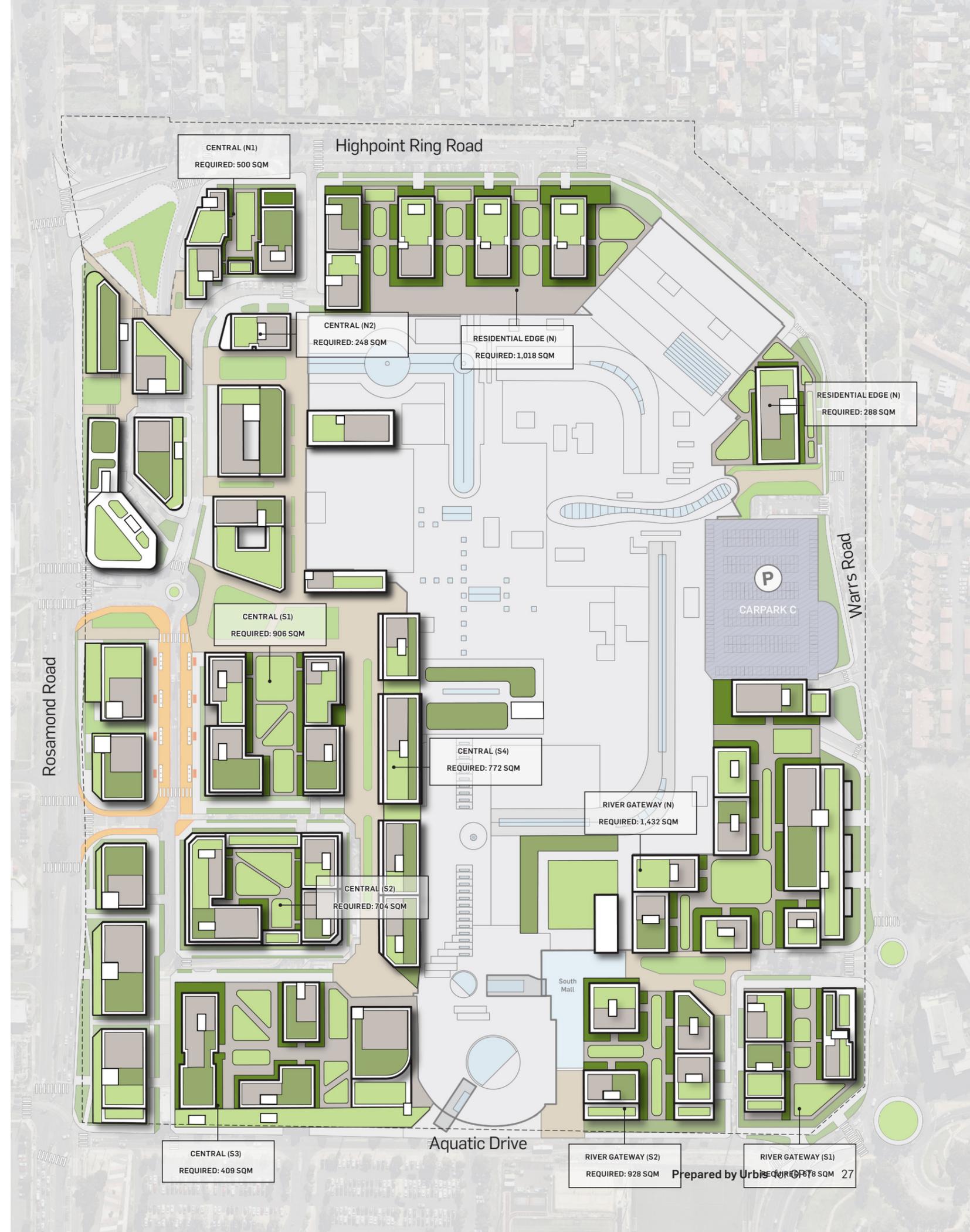
- To provide high-quality amenity and recreational opportunities for residents of the precinct

GUIDELINES

- Podium greenery and private communal amenity spaces to be adequately landscaped
- Potential for Solar panels and private green roof garden and private amenity space on podiums
- Promote greenery to be integrated in roofs, façades, and walls to mitigate urban heat island effect
- WSUD principles to be part of landscape design in streetscapes and open spaces
- Provide community open spaces in the form of podium, rooftop landscaped area in accordance with Better Apartment Design Standards
- To provide minimum of 2.5m² of open space per dwelling for residential developments above 40 units or public space per dwelling (minimum 250 sqm).
- For all building types except residential above 1,000 sqm floor area, provide 1.5m² communal open space per occupant or 5% of site land area, whichever is larger
- Private communal open spaces to be in the north side of the building where possible where at least 50% or 125m² of open space is to receive a minimum of 2 hours of sunlight between 9am to 3pm on 21 June as per the requirements of the Better Apartment Building Guidelines.
- Private communal spaces to provide a range of uses to the residents and to be well landscaped with natives planting for local character where possible along with other exotic species for colour and variation.
- Roof and podium spaces in buildings to provision for variety of uses as habitat managed access, private amenity spaces and gardens, communal amenity as well as access to roof top services, plant etc.

- Roof top - Habitat managed access and plant (encourage upto 50%)
 - Roof top - Private amenity space - communal private accessible
 - Podium Courtyard, Roof Garden, Private Amenity gardens
 - Podium Courtyard Garden Amenity accessible - communal
- General assume encourage upto 50% of plot roof tops to be amenity/ habitat space and infrastructure
- General assume plot roof tops to be a mix of amenity/ plant/habitat space

Figure 15 Private Communal Open space



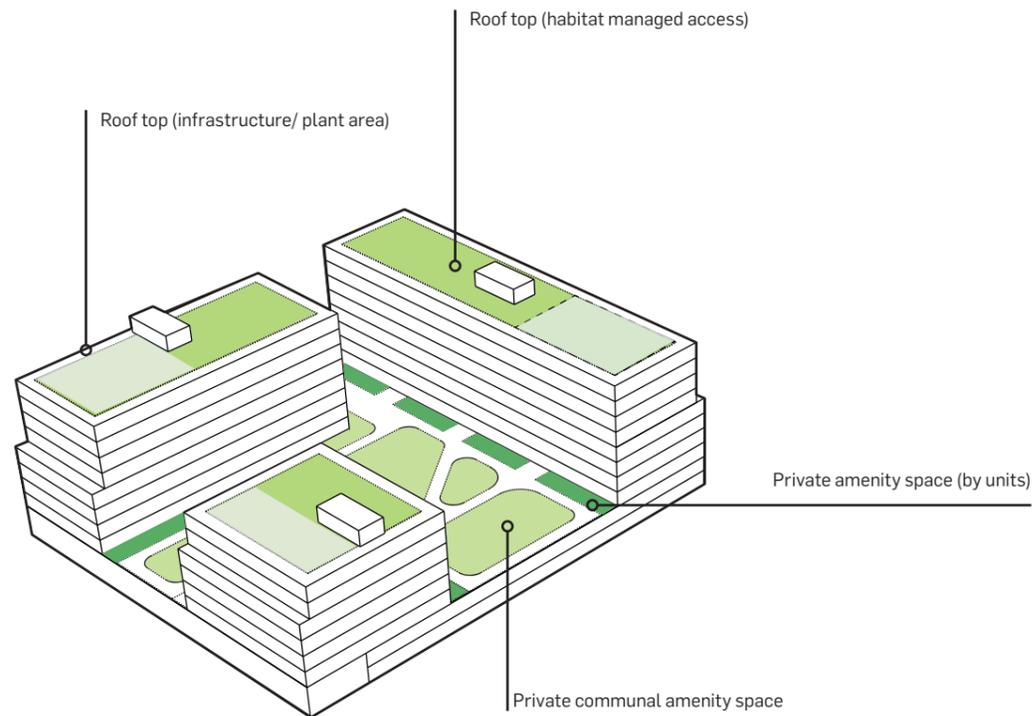
PRIVATE COMMUNAL SPACES - EXAMPLES



Arden Gardens



Jaques Richmond



Typical Block with private communal amenity spaces



Harold Park, Sydney

1.11 MANAGEMENT

WATER SENSITIVE URBAN DESIGN (WSUD)

OBJECTIVES

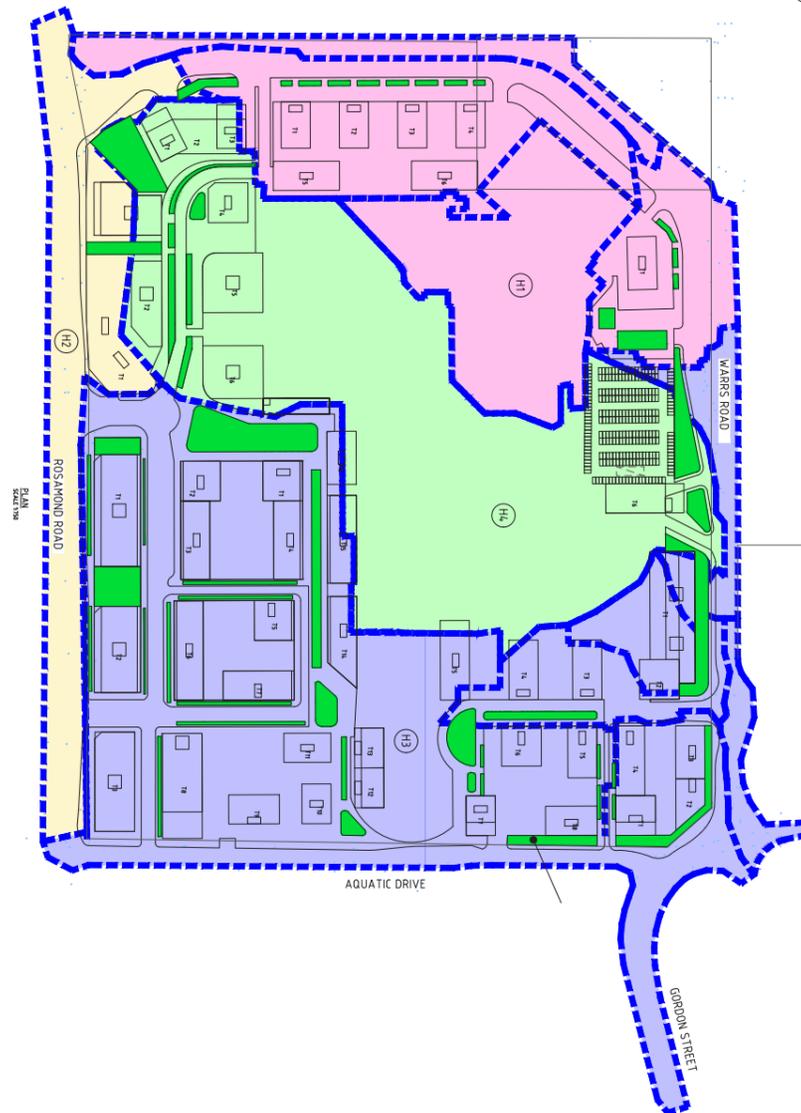
- To promote sustainable use and treatment of water within the public domain

GUIDELINES

- All landscaping including the ones in public realm to be guided by WSUD measures including suitable irrigation treatments.
- Retain and reuse of storm-water for irrigation of landscaped area through water tanks and rain gardens, and use plan drought hardy species which require low amount of watering and are frost resistant.

LEGEND

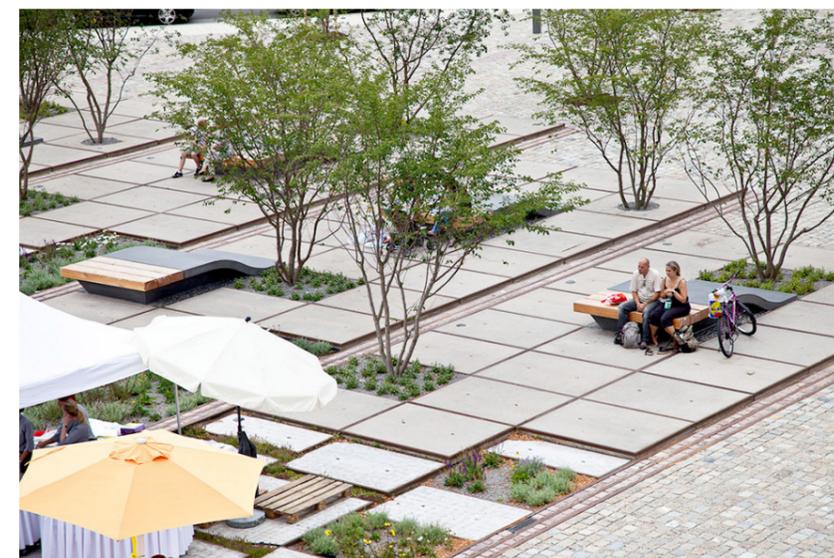
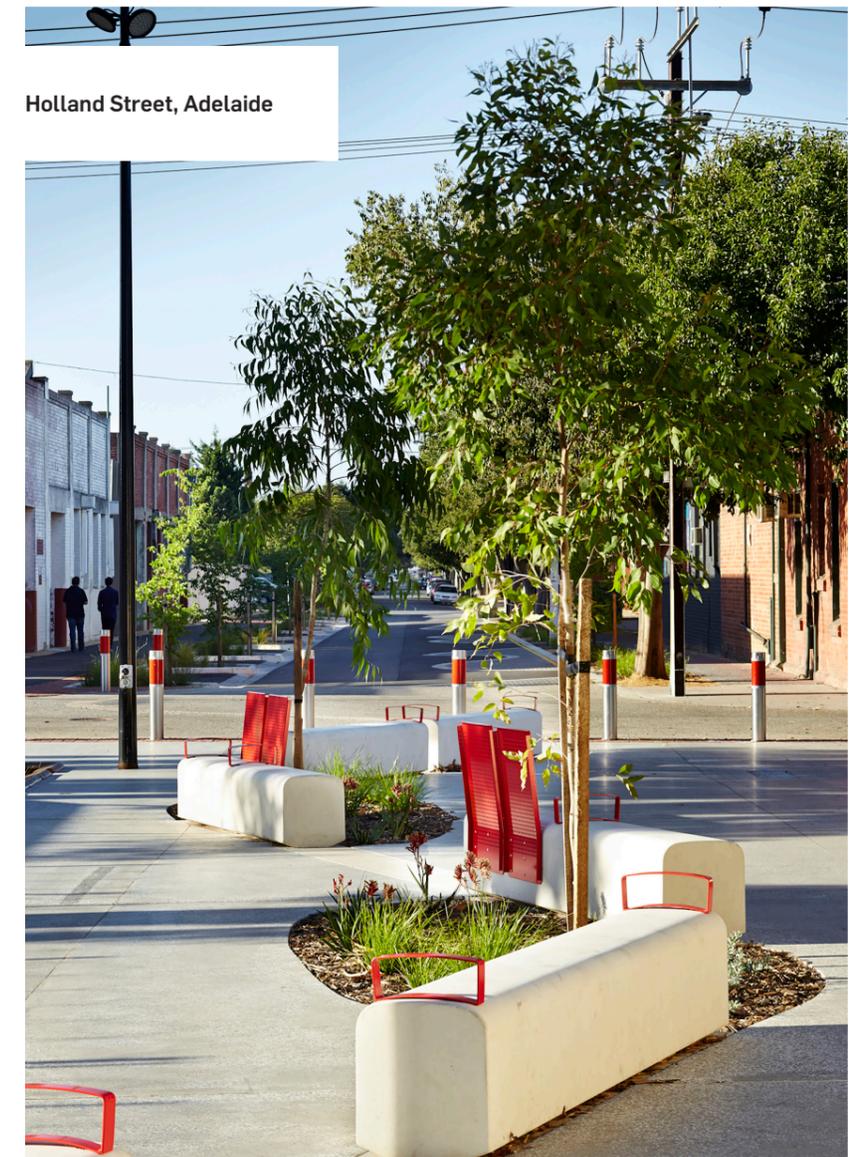
- Existing Catchment 'H1'
- Existing Catchment 'H2'
- Existing Catchment 'H3'
- Existing Catchment 'H4'
- Proposed WSUD Ultimate Scenario
- Existing WSUD Cathment boudaries



Existing Highpoint Ring Road WSUD implementations

Figure 16 Proposed WSUD opportunities

LOOK AND FEEL



PARK/PLAZA

MAIN ROAD

STREET/LANEWAY

1.12 PLANTING AND TREES

OBJECTIVES

- To emphasise local landscape character and increase canopy cover and biodiversity
- To retain existing trees where possible

GUIDELINES

- All planting species used in the development to be reviewed and finalised with the appropriate Council officers. Below is a list of preferred list of tree species. Tree planting should also reference the Maribyrnong Street Planting Strategy.



Acacia implexa



Acacia podalyriifolia



Acer buergerianum



Angophora costata



Brachychiton acerifolius



Brachychiton populenis



Callistemon viminalis



Callistemon salignus



Calodendron capense



Corymbia ficifolia



Eucalyptus leucoxylon



Eucalyptus leucoxylon 'Megalocarpa'



Eucalyptus leucoxylon 'Rosea'



Eucalyptus melliodora



Eucalyptus scoparia



Lophostemon confertus



Magnolia grandiflora



Magnolia Grandiflora 'Bull Bay'



Malus ioensis



Melia azederach



Phoenix canariensis



Pyrus betulaefolia 'Dancer'



Pyrus calleryana



Pyrus calleryana 'Capital'



Pyrus calleryana 'Chanticleer'



Pyrus usseriensis



Quercus rubra



Tristaniopsis laurina



Ulmus parvifolia



Waterhousia floribunda



ILLUSTRATIVE VIEW- ROSAMOND ROAD

Illustration is indicative



ILLUSTRATIVE VIEW- RESIDENTIAL EDGE FROM HIGHPOINT RING ROAD

Illustration is indicative

1.13 MATERIAL AND LANDSCAPE ELEMENTS

OBJECTIVES

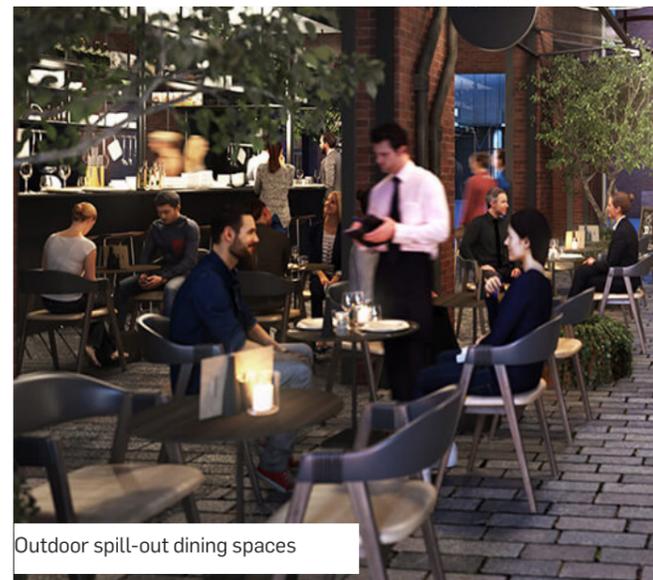
- To ensure high-quality public realm design and use of durable materials and landscape elements.

GUIDELINES

- Materials and landscape elements used should refer to Maribyrnong City Design Manual
- Further landscape and detailed public realm design should consider landscape character and developed the relevant material and element palette to be reviewed and finalised with the appropriate Council officers



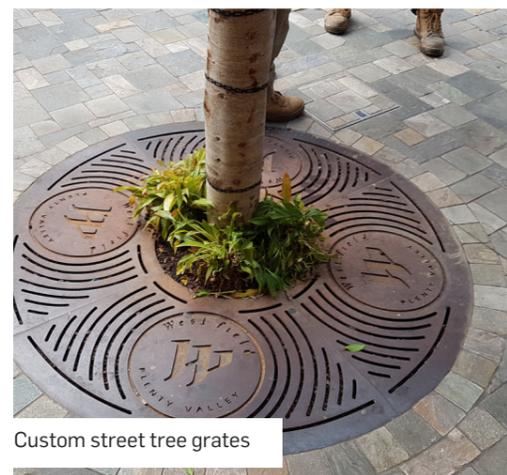
Rooftop garden seating



Outdoor spill-out dining spaces



Clustered seating



Custom street tree grates



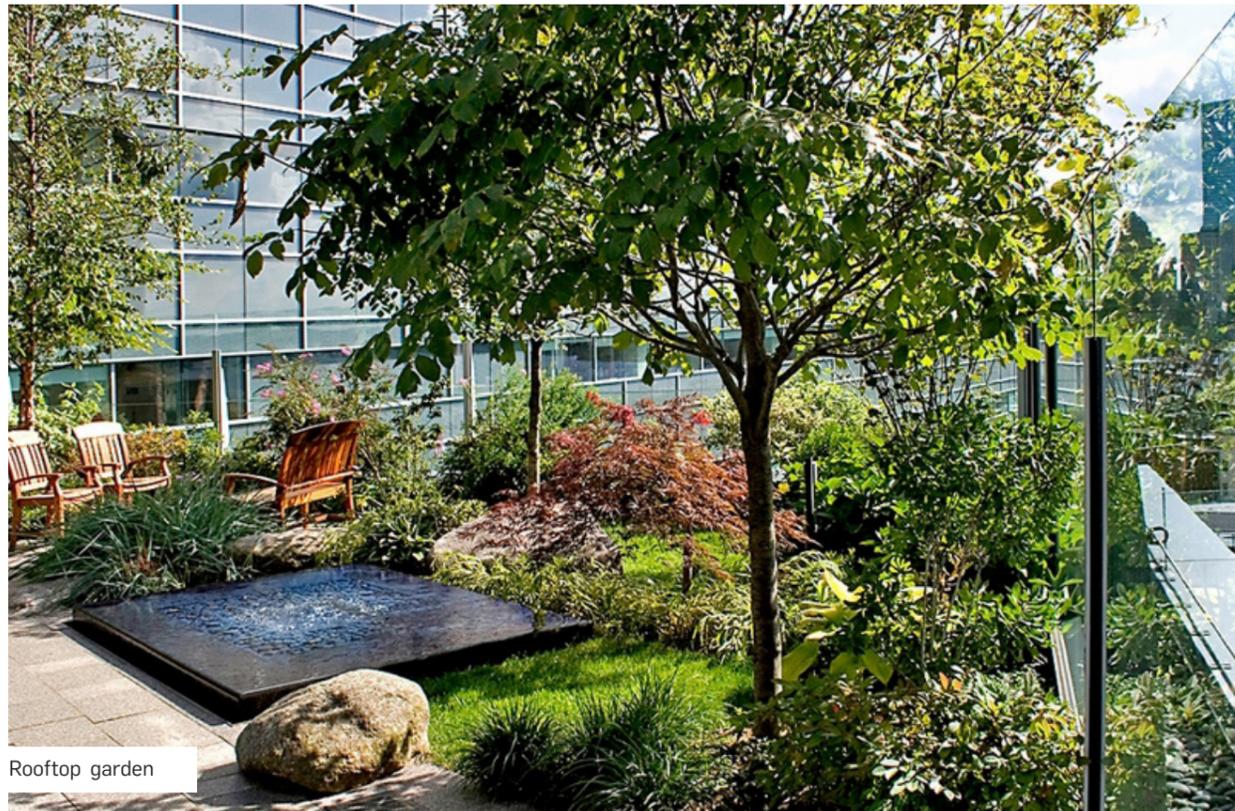
Table tennis



Feature paving



Event activation



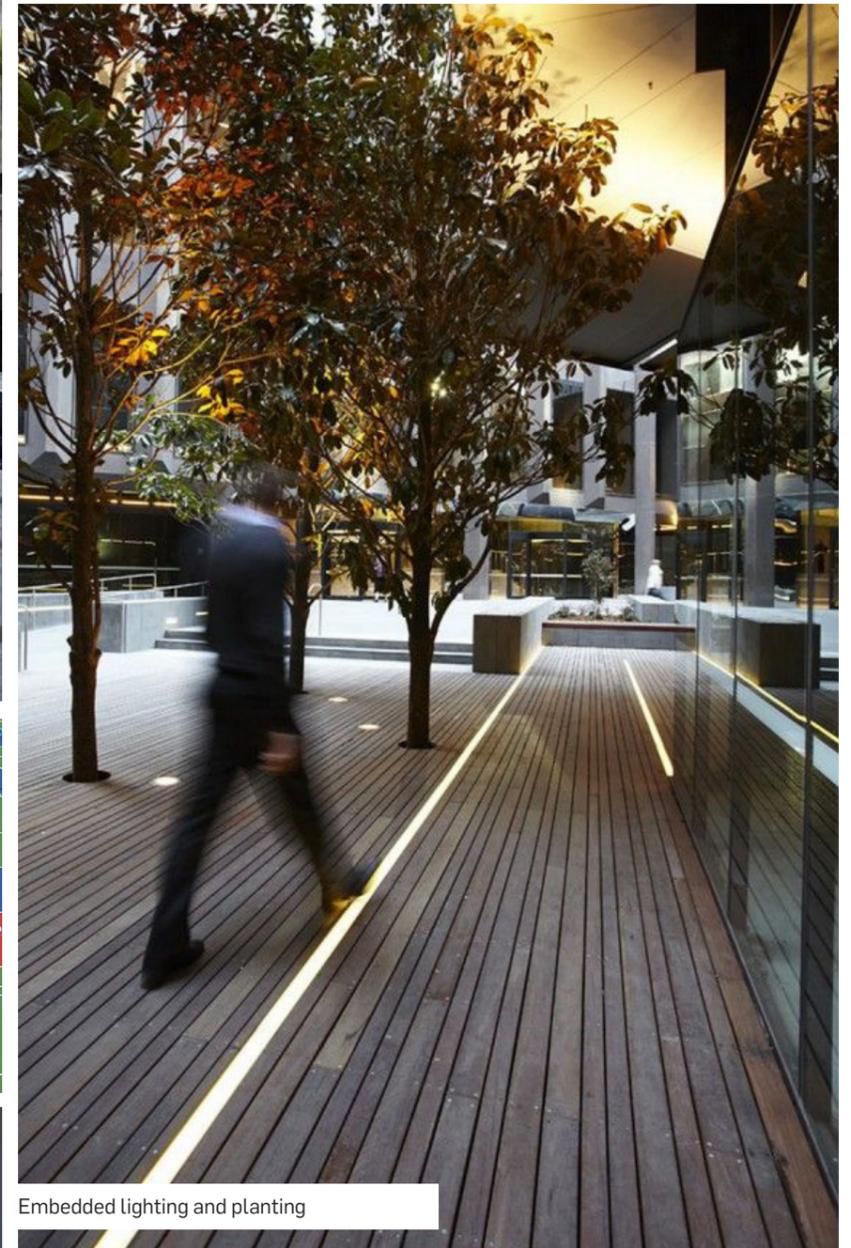
Rooftop garden



Native boulevard



Sports courts



Embedded lighting and planting



Innovative play spaces



Informal seating



Building-outdoor interface



Flexible outdoor space



1.14 EXISTING AND RETAINED TREES

With use of the site as a former quarry, the majority of the vegetation on site has been planted. While trees will be retained where possible, the development will require some tree removal.

As principles:

- Any permit application that removes significant vegetation, will be required to be accompanied by an arborist report. Where relevant, the requirements under Clause 52.17 Native Vegetation must be addressed.
- Where significant or important vegetation is removed, replacement planting is required.
- The Development Plan envisions significant greening of the site, with more vegetation to be planted than removed.

1.15 CONCLUSION

The landscape concept ensures contextual site-specific design solutions that aim to create high quality public and private communal amenities to be enjoyed by residents, users and visitors. The landscape strategies aim to integrate the landscape of the surroundings area with the proposed future developments and the existing Highpoint Shopping Centre.

The landscape strategies of the various precincts are developed to ensure a holistic character for the entire development and ensure seamless transition of landscape to the surrounding areas. The proposal aims to ensure high quality landscape treatments and elements that will contribute to the transformation of the Highpoint become an asset to the City of Maribyrnong



APPENDIX E

WIND ASSESSMENT (WINDTECH)



PEDESTRIAN WIND ENVIRONMENT STATEMENT

HIGHPOINT SHOPPING CENTRE MASTERPLAN

WF279-01F02(REV1)- WS REPORT

SEPTEMBER 25, 2020

Prepared for:

GPT Management Holdings

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DOCUMENT CONTROL

Date	Revision History	Issued Revision	Prepared By (initials)	Instructed By (initials)	Reviewed & Authorised by (initials)
February 24, 2020	Initial.	0	PT	SWR	HK
September 25, 2020	Update to Masterplan Drawings.	1	PT	SWR	HK

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EXECUTIVE SUMMARY

This report presents an opinion on the likely impact of the proposed development of the Highpoint Shopping Centre Masterplan, located in Maribyrnong, on the local wind environment at the critical outdoor areas within and around the subject development. The effect of wind activity is examined for the three predominant wind directions for the Melbourne region; namely the northerly, southerly and westerly winds. The analysis of the wind effects relating to the proposed development was carried out in the context of the local wind climate, building morphology and land topography.

The conclusions of this report are drawn from our extensive experience in this field and are based on an examination of the latest architectural drawings. No wind tunnel testing was undertaken for the subject development, and hence this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection. Any recommendations in this report are made only in-principle and are based on our extensive experience in the study of wind environment effects.

The results of this assessment indicate that the subject development is relatively exposed to the three prevailing wind directions, affecting the site. As a result, there is a possible impact on the wind comfort within areas such as along the footpaths of the various streets that intersect the development and at the communal open spaces that are located on the rooves of multiple buildings. It is expected that the wind effects identified in the report can be ameliorated with the consideration of the following treatment strategies into the design of the development:

- The inclusion of densely foliating evergreen landscaping for areas where winds are expected to funnel or side stream, such as communal open spaces that are situated between two buildings. Where planting cannot be utilised, the inclusion of chamfered corners, placing awning to deflect downwashing winds away from pedestrian trafficable areas, setting building facades back to incorporate landscaping, adding a podium or increasing the setback of the tower form from the edge of the podium to lessen downwashing effects is recommended.
- The inclusion of densely foliating evergreen landscaping, permanent screening or operable screening where the prevailing winds are expected to interact with building corners.
- The inclusion of awnings, canopies or densely foliating evergreen trees where winds are expected to downwash from facades onto footpaths or communal open spaces
- The inclusion of high impermeable balustrades or densely foliating evergreen landscaping for areas that are exposed to directly impacting winds.

With the inclusion of these considerations in the detailed design of the development, wind conditions within outdoor trafficable areas of the development are expected to be suitable for their intended uses.

At this early design stage, wind tunnel testing is not necessary to be undertaken, as the recommendations and advice given at this stage are general in nature and is intended to guide the ongoing development of the design. It is important that wind tunnel testing is undertaken at a later, more detailed design stage to provide a quantitative assessment of the wind conditions to align with the intended uses of the spaces, when treatment strategies will undergo further refinement.

CONTENTS

1	Introduction	1
2	Description of the Development and Surroundings	2
3	Regional Wind	4
4	Wind Effects on People	6
5	Results and Discussion	7
5.1	Northerly Winds	7
5.1.1	Street Levels	7
5.1.2	Elevated Levels	10
5.2	Southerly Winds	12
5.2.1	Street Levels	12
5.2.2	Elevated Levels	14
5.3	Westerly Winds	16
5.3.1	Street Levels	16
5.3.2	Elevated Levels	18
5.4	General Recommendations	20
6	References	21

1 INTRODUCTION

An opinion on the likely impact of the proposed design on the local wind environment affecting pedestrians within the critical outdoor areas within and around the subject development is presented in this report. The analysis of wind effects relating to the proposed development was carried out in the context of the predominant wind directions for the region, building morphology of the development and nearby buildings, and local land topography. The conclusions of this report are drawn from our extensive experience in the field of wind engineering and studies of wind environment effects.

No wind tunnel testing was undertaken for this assessment. Hence this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection, and any recommendations in this report are made only in-principle.

2 DESCRIPTION OF THE DEVELOPMENT AND SURROUNDINGS

The Highpoint Shopping Centre Masterplan site is bounded by Highpoint Ring Road to the north, Rosamond Road to the west, Aquatic Drive to the south and Warrs Road to the east. The proposed development is an upgrade or addition to the existing shopping centre complex.

Further from the site is low-rise suburban housing to the north and east, sporting fields and low-rise suburban housing to the south, and low-to-mid-rise shopping complexes and office buildings to the west.

The proposed development comprises of additional carparks, retail outlets, recreation facilities, townhouses and residential and commercial towers ranging from 2 to 14 storeys in height. Furthermore, a number of open and communal spaces have been incorporated into the design.

A survey of the local land topography around the site indicates that the terrain is generally slopes downward in the easterly and northerly directions. An aerial image of the site and the local surroundings is shown in Figure 1. The critical trafficable outdoor areas associated with the proposed development, which are the focus for pedestrian wind effects in this assessment, are detailed as follows:

- The various pedestrian trafficable areas and footpaths around the site
- The various elevated communal open spaces.



Figure 1: Aerial Image of the Site Location

3 REGIONAL WIND

The Melbourne region is governed by three principal wind directions, and these can potentially affect the subject redevelopment. These winds prevail from the north, south and west. A summary of the principal time of occurrence of these winds throughout the year is presented in Table 1 below. This summary is based on a detailed analysis undertaken by Windtech Consultants of recorded directional wind speeds obtained at the meteorological station located at Melbourne Airport by the Bureau of Meteorology (recorded from 1970 to 2009). From this analysis, a directional plot of the annual and weekly recurrence winds for the Melbourne region is also determined, as shown in Figure 2. The frequency of occurrence of these winds is also shown in Figure 2.

As shown in Figure 2, the northerly winds are by far the most frequent wind for the Melbourne region and the strongest. The southerly winds occur most frequently during the warmer months of the year. The far less frequent westerly winds are usually a cold wind since these occur during the spring and winter months and hence can be a cause for discomfort for outdoor areas. The northerly and southerly winds occur most frequently during the warmer months of the year for the Melbourne region, and hence are usually welcomed within outdoor areas.

Table 1: Principal Time of Occurrence of Winds for the Melbourne Region

Month	Northerly Winds	Southerly Winds	Westerly Winds
January	X	X	
February	X	X	
March	X	X	
April	X	X	
May	X		X
June	X		X
July	X		X
August	X		X
September	X		X
October	X	X	X
November	X	X	X
December	X	X	

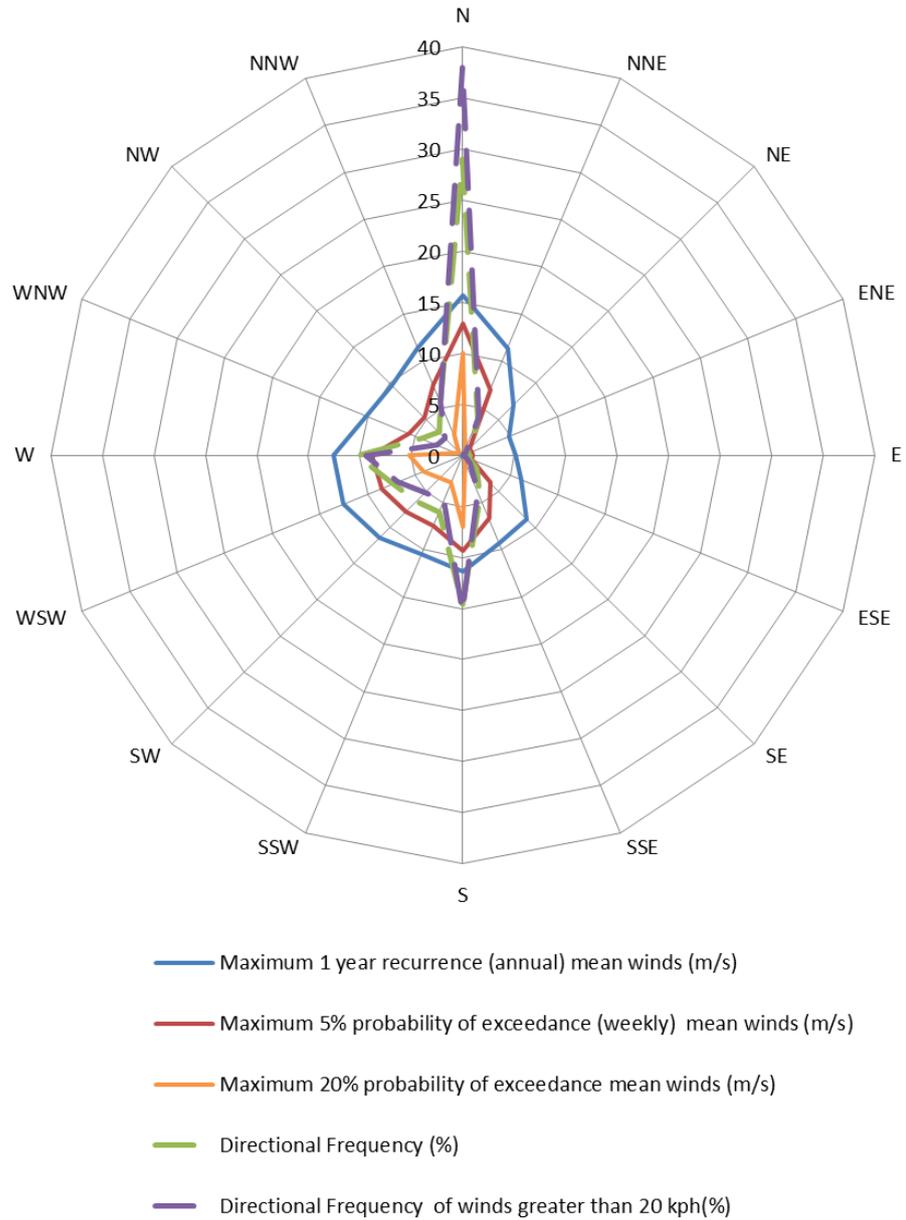


Figure 2: Annual and 5% Exceedance Hourly Mean Wind Speeds, and Frequencies of Occurrence, for the Melbourne Region (based on 10-minute mean observations from Melbourne Airport from 1970 to 2009, corrected to open terrain at 10m)

4 WIND EFFECTS ON PEOPLE

The acceptability of wind in any area is dependent upon its use. For example, people walking or window-shopping will tolerate higher wind speeds than those seated at an outdoor restaurant. Various other researchers, such as A.G. Davenport, T.V. Lawson, W.H. Melbourne, and A.D. Penwarden, have published criteria for pedestrian comfort for pedestrians in outdoor spaces for various types of activities. Some Councils and Local Government Authorities have adopted elements of some of these into their planning control requirements.

For example, A.D. Penwarden (1973) developed a modified version of the Beaufort scale which describes the effects of various wind intensities on people. Table 2 presents the modified Beaufort scale. Note that the effects listed in this table refers to wind conditions occurring frequently over the averaging time (a probability of occurrence exceeding 5%). Higher ranges of wind speeds can be tolerated for rarer events.

Table 2: Summary of Wind Effects on People (A.D. Penwarden, 1973)

Type of Winds	Beaufort Number	Mean Wind Speed (m/s)	Effects
Calm	0	Less than 0.3	Negligible.
Calm, light air	1	0.3 – 1.6	No noticeable wind.
Light breeze	2	1.6 – 3.4	Wind felt on face.
Gentle breeze	3	3.4 – 5.5	Hair is disturbed, clothing flaps, newspapers difficult to read.
Moderate breeze	4	5.5 – 8.0	Raises dust, dry soil and loose paper, hair disarranged.
Fresh breeze	5	8.0 – 10.8	Force of wind felt on body, danger of stumbling
Strong breeze	6	10.8 – 13.9	Umbrellas used with difficulty, hair blown straight, difficult to walk steadily, wind noise on ears unpleasant.
Near gale	7	13.9 – 17.2	Inconvenience felt when walking.
Gale	8	17.2 – 20.8	Generally impedes progress, difficulty balancing in gusts.
Strong gale	9	Greater than 20.8	People blown over.

It should be noted that wind speeds can only be accurately quantified with a wind tunnel study. This assessment addresses only the general wind effects and any localised effects that are identifiable by visual inspection and the acceptability of the conditions for outdoor areas are determined based on their intended use. Any recommendations in this report are made only in-principle and are based on our extensive experience in the study of wind environment effects.

5 RESULTS AND DISCUSSION

The expected wind conditions are discussed in the following sub-sections of this report for the various outdoor areas within and around the subject development. The interaction between the wind and the building morphology in the area is considered and important features taken into account including the distances between the surrounding buildings and the proposed building form, as well as the surrounding landform. Note that only the potentially critical wind effects are discussed in this report.

The ground plane will be used primarily for pedestrian and vehicle circulation. However there are potential seating areas such as in the Pocket Parks, the Town Plaza and the various communal open spaces. The recommended criterion for wind conditions for the circulation area is 5.0m/s with a 20% probability of exceedance, whereas the proposed seating areas will need to satisfy a more stringent comfort criterion of 4.0m/s with a 20% probability of exceedance. Although this assessment is of a qualitative nature, the abovementioned criteria are considered when assessing the wind environment impacts.

5.1 Northerly Winds

5.1.1 Street Levels

The northerly prevailing winds occur all year round for the Melbourne region. They are also the strongest and most frequent winds in the region.

The inclusion of the various chamfered and rounded corners of the Central North and Rosamond North developments reduce the effect of corner accelerating winds at those locations. The presence of the various podia throughout the development is expected to reduce the severity of winds down washing on the pedestrians below for the various pedestrian footpaths.

However, some adverse wind conditions are expected near the exposed corners of buildings on the windward side of the development, particularly in locations where the winds are entering the development to the north-west such as around Rosamond North. Funnelling is expected to occur along the street that runs between the Rosamond and Central plots and along the various side streets that connect to this road. Funnelling is also expected along the streets that runs north-south through River Gateway South as the winds downwash from the shopping centre roof. Side streaming and funnelling winds are expected to affect the footpaths along Rosamond Road and Warrs Road. The expected northerly wind flow and hot spots for the street levels are shown in Figure 3.

Corner treatments such as screens to trip the wind as it accelerates around the corners of the built form are recommended for the various locations shown in Figure 3. Additional localised screening, planting or operable screens are recommended to be implemented for any area that is expected to be used for short or long duration activities. Further measures such as

chamfering the building forms may be required to reduce the strength of the winds accelerating around corners. Awnings over pedestrian trafficable areas can be implemented to reduce the impact of down washing winds. Relocation of areas where longer duration stay is expected away from the hot spots as shown in Figure 3 can also be considered.

Densely foliating evergreen landscaping is recommended along the street that runs between the Rosamond and Central developments and along the streets that run north-south around the River Gateway South development due to the funnelling of the prevailing winds. In addition, planting is recommended along Rosamond Road and Warrs Road due to funnelling and side streaming winds. Note that landscaping should be situated within the site boundary of the individual development of concern as generally street trees within the public realm are not accepted by many councils as a desirable mitigation strategy. Alternative strategies include chamfered corners, incorporating an awning to deflect downwashing winds away from pedestrian trafficable areas, setting building facades back to incorporate landscaping, adding a podium or increasing the setback of the tower form from the edge of the podium to lessen downwashing effects is recommended.

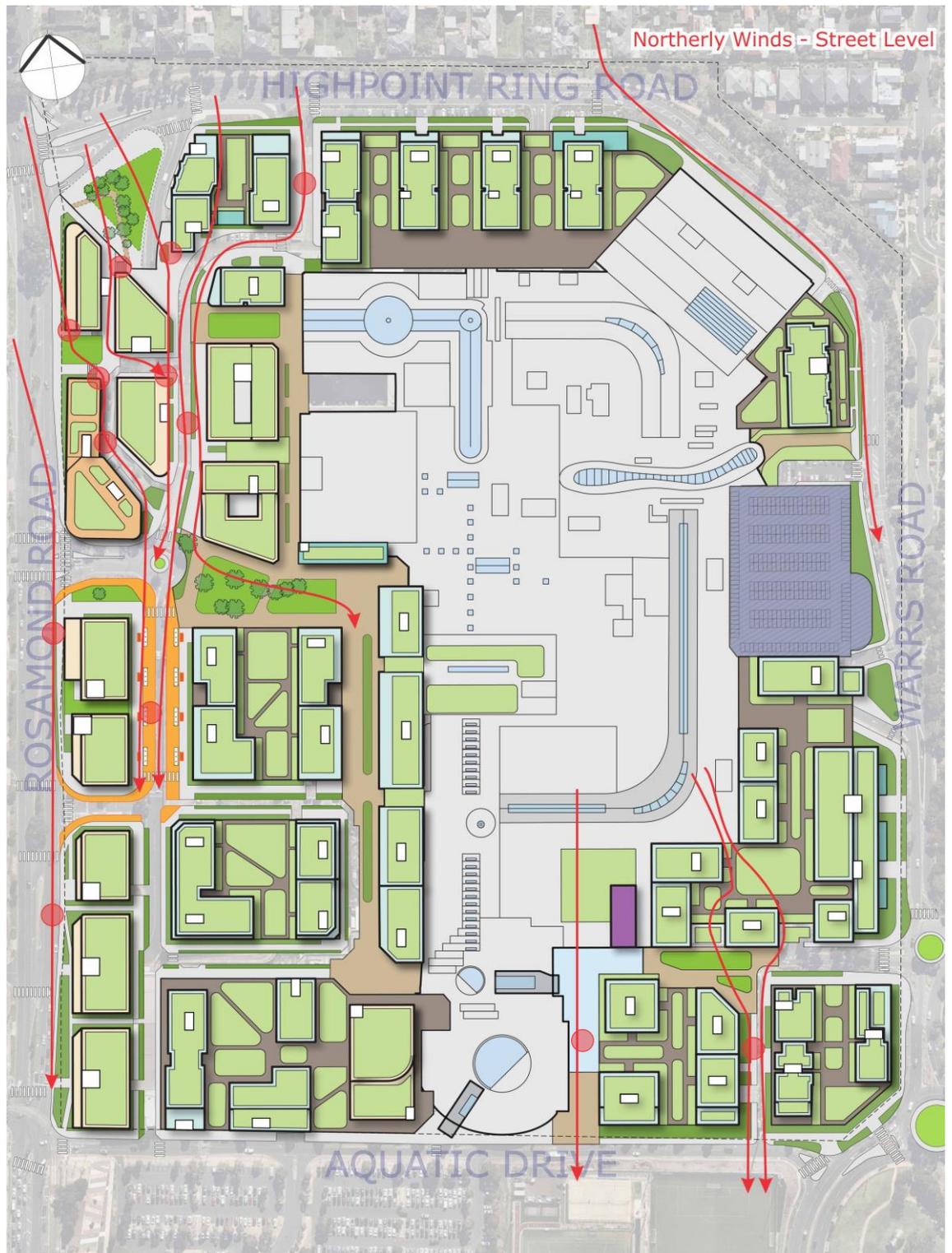


Figure 3: Street Level – Northerly Wind Flow and Hotspots

5.1.2 Elevated Levels

The alignment of the site with the northerly winds is expected to result in winds funnelling through the various communal open spaces that are located between mid-rise tower forms.

The expected northerly wind flow and hot spots for elevated areas are shown in Figure 4. The communal open spaces on the podium roof of the Residential edge development will be exposed to direction impacting and funnelling northerly winds.

The communal open spaces on the podium roofs of the Central North Lot 1, Central South, River Gateway North and River Gateway South developments will experience funnelling and corner accelerating winds. The various rooftop terraces are also relatively exposed to directly impacting winds and may require mitigation elements.

Densely foliating evergreen landscaping is the recommended treatment strategy for ameliorating the effects of funnelling winds because it is less likely to impede circulation. Screens of various porosity may be required for areas of stricter criteria such as barbeque areas and seating areas. Winds accelerating around corners are recommended to be treated with landscaping or screening devices. Areas where downwash is expected to occur are recommended to be treated with awnings or canopies. Rooftop communal open spaces can be treated with high impermeable screening or perimeter vegetation.



Figure 4: Elevated Levels – Northerly Wind Flow and Hotspots

5.2 Southerly Winds

5.2.1 Street Levels

The southerly prevailing winds occur during the warmer months for the Melbourne region.

The expected southerly wind flow and hot spots for the street levels are shown in Figure 5. Upon entering the development on the southern side, the southerly winds are expected to funnel along the various streets, which are approximately directly aligned with the southerly winds, notably the main street that runs north-south between the Rosamond South and Central South.

Corner acceleration are predominantly expected to occur as the winds enter the site, at the south-western corner of a number of buildings throughout the River Gateway South development. Winds are expected to side streaming and funnel as they travel northward along Rosamond Road and Warrs Road.

Landscaping is recommended to ameliorate the effects of funnelling and side streaming winds. Note that landscaping must be situated within the site boundary of the individual development of concern. Alternative strategies include chamfered corners, incorporating an awning to deflect downwashing winds away from pedestrian trafficable areas, setting building facades back to incorporate landscaping, adding a podium or increasing the setback of the tower form from the edge of the podium to lessen downwashing effects is recommended.

Corner accelerations can be ameliorated using screening to trip or decelerate winds. For areas that will be used for short or long duration activities such as cafes or seating areas can, localised screening planting or operable screening can be utilised.

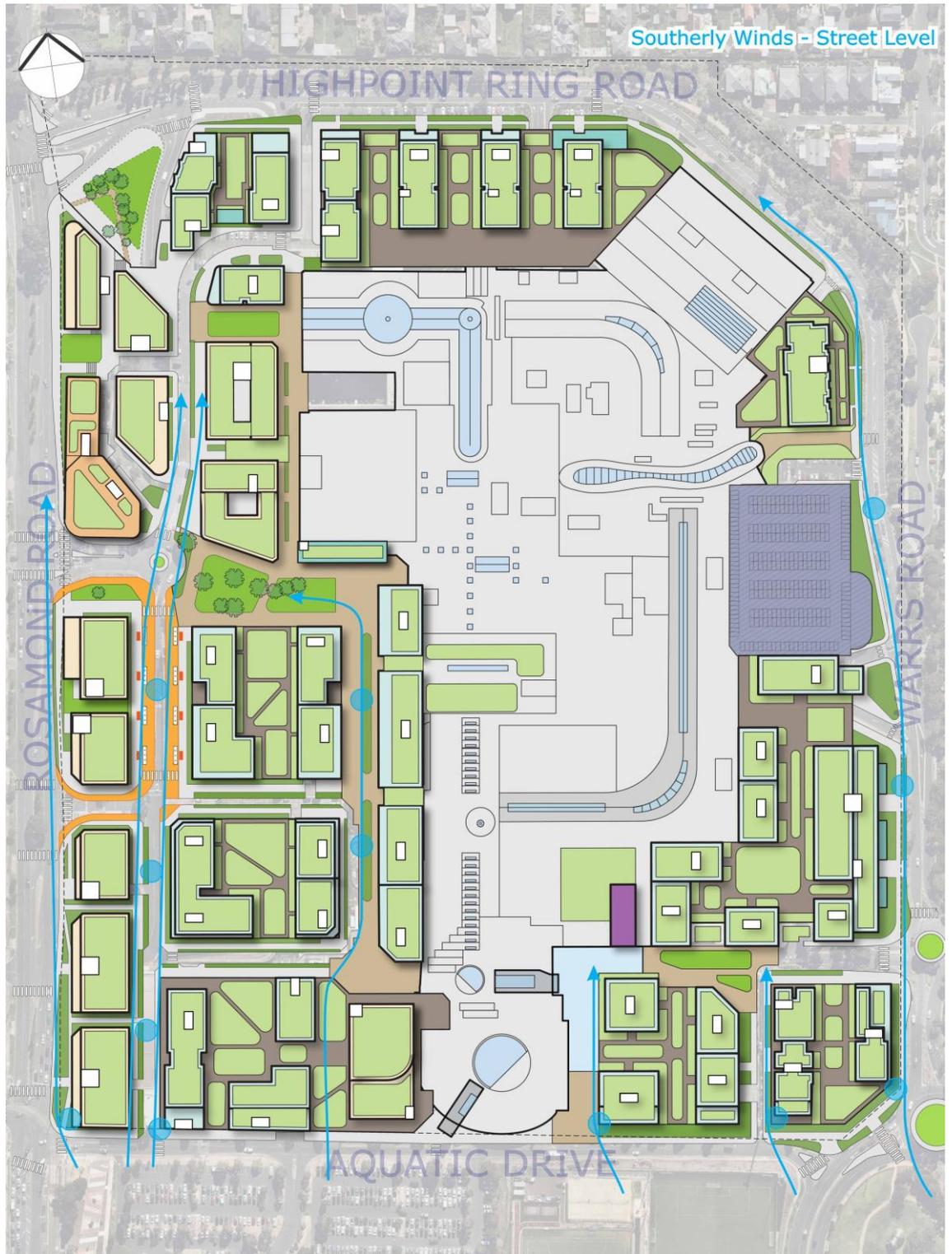


Figure 5: Street Level – Southerly Wind Flow and Hotspots

5.2.2 Elevated Levels

The alignment of the site with the southerly winds is expected to result in winds funnelling through the various communal open spaces that are located between mid-rise tower forms.

The expected southerly wind flow and hot spots for elevated areas are shown in Figure 6. Some downwashing of winds from the southern aspects of the towers is expected to occur onto the communal open spaces on the podium roof of the Residential Edge Development. Funnelling is expected to occur as the wind travels between the towers.

Funnelling is expected to occur in various other locations, notably in between the Central South towers and River Gateway towers. Corner acceleration are expected primarily where winds enter the site and must wrap around corner and sharp edges. Downwashing is expected to affect the communal open spaces on the windward sides of buildings T8 and T5 of River Gateway North. The various rooftop terraces are also relatively exposed to directly impacting winds and may require mitigation elements.

Funnelling winds can be decelerated and ameliorated by employing landscaping such as trees or planter boxes. In areas of higher wind speeds or in areas of more strict criteria such as seating or barbeque areas, localised screening can be utilised. Screening can also be utilised for the treatment of areas that are affected by corner accelerations. Downwashing winds can be treated with the use of canopies or awnings. Rooftop communal open spaces can be treated with high impermeable screening or perimeter vegetation.

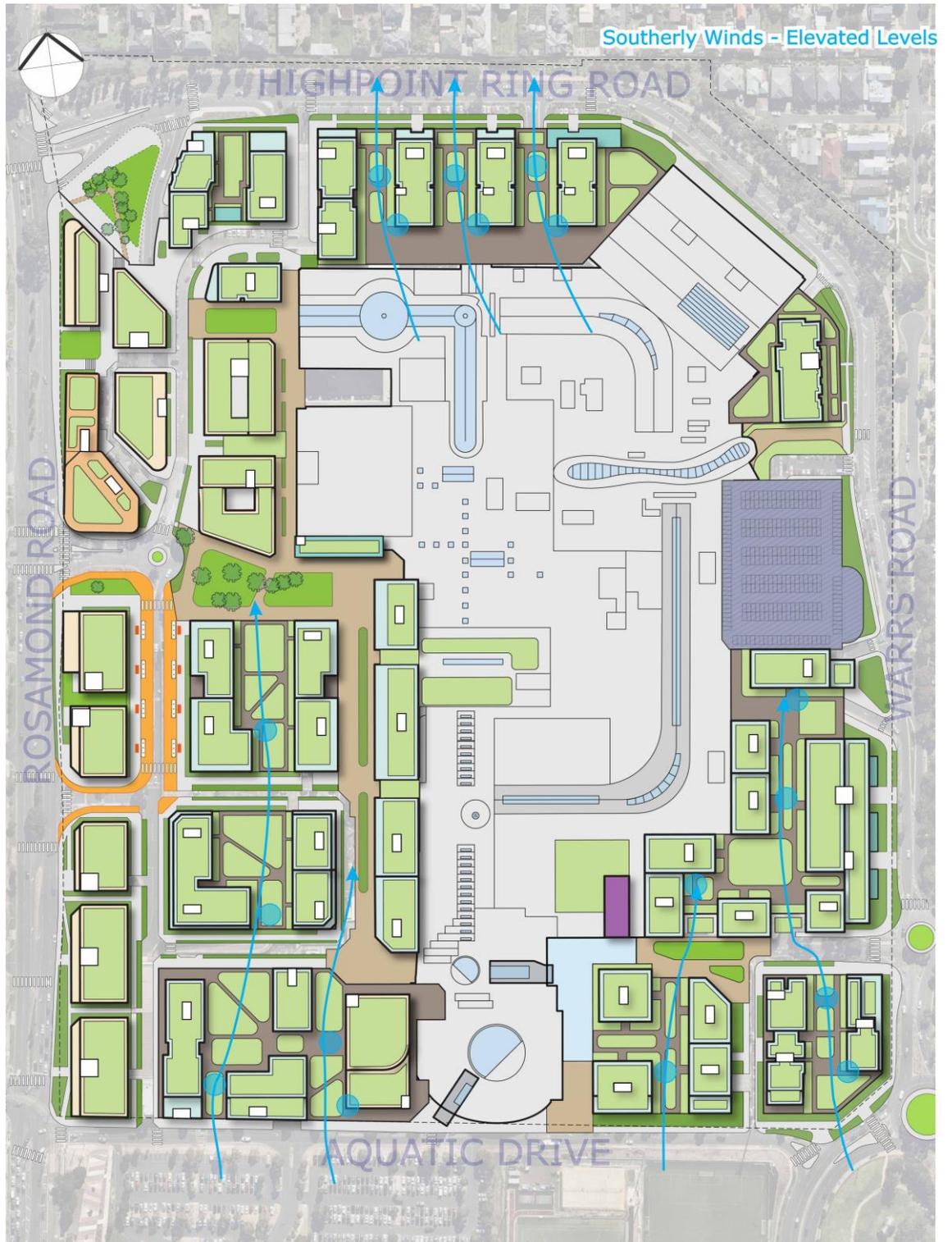


Figure 6: Elevated Levels – Southerly Wind Flow and Hotspots

5.3 Westerly Winds

5.3.1 Street Levels

The westerly prevailing winds occur predominantly during the winter months for the Melbourne region. These winds are particularly undesirable due to the negative impact upon the human perception of comfort as a result of the cooler winds.

The expected westerly wind flow and hot spots for the street levels are shown in Figure 7. As the westerly winds enter the site, they will tend to funnel down the various streets and passages between buildings that are aligned east-west. However, these funnelling winds will travel along these streets for a relatively short distance before being force up over the existing shopping centre massing. This will result in some stagnation or deceleration and therefore these funnelling winds are not expected to be as severe as the northerly and southerly funnelling winds.

Winds will tend to accelerate arounds corners or edges that are protruding from buildings, notably as the winds enter the site at the north-western corners of the various buildings of Rosamond South. The chamfered or rounded corners will reduce the severity of the corner accelerations. Winds are expected to side stream and funnel as they travel eastward along Highpoint Ring Road and Aquatic Drive.

Funnelling and side streaming effects can be ameliorated with the use of densely foliating evergreen landscaping such as trees and planter boxes. For example, planting trees along footpaths can increase comfort levels related to wind for pedestrians that use those footpaths. Note that landscaping must be situated within the site boundary of the individual development of concern. Alternative strategies include chamfered corners, incorporating an awning to deflect downwashing winds away from pedestrian trafficable areas, setting building facades back to incorporate landscaping, adding a podium or increasing the setback of the tower form from the edge of the podium to lessen downwashing effects is recommended. Corner accelerating winds can be ameliorating using screening at the corners of buildings.

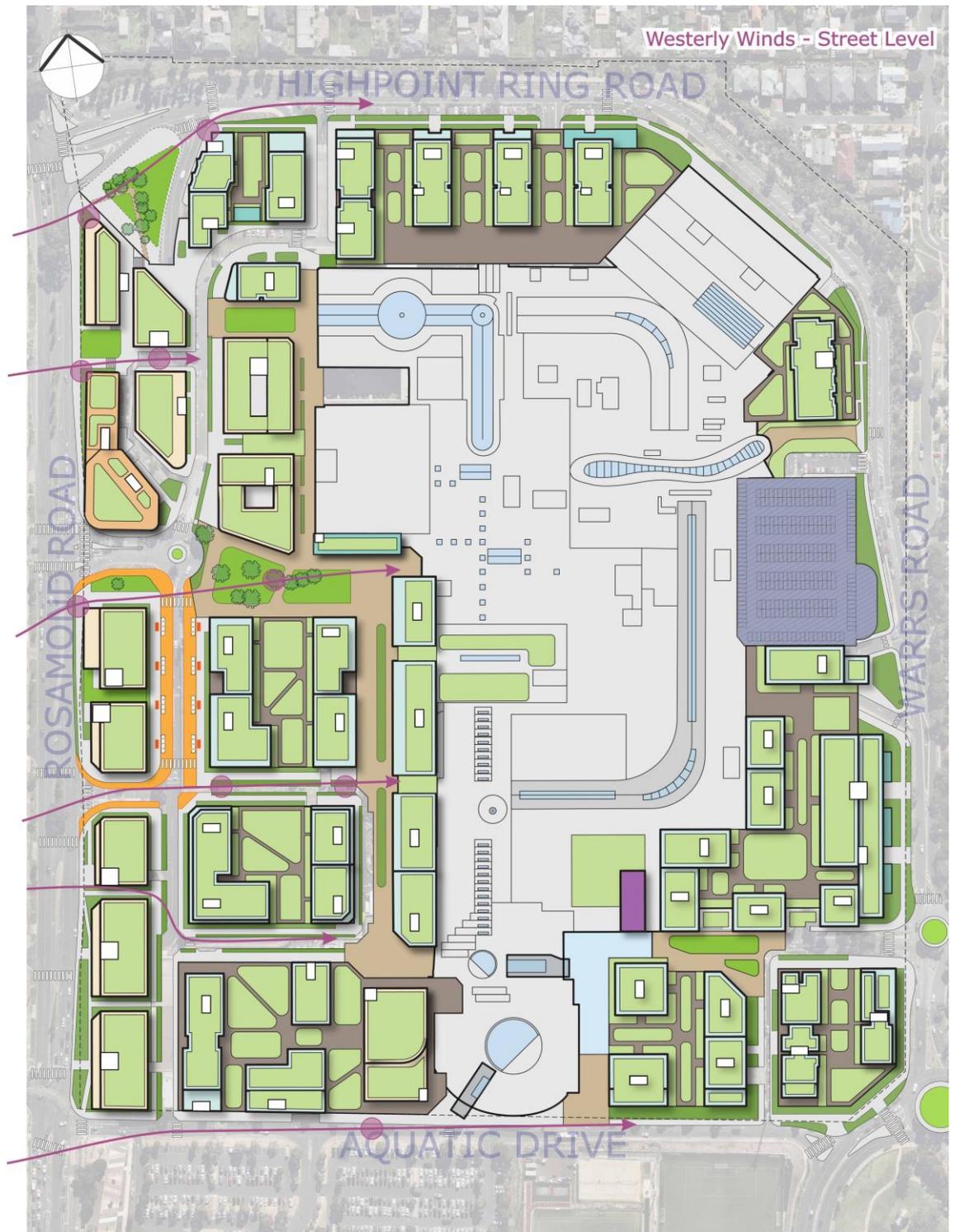


Figure 7: Street Level – Westerly Wind Flow and Hotspots

5.3.2 Elevated Levels

The alignment of the site with the westerly winds is expected to result in winds funnelling through the various communal open spaces that are located between mid-rise tower forms.

The expected westerly wind flow and hot spots for elevated areas are shown in Figure 8. The various rooftop terraces are also relatively exposed to directly impacting winds and may require mitigation elements.

Funnelling, corner accelerations and downwashing effects are expected to occur within the communal open spaces on the podium roofs of the NE Entry, River Gateway North and River Gateway South developments. Funnelling is also expected to be prevalent between towers T12 and T13 of the Central South development.

Corner accelerating winds are recommended to be treated with densely foliating evergreen landscaping or by utilising screens at the corner of building to trip and decelerate the winds. Downwashing winds are recommended to be treated by using canopies and awnings to trip the winds as they impact facades and are redirected downwards onto communal open spaces. Funnelling effects are recommended to be treated with densely foliating evergreen landscaping. Rooftop communal open spaces can be treated with high impermeable screening or perimeter vegetation.



Figure 8: Elevated Levels – Westerly Wind Flow and Hotspots

5.4 General Recommendations

For tree planting/landscaping to be effective as a wind mitigation device, the species should be of a densely foliating variety. The area is affected by a winter wind, it is recommended that an evergreen species be selected to ensure year-round effectiveness. Trees should also be planted in clusters with interlocking canopies to effectively absorb incident winds. In sensitive areas or hotspots where strong winds are expected, mature trees should be used as immature trees have difficulty establishing themselves in strong wind conditions. If immature trees are initially planted, the inclusion of porous screens around these tree plantings, or temporary wind screens is recommended to provide some wind mitigation while the trees develop and also provide some protection as the trees establish. Conditions can be further improved through the use of low-level vegetation such as shrubs/hedges or planter boxes. When utilised below a tree canopy, they provide protection from low level winds, especially for more sensitive areas where longer duration activities are expected. In general, landscaping can help mitigate adverse wind conditions caused by winds directly impacting an area, or side streaming winds by slowing the winds upstream.

In areas where stronger winds are expected, wind screens may be required as trees are generally not effective in particularly strong gusts. These can be in the form of impermeable screens, porous screens, signage, artwork etc. which are strategically located to mitigate winds at a particular location. In areas where longer duration stay is expected, such as café or restaurant seating areas, or communal recreation areas, additional localised screening, tenancy-operated screening deployable during windy conditions, or planting may be required. The location of these areas at the corners of buildings places them in an area where there is a high potential for adverse winds.

Downwash is most likely to occur at the base of tall buildings that present a flat façade to the prevailing winds. The proposed setback in the various towers of the development is expected to assist in breaking up the downwash flows, however to be effective in downwash mitigation it is suggested the setback be at least 3m in length. In downwash affected areas, especially at the ground level, awnings and canopies can be used to deflect the winds away from pedestrian accessible areas. Generally, for these to be effective in achieving this, an awning of at least 3m would be required. This combined with tree planting alongside for the winds to be absorbed into would be particularly effective in mitigating this wind effect. Wrap-around awnings at the corners of buildings can also prevent the down washed winds from combining with winds side streaming around the corners of the development. To reduce the ability of winds to downwash along the tower facades, horizontal and vertical feature elements can also be included.

Through-site links and tower aspects should be oriented to avoid direct alignment with the prevailing winds, incorporate bends, planting or screens in order to mitigate funnelling effects between building and tower massing's. The funnelling between buildings may be severe enough for further mitigation measures such as a baffle screen arrangement. This tends to reduce the severity of winds affecting a particular area by redirecting it around obstacles, and thus reducing the wind speed.

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APPENDIX F

**TRANSPORT PLAN (GTA
CONSULTANTS)**

Highpoint Development Plan

120-200 Rosamond Road, Maribyrnong
Transport Impact Assessment & Review



Prepared by: GTA Consultants (VIC) Pty Ltd for GPT Group

on 10/11/2020

Reference: V180930

Issue #: B

Highpoint Development Plan

120-200 Rosamond Road, Maribyrnong
Transport Impact Assessment & Review

Client: GPT Group

on 10/11/2020

Reference: V180930

Issue #: B

Quality Record

Issue	Date	Description	Prepared By	Reviewed By	Approved By	Signed
A	15/10/20	Final	Jeremy Lis	Tim De Young	Andrew Farran	Andrew Farran
B	10/11/20	Updated Final	Jeremy Lis	Tim De Young	Andrew Farran	

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EXECUTIVE SUMMARY

A Development Plan has been prepared for Highpoint Shopping Centre (Highpoint). The Development Plan envisages approximately 55,000sqm of additional retail floor area, 3,150 dwellings, 150,000sqm of office area, 150 hotel rooms and 10,000sqm of community centre use over a 20 to 30-year development horizon.

The statutory requirements for the Development Plan are contained within the Design Development Overlay (Schedule 17 to Clause 43.04) of the Maribyrnong Planning Scheme. This Schedule stipulates that a Transport Plan must be informed by and contain a Transport Plan that is prepared to the satisfaction of the Responsible Authority. This Transport Plan is to provide details, as appropriate, regarding matters such as traffic impacts and mitigation, the location of car parking, movement networks and the like. This report presents a transport assessment of the Development Plan and accords with the requirements of the Schedule.

The transport context in the vicinity of the site is particularly relevant for this Transport Plan. At present, the Inner West and Highpoint suffer from the lack of an established arterial grid road network. As a result, key vehicle routes are typically aligned along constrained streets or mixed with public transport services. The outcome is that the arterial road network is congested for large periods of the day and public transport has slow and unreliable travel times. However, there are public transport opportunities that are identified in this report that would vastly improve the accessibility of the Highpoint Activity Centre.

In such circumstances (high traffic congestion but good public transport accessibility), it is common that the planning for new development adopts a travel demand management approach. This approach has been adopted for the Highpoint Development Plan via its land use mix and transport response. Specifically:

- **Land Uses** – Approval is sought for land uses that are not high “traffic generators” that will likely draw custom from the immediate surrounds area and maximise trip containment on the site (i.e. trips from land uses within the Centre to other land uses in the Centre).
- **Transport Response** – The proposal will seek to maximise the benefit of its proximity to nearby public transport services, and improve connections to those services, and minimise its car parking provision (as far as commercially practicable) to reduce its traffic impacts. Additionally, a series of measures have been identified to encourage walking and cycling as viable modes for future residents, employees, and visitors to the site.

This approach is consistent with the objective of the Maribyrnong Integrated Transport Strategy (2011), which states:

“Maribyrnong will be a city where it is possible for people to walk and cycle more often, and catch public transport with ease, thus relieving congestion on the road network, and reducing the City of Maribyrnong’s contribution to transport related greenhouse gas emissions and improving air quality.”

This report concludes that the travel demands of the additional development can be accommodated by adopting a more progressive approach to the prioritisation of public transport services both on the site and off the site along the transport corridors providing access to it. In this context, this report includes recommendations relevant to the local area as well as the key arterial roads / transport routes to nearby train stations, activity centres and arterial roads.

CONTENTS

1. Introduction	1
1.1. Background	2
1.2. Purpose of this Report	4
1.3. Council RFI Response	4
1.4. References	6
2. Context	1
2.1. Site Details	2
2.2. Transport Network	3
2.3. Movement and Place	8
2.4. Relevant Policy & Documents	9
2.5. Summary	13
3. Trip Generation & Modal Principles	1
3.1. Preamble	2
3.2. Mode Share Targets	2
3.3. Trip Generation	3
3.4. Overarching Movement and Place Principles	5
4. Walking & cycling	1
4.1. Overview	2
4.2. Development Plan Responses	2
4.3. Summary	11
5. Public TrAnsport	1
5.1. Overview	2
5.2. Development Plan Responses	4
5.3. Precinct Opportunities	7
5.4. Summary	12
6. Logistics / Loading	0
6.1. Overview	1
6.2. Development Plan Responses	1
6.3. Summary	2

7. Car Parking & Traffic	3
7.1. Overview	4
7.2. Development Plan Responses – Car Parking	4
7.3. Development Plan Responses – Traffic	10
7.4. Traffic Impact Assessment including Precinct Mitigation Opportunities	13
7.5. Summary	16
8. Conclusion	1

Appendices

- A. Public Transport Improvements
- B. Traffic Impact Assessment Additional Information

Figures

Figure 1.1: Development Plan (Level 2 shown)	2
Figure 1.2: Indicative Staging Plan	3
Figure 2.1: Site Context	2
Figure 2.2: Maribyrnong Bus Map	6
Figure 2.3: Public Transport 30-minute Catchment Area	7
Figure 2.4: Pedestrian 30-minute Catchment Area	8
Figure 2.5: Movement and Place Framework	9
Figure 2.6: Highpoint Activity Centre Framework Plan	11
Figure 3.1: Proposed Modal Hierarchy	2
Figure 3.2: Trips Generation by Mode – Weekday PM Peak Hour	4
Figure 4.1: Highpoint Pedestrian and Street Access Map	3
Figure 4.2: Pipemakers Park Connection – Concept Design	5
Figure 4.3: External Pedestrian Connections	6
Figure 4.6: Bicycle Infrastructure and End of Trip Facilities Map	8
Figure 4.7: Green Travel Plan Pyramid	11
Figure 5.1: Proposed Highpoint Bus Interchange Options	5
Figure 5.2: On-Street Bus Interchange in CBD/Activity Centre (Cairns Example)	6
Figure 5.3: Public Transport Accessibility	7
Figure 5.4: Key Public Transport Corridors	8
Figure 5.3: Potential Public Transport Improvements on Footscray Corridor	9
Figure 5.4: Potential Public Transport Improvements on Essendon Corridor	9

Figure 5.5:	Potential Public Transport Improvements on Sunshine Corridor	10
Figure 5.6:	Potential Tram Realignment	11
Figure 5.7:	Example Tram & Bus Integration – Haluchere Mobility Hub, France	11
Figure 5.8:	Highpoint Transport Strategy – “Plan on a Page”	12
Figure 6.1:	Proposed Primary Loading Locations	1
Figure 7.1:	Office Case Study Car Parking Rates Data	5
Figure 7.2:	Indicative Office Car Parking Trends for Activity Centre (1990 to 2030+)	8
Figure 7.3:	Car Parking Distribution (Weekday Allocation)	9
Figure 7.4:	Vehicle Access Map	11
Figure 7.5:	Indicative External Real Time Guidance Signage Locations	12

Tables

Table 1.1:	Indicative Land Use Summary	3
Table 1.2:	Council Transport Feedback and Response	4
Table 2.1:	Summary of Existing Transport Network	3
Table 2.2:	Road Network Description	4
Table 2.3:	Transport Policy Overview	12
Table 3.1:	Existing and Assumed Transport Mode Share Targets	2
Table 3.2:	Trips Generated by Use – Weekday PM Peak Hour	3
Table 3.3:	Trips Generation by Mode – Weekday PM Peak Hour	4
Table 3.4:	Movement and Place Framework	5
Table 4.1:	Statutory Requirement for Bicycle Facilities	9
Table 4.2:	AustRoads Requirement for Bicycle Facilities (‘Best Practice’)	9
Table 4.3:	Statutory Requirement for Showers and Change Rooms	10
Table 7.1:	Recommended Car Parking Rates	6
Table 7.2:	Recommended Car Parking Rates	6
Table 7.3:	Forecast Development Traffic Generation	13
Table 7.4:	Level of Service Performance Metrics	15
Table 7.5:	Existing and Post Development SIDRA Intersection Operation	15
Table 8.1:	Transport Plan Response	2

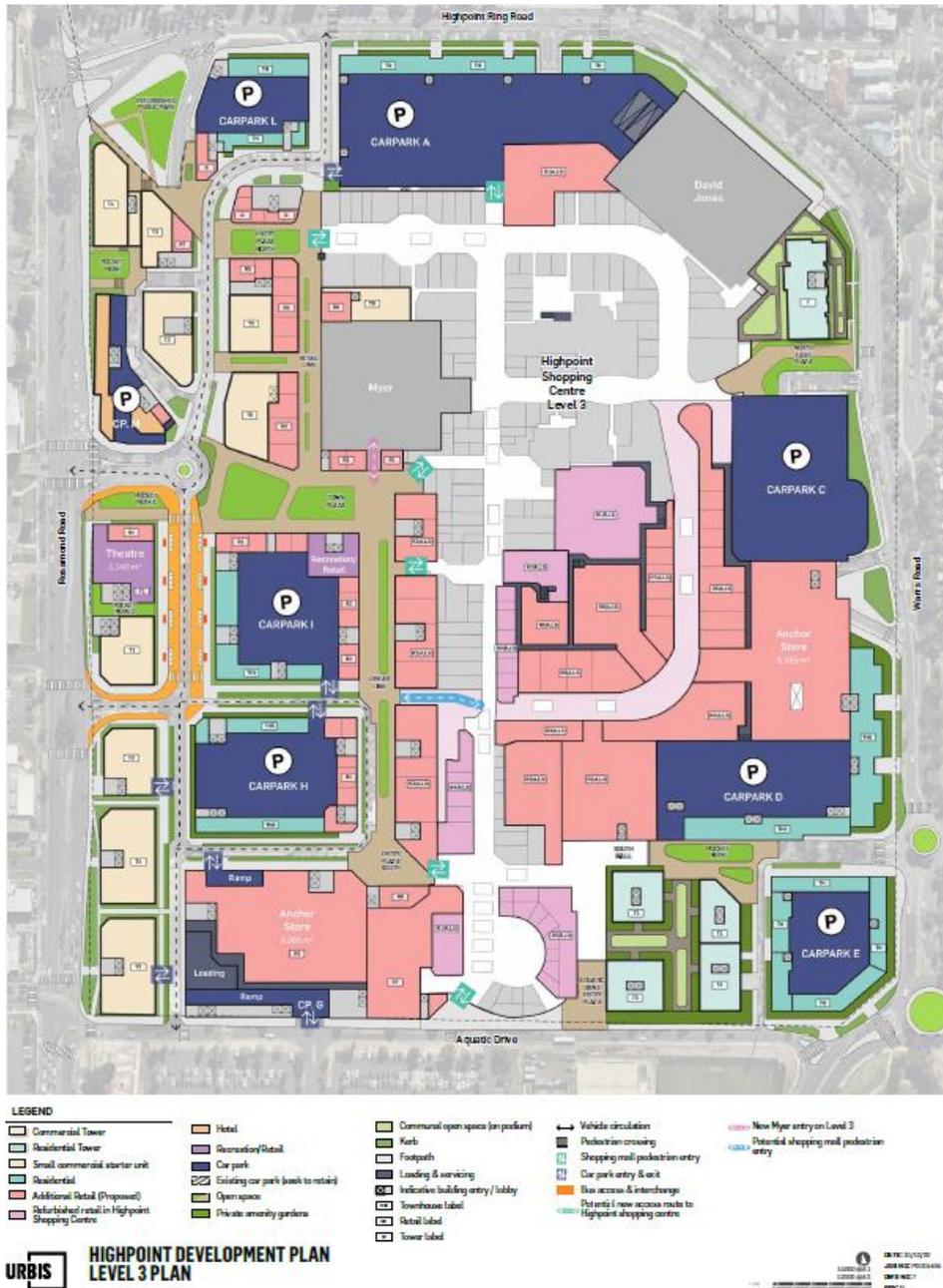
1. INTRODUCTION

01

1.1. Background

A Development Plan has been prepared by Urbis for Highpoint which is bound by Rosamond Road to the west, Aquatic Drive to the south and Warrs Road/Ring Road to the north and east of the site. The Development Plan contemplates additional retail, residential, office, hotel and community land uses on the site, with an overview provided in Figure 1.1.

Figure 1.1: Development Plan (Level 2 shown)



A summary of the indicative yields to be developed provided in Table 1.1. It is important to note that the land uses are expected to be delivered over a 30-year period and will ultimately be subject to prevailing

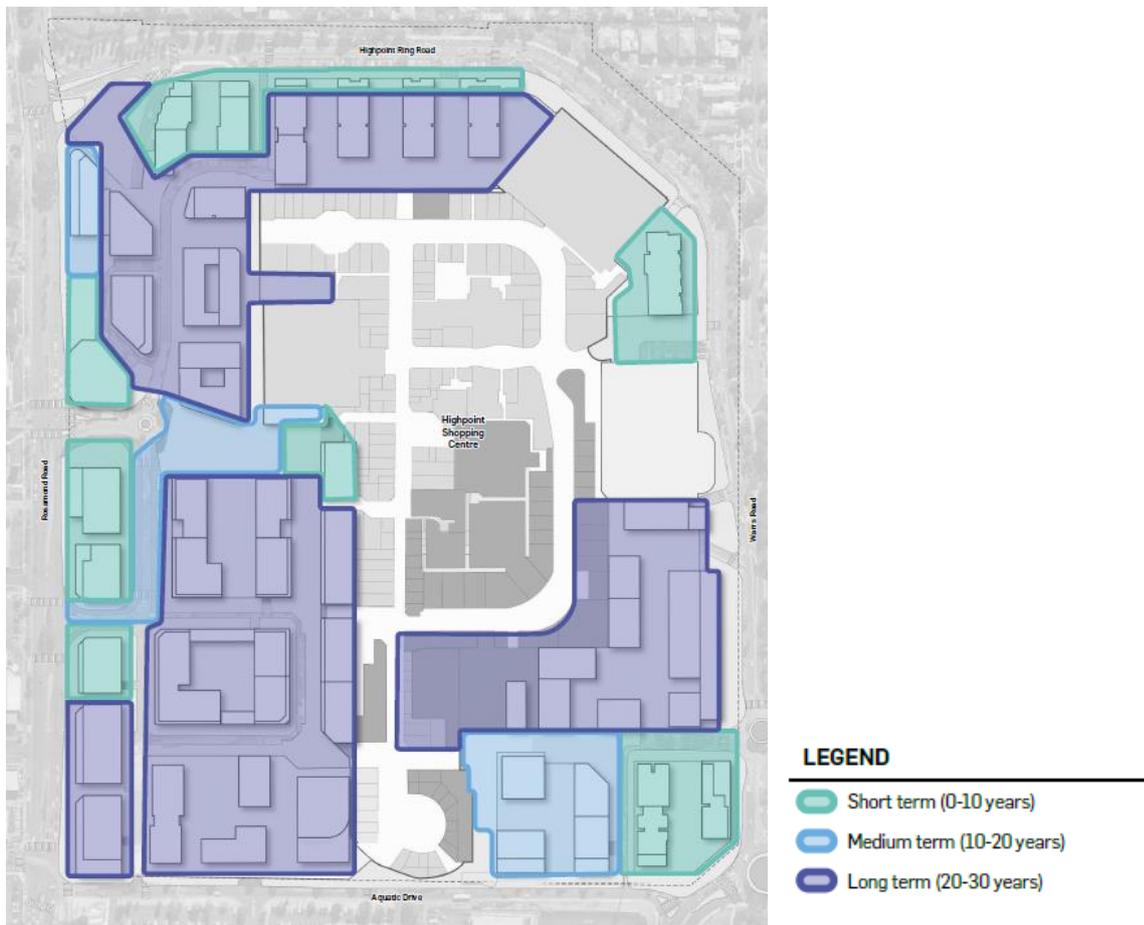
market demands and authority approvals. Accordingly, development will be delivered in a staged manner – incorporating short, medium and long-term stages - as generally presented in Figure 1.2.

The timing and delivery of each of the Development Plan Responses identified later in this report will be determined at the individual planning permit stage.

Table 1.1: Indicative Land Use Summary

Land Use	Existing	Post-Development	Net Change
Retail	156,000sqm	211,089 sqm	+55,089sqm
Residential	-	3,152 dwellings	+3,152 dwellings
Office	-	148,830 sqm	+148,830sqm
Hotel	-	147 rooms	+147 rooms
Community	-	10,685sqm	+10,685sqm

Figure 1.2: Indicative Staging Plan



1.2. Purpose of this Report

This report has been prepared to review and assess the transport implications (including the traffic impacts) of the Development Plan. It has been completed in parallel with, and has informed and been informed by, the Development Plan report prepared by Urbis.

It is noted that the purpose of this report is not to provide a final transport impact assessment of the development sites that are covered by the Development Plan. Rather, it has been prepared to provide a high-level review of the appropriateness of the proposed walking, cycling and vehicle access elements of the Development Plan, and provide an indicative assessment of external traffic impacts. However, it is expected that more detailed transport and traffic impact assessments will be completed for subsequently planning permit applications (as appropriate for the scale of those developments).

It is emphasised that the indicative assessment of external traffic impacts contained within this report is based on the indicative development schedule outlined above. This development schedule will be subject to prevailing market demands over the next 25+ years as well as authority approvals. As such, the assessment is presented as an estimate only.

The details for inclusion of the Transport Plan are reproduced in Section 2.4.1 of this report.

1.3. Council RFI Response

In preparing the Masterplan and the transport access strategy for the site, GTA and the project team has undertaken various meetings with Maribyrnong City Council (November and December 2019 and September 2020). Following these meetings initial feedback has been provided by Council officers, this feedback and a response to each of the items is provided in Table 1.2.

Table 1.2: Council Transport Feedback and Response

Council Item	Response
<i>Council Letter (dated 18 February 2020)</i>	
Any Transport Plan needs to include a Strategic Transport model using the VITM model (as used by the VPA for the Defence site) to analyse the impact on the surrounding road network. Given the proposed densities are in excess of those envisaged by the PUDF a wider analysis of the impact on traffic and transport would be required.	At a subsequent teleconference with Council (12 March 2020), it was confirmed that strategic transport modelling was not required as part of this study, noting that Council had engaged Cardno and the VPA had engaged their own consultant to complete similar transport modelling for the Maribyrnong Defence Site. Sidra modelling has been completed and is presented in Section 7.4.3
The downgrading of Rosamond Road and the concept of widening of the Ring Road is welcomed.	The widening of the Ring Road forms part of the Masterplan (refer to Section 7.3.1). Whilst the future downgrading of Rosamond Road as a traffic route is supported, it is not located within the Development Plan area and it is expected that it will be delivered by others.
The Ring Road will perform an important function within the road network which may require it to be vested in Council.	To be dealt with in the future at time of duplication.
The north-south internal road (between the shopping centre and Rosamond Road) is consistent with the Highpoint PUDF.	Noted.
The intersection of Van Ness Avenue, Gordon Street and Warrs Road is currently at capacity. This roundabout intersection is also an obstruction to	Traffic modelling presented in Section 7.4.3 indicates that this intersection currently operates well and as such, at this stage it is not proposed to change the current roundabout

Council Item	Response
provide pedestrian and cycling connection between Highpoint, Pipemakers Park and Maribyrnong College. Therefore, this intersection requires significant modifications to improve conditions for all road users (ie. Signalised intersections).	configuration. It is likely that a signalised intersection at this location would result in increased queues and delays for vehicles through the intersection. Improved pedestrian arrangements are proposed by either providing pedestrian operated signals or zebra crossings on each approach to the intersection (refer to Section 4.2.2).
Access to parking areas should be generally focussed via the Ring Road and minimise access points from Rosamond Road.	The vehicle access strategy adopts this approach, noting that higher turnover spaces are typically accessed from the Ring Road (refer to Section 7.2.2).
The current plans fail to provide any meaningful pedestrian and cycling connections through the site and to the wider precinct. It would appear that the centre is still heavily dependent on motor vehicles.	A travel demand management approach has been adopted for the centre which priorities public and active travel modes over private vehicle (refer to Section 3). The reduced reliance on private vehicle is reflected in the proposed reduction in retail car parking rate.
The pedestrian environment along Aquatic Drive, Warrs Road and the Ring Road needs improvement with a greater focus on pedestrian and cyclist amenity and all dwellings need to be within 400 metres of public transport facilities by prioritising pedestrian and bicycle movements	Pedestrians and cyclists upgrades are envisaged on each of the frontage roads surrounding the site (refer to Section 4.2). All residential developments are located within 400m of existing and future public transport facilities (refer to Section 5.2.2).
East-west pedestrian connections are a key component of the Framework Plan. These connections will assist in addressing the existing movement barriers in and around the Activity Centre, and will improve the overall amenity of the area. Although it may not be possible for these paths to be publicly accessible 24 hours, as the land is likely to stay privately owned, as discussed in the Panel Report C135. It is important that any redevelopment improves pedestrian connections wherever possible, by providing clear and wide pedestrian paths that are legible.	The existing Shopping Centre and changes in levels across the site constrain the site. Notwithstanding, the Development Plan identifies a number of east-west routes through the site and the centre consistent with the expectations of the planning controls (refer to Section 4.2.1).
The location of the proposed open space areas on the site is critical to ensure that pedestrian paths are legible and clear from the streets.	Open space and/or gateway treatments are provided at the end of each of the east-west pedestrian links.
The proposed location of the bus terminal should be provided close to the existing tram stop and improvements should be made to ensure pedestrians have a clear and legible path.	The proposed bus interchange is proposed to be located closer to the tram stop and closer to Rosamond Road. An opportunity to relocate the existing tram stop and alignment is identified in this report (refer to Section 5.3.2).
The Transport Plan needs to consider the bicycle network and the Maribyrnong Draft Bicycle Strategy including protected pedestrian and bicycle paths along the inner edge of the Ring Road and the wider connection to the Maribyrnong Defence Site and the Footscray Activity Centre.	The cycling access strategy has been developed having regard for the Maribyrnong Defence Site (refer to Section 4.2.3)
We encourage you to advocate to the Department of Transport to improve the frequency of service for bus routes that service Highpoint and the surrounding area to create a 10 minute corridor.	The applicant will continue to advocate for improved public transport services to the Activity Centre (refer to Section 5.3 and Appendix A).
<i>Verbal advice received following presentation (dated 28 September 2020)</i>	

Council Item	Response
Ensure all future land uses are adequately serviced by public transport and have consideration for afterhours access when the Shopping Centre is closed.	Each of the development parcels are located within 400m of an existing or future public transport service (refer to Section 5.2.2)
Conflict with pedestrians and vehicles and buses at the key pedestrian access to the Centre.	Vehicle movements accessing the Centre from Rosamond Road are forecast to be relatively low, noting that the high turnover retail spaces are predominantly accessed from the Ring Road. Whilst the main pedestrian access has been purposefully collocated with the bus interchange as this will be the focal point of pedestrian movements to and from the Centre.
Relocate the bus interchange to the south to better integrate with the existing tram stop	The bus interchange has been located to best service the site and the broader Activity Centre. Consistent with the NMITS study there is an opportunity to realign the existing tram route through the heart of the activity centre to create a multi-modal interchange with the buses (refer to Section 5.3.2).

1.4. References

In preparing this report, reference has been made to the following:

- Maribyrnong planning scheme
- Development plan report prepared by Urbis
- State and local government policy documents applicable to the site and surrounds (section 2.4)
- Traffic and car parking surveys undertaken by gta consultants as referenced in the context of this report
- An inspection of the site and its surrounds
- Other documents as nominated.

2. CONTEXT

02

2.1. Site Details

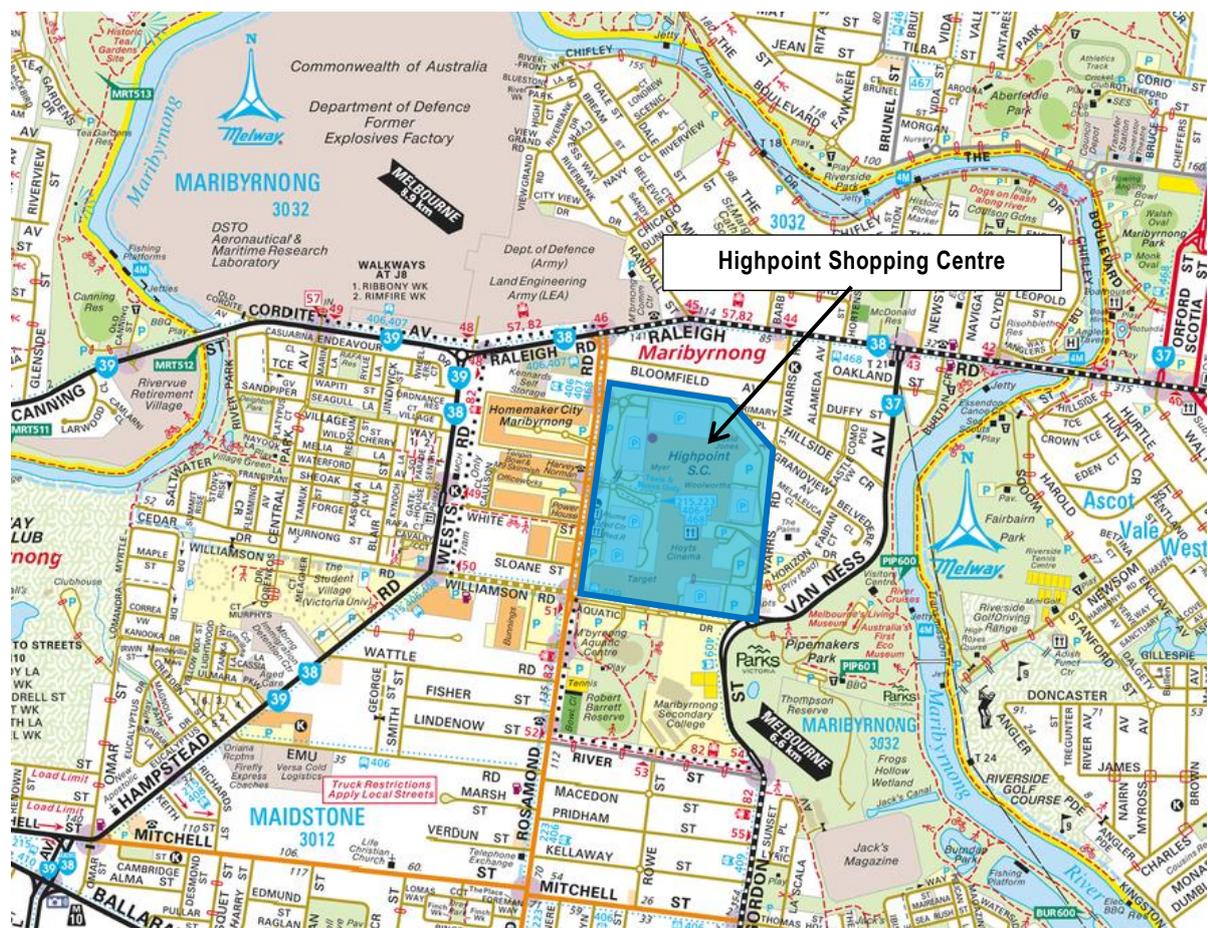
Highpoint is located at 120-200 Rosamond Road in Maribyrnong, approximately 7km northwest of Melbourne CBD. It is bound by Raleigh Road to the west, Aquatic Drive to the south and Warrs Road/Ring Road to the north and east of the site, as shown in Figure 2.1.

The site contains approximately 155,000sqm of retail floor area, an on-site bus interchange accommodating a total of 8 bus bays and 7,276 car parking spaces, provided at a rate of approximately 4.7 spaces per 100sqm. Vehicle access to the site is provided as follows:

- Rosamond Road – 2 vehicle access points
- Aquatic Drive – 3 vehicle access points
- Warrs Road / Ring Road – 8 vehicle access points (plus 2 minor loading access points).

Multiple pedestrian access points are provided to the site, with signalised crossing points provided on Warrs Road and Rosamond Road, zebra crossings are provided on the Ring Road and Aquatic Drive.

Figure 2.1: Site Context



Source: Melways Online

2.2. Transport Network

2.2.1. Overview

The site is located between major activity centres, including Footscray, Sunshine and Moonee Ponds/Essendon, and is connected to each by transport corridors that cater for private vehicle, bus, and tram services.

A bus interchange is located within the site and accommodates 8 bus bays servicing 7 bus routes. Access to the bus interchange is provided via a signalised intersection to Rosamond Road. To the south of the site, the #82 tram operates along Rosamond Road to the south of Aquatic Drive and then Williamson Road west of Rosamond Road, with the nearest stop located at the intersection of Rosamond Road / Aquatic Drive. To the north of the site the #57 and #82 tram operate along Raleigh Road, with stops located at Rosamond Road and Warrs Road servicing the site.

The key road links accessing the site include Raleigh Road and Maribyrnong Road to Essendon/Moonee Ponds, Gordon Street to Footscray and Hampstead Road and Ballarat Road to Sunshine. These key road links share road space with the public transport services. Vehicle access to the site is provided from each of the frontage roads.

A summary of the existing transport network is detailed in Table 2.1.

Table 2.1: Summary of Existing Transport Network

Mode	Summary of Existing Situation
	<ul style="list-style-type: none"> The Site is well-connected to the surrounding areas with sealed footpaths and lighting provided for the local area. The paths are typical of suburban residential areas, and provide connections to significant recreational facilities, such as the Maribyrnong River Shared User Path. However, Rosamond Road (and Gordon Street to a lesser extent) act as barriers to pedestrian movements through the network, due to the high vehicular volumes and limited safe crossing opportunities. Overall, the Site has a walk score of 93 out of 100 which equates to 'Walker's Paradise' (daily errands do not require a car)
	<ul style="list-style-type: none"> The Site is has limited connections to the surrounding bicycle network, with an on-road bicycle path on Rosamond Road terminating south of site. There are limited off-road facilities with a shared user path along Aquatic Drive. 'Informal' bicycle routes exist around the site, with minimal facilities provided. Williamson Road and sections of Warrs Road are identified as part of the Principal Bicycle Network. However, both roads provide poor conditions for cyclists (i.e high vehicle volumes, no dedicated road space, poor separation, etc.) An established off-road shared user path network is provided along the Maribyrnong River which connects the Site to surrounding catchments
	<ul style="list-style-type: none"> Highpoint currently contains a bus interchange that facilitates 7 bus routes that service the surrounding resident catchments and offer another connection to Footscray Train Station. The routes primarily service the west, with more limited options for catchments east of Highpoint. The no. 82 tram connects Highpoint to Footscray Station and Moonee Ponds. The tram route currently operates with relatively poor frequencies (peak every 10-15 minutes and off peak every 20-30 minutes). The tram currently also shares road space with general traffic and as such, generally has slow and unreliable travel times Overall, the local area has a transit score of 64 out of 100 which equates to 'good transit' (many nearby public transportation options)

Mode	Summary of Existing Situation
	<ul style="list-style-type: none"> Abutting the Site, Warrs Road, Gordon Street and Raleigh Road experience higher volumes of traffic during the peak periods. Due to the staggered nature of the intersection, Rosamond Road and Aquatic Drive intersection experiences significant congestions during peak periods. The combination of vehicles and trams sharing road space on Gordon Street and Raleigh Road significantly impacts signalling at intersections creating delays.
	<ul style="list-style-type: none"> In the surrounding road network, Gordon Street, Raleigh Road and Hampstead / West Road are identified as the freight routes. These routes (and Rosamond Road) all carry a reasonably high proportion of heavy vehicles (5-7%)

2.2.2. Road Network

A description of each of the frontage road and other connecting roads is provided in Table 2.2.

Table 2.2: Road Network Description

Road	Classification	Description	Approx. Volume ¹
Rosamond Road 	Major Road (Local Council)	<ul style="list-style-type: none"> aligned in a north-south direction connecting Raleigh Road to the north and Ballarat Rd to the south dual two-lane carriageways set within a 30-metre-wide road reserve (approx.) no kerbside parking is permitted footpaths are provided on both sides of the carriageway 	8,000 vpd
Raleigh Road 	Primary State Arterial (VicRoads)	<ul style="list-style-type: none"> aligned in an east-west direction connecting Maribyrnong Road in the east and Wests Road in the west single four-lane carriageway with two lanes in each direction within a 15-m-wide road reserve (approx.) clearways restrictions apply in both directions A footpath is provided on the southern side of the carriageway 	11,000 vpd
Aquatic Drive 	Local Traffic Streets (Local Council)	<ul style="list-style-type: none"> aligned in an east-west direction connecting Rosamond Rd in the west and Gordon Street / Van Ness Avenue in the east single two-lane carriageway with one lane in each direction within a 15-m-wide road reserve (approx.) occasional parallel parking for loading and pickup and drop off is provided on the side road footpaths are provided on both sides of the carriageway 	N/A

¹ Traffic Data, VicRoads Open Data. Values depict daily two-way volume estimate for 2018/2019.

Road	Classification	Description	Approx. Volume ¹
Warrs Road	Local Traffic Streets (Local Council)	<ul style="list-style-type: none"> aligned north-south direction connecting to a service road in the north and Gordon Street / Van Ness Avenue in the east single two-lane carriageway with one lane in each direction with a 25-m-wide road reserve (approx.) no kerbside parking is permitted footpaths are provided on both sides of the carriageway 	N/A
Van Ness Avenue 	Primary State Arterial (VicRoads)	<ul style="list-style-type: none"> primarily aligned in a north-south direction connecting Gordon Street / Aquatic Avenue in the south and Raleigh Road to the north single two-lane carriageway with one lane in each direction within a 15-m-wide road reserve (approx.) no kerbside parking is permitted footpaths are intermittently provided either side of the carriageway 	6,000 vpd

2.2.3. Public Transport Network

The site is located within short walking distance of both the 57 and 82 tram line and seven bus services have stops at Highpoint Shopping Centre. The public transport services running in the vicinity of the site are shown as Figure 2.5.

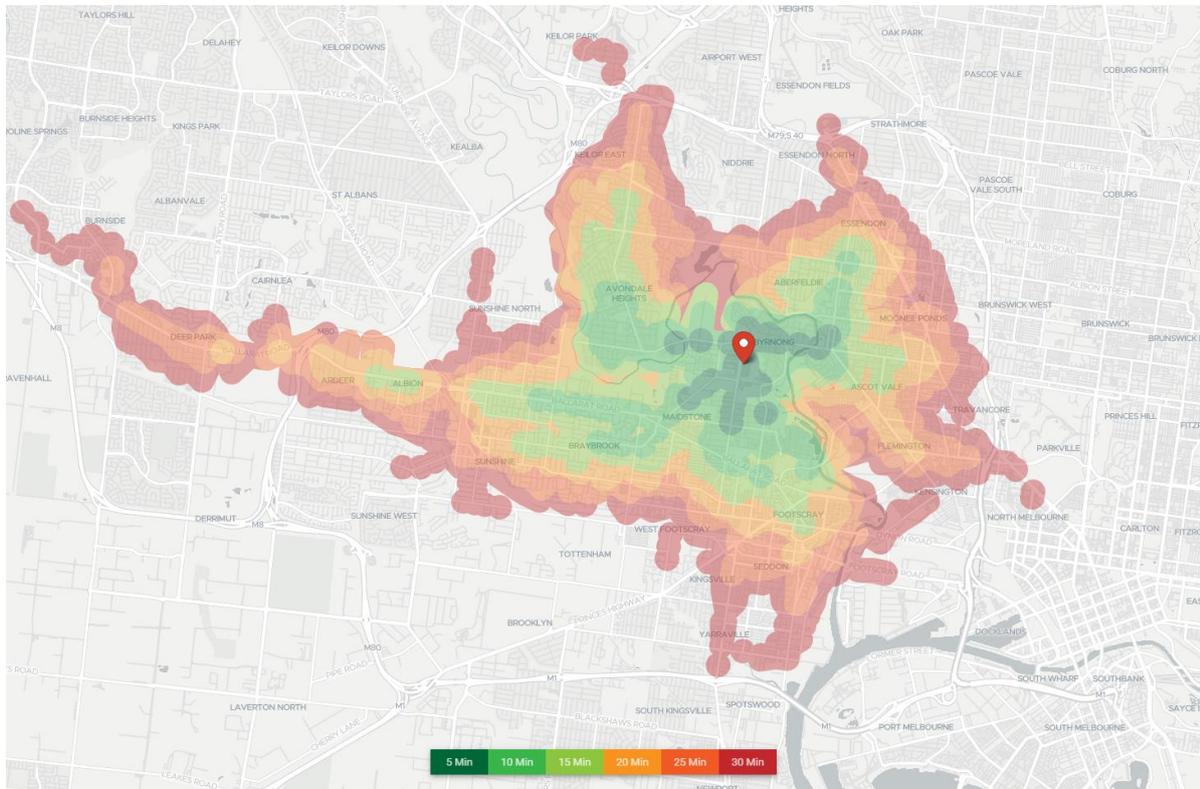
Figure 2.2: Maribyrnong Bus Map



These services provide semi-frequent access to the site from the surrounding suburbs. The available public transport catchment within 30 minutes of the site, at 5 minute intervals, is presented in the isochrone drawing set out at Figure 2.3 (noting that this dataset includes the walk time between public transport service and the site and origin). Overall, this assessment illustrates that the site is serviced well by public transport from the west, however, access is limited in all other directions. It is noted that the CBD is not accessible within a 30-minute journey.

The accessibility of the site by public transport can be measured by assessing its “Transit Score”. The Transit Score of a site is calculated by determining the distance and “usefulness” of nearby public transport (where usefulness is defined as a combination of the frequency of services and the types of service i.e. train, tram, or bus. Highpoint SC has a transit score of 64, indicating there are several good options available there is, however, opportunities for improvement.

Figure 2.3: Public Transport 30-minute Catchment Area



2.2.4. Pedestrian Network

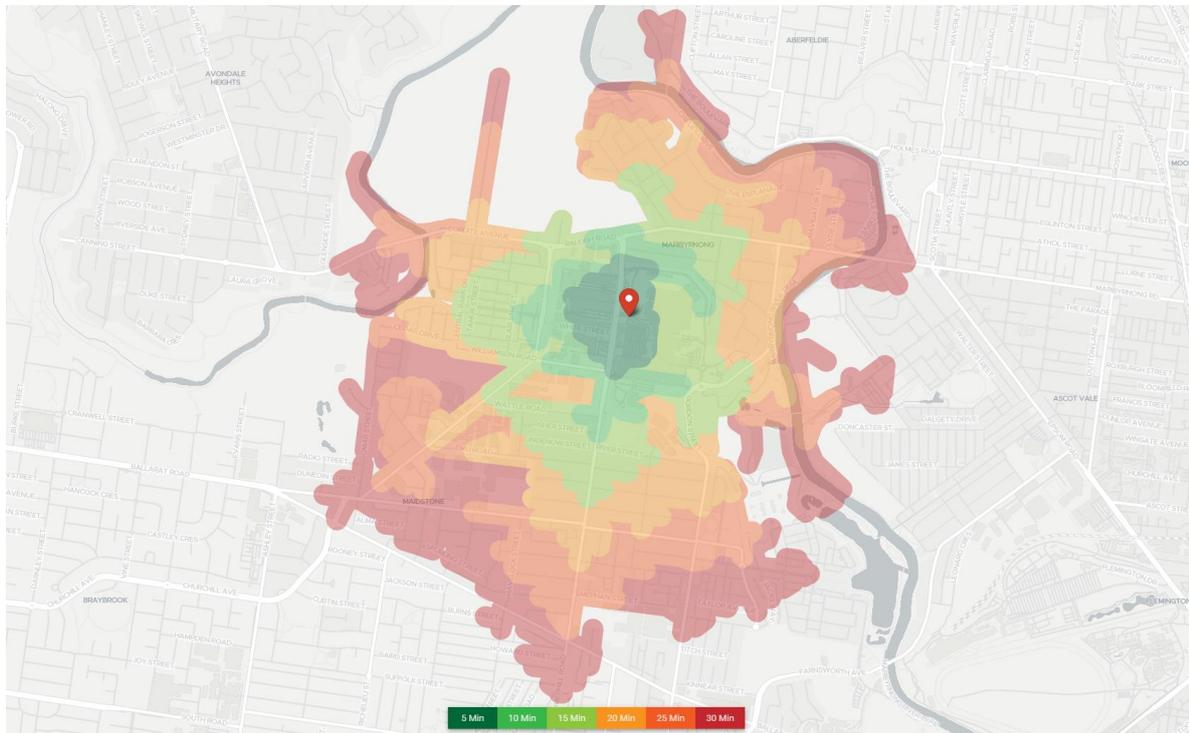
Maribyrnong, in the vicinity of the subject site, enjoys a connected pedestrian network, with all streets in the local area having sealed footpaths and street lighting.

However, Rosamond Road which acts as the main entrance to Highpoint SC experienced high traffic volumes due to the number of car parks accessed from this street. There are several pedestrian crossing facilities at the intersections along Rosamond Road which provides good pedestrian permeability.

The available walking catchment within 20-minutes of the subject site at five-minute intervals, is provided in Figure 2.4. The figure indicates a walking catchment of approximately 1km-2km. The walkable distance is impeded by the few crossing options available across the Maribyrnong River. The catchment includes primarily residential areas in addition to the industrial precinct located along Hampstead Road.

The accessibility of the site via walking can be measured by the “Walk Score” of the suburb. The Walk Score of a suburb is a measure of several factors such as distance to amenities, intersection densities and block sizes. The “Walk Score” for the suburb of Maribyrnong is 70, with Highpoint itself having a score of 93. This is because many daily errands can be fulfilled within Highpoint SC.

Figure 2.4: Pedestrian 30-minute Catchment Area



2.2.5. Cycling Network

The cycling network within the vicinity of the site is limited, with no bicycle routes directly connecting to the site. The nearest on-road bicycle paths are located along Rosamond Road to the south of the site. There is also potential connection available via the Maribyrnong River Trail and through Pipemakers Park / Thompson Reserve, this however only provides access to the south-east corner of the site.

2.3. Movement and Place

Contemporary transport planning considers the use and classification of a street in terms of the movement function it provides alongside with the place function it serves.

For major highways and arterial roads, the movement function is paramount whereas the place function is all but irrelevant. In contrast, for minor residential streets, the place function is paramount, and the movement function is a lesser consideration.

In the immediate vicinity of the site, Rosamond Road, Raleigh Road and Warrs Road all operate primarily as a movement corridor, whilst Aquatic Road has a stronger place function – serving as an interface between car parking, Maribyrnong Aquatic Centre and Highpoint frontages. Raleigh Road is envisaged to have an increased place function in the future as the surrounding land uses are redeveloped.

The Movement and Place framework seeks to provide a consistent methodology for designing streets that are best suited to balance the needs of places, for people to live, work and enjoy, with transport users that is appropriate for how the road and places used by communities. The types of streets that the Movement and Place framework seeks to identify are illustrated in Figure 2.5.

It is noted that Movement and Place is an evolution of SmartRoads, a VicRoads policy which set modal priorities on the road network. While the framework for Movement and Place is still under development by the Department of Transport, the following historic classifications for the surrounding road network can reasonably be assumed from SmartRoads:

- The section of Rosamond Road, abutting the site, is part of a bus priority route. Rosamond Road is also marked as a bicycle priority route south of the site, as well as a tram priority route for where the tram currently runs.
- Van Ness Avenue and Raleigh Road have been nominated as a traffic priority routes. Raleigh Road is also nominated as a tram and bicycle priority route.
- Warrs Road and the service road along the north of Highpoint are identified as bicycle routes that connect to the Maribyrnong River Trail in the south and to Raleigh Road in the north.

Figure 2.5: Movement and Place Framework



2.4. Relevant Policy & Documents

2.4.1. Development Plan Overlay Requirements

Schedule 17 to Clause 43.04 of the Maribyrnong Planning Scheme provides the strategic direction for development of the Highpoint Activity Centre. The Schedule details design and development requirements for the site, including a number pertaining to transport items.

Specifically, this report has been prepared to respond to the following Development Plan requirements for a Transport Plan, which has been reproduced below:

*“A **Transport Plan (TP)** prepared to the satisfaction of the Responsible Authority, in consultation with Public Transport Victoria and VicRoads [PTV and VicRoads now fall under the umbrella of the Department of Transport], which provides the following details, as appropriate, having regard to the particular stage, site or precinct:*

- *The likely traffic generation of the proposed uses and development including results from traffic modelling showing the likely traffic impacts on surrounding sites, the broader road network and public transport services.*
- *Any works necessary to mitigate unreasonable impacts on the road network and unreasonable delays to public transport services caused by traffic generated by the proposed development, including the implementation and indicative timing of such works.*
- *The indicative location of on-site car and bicycle parking for the land uses shown on the Development Plan.*
- *Movement networks within the Development Plan area for vehicles, bicycles and pedestrians.*
- *The indicative internal street network including the layout and proposed reservation widths.*
- *Existing and proposed public transport routes and stops in the vicinity of the Development Plan area.*
- *The location of bicycle and pedestrian paths in the vicinity of and connections to the Development Plan area.*
- *Indicative connections from the precincts to existing roads and means of vehicular ingress and egress from the Development Plan area to surrounding roads. Points of access to the site from the adjoining roads, including any treatments necessary to enable access to the site.”*

Further, the Access and Movement Objectives and Guidelines for the site (Precinct 6) are reproduced below:

Access and Movement Objectives

- *To contribute to a new public transport interchange that enables easy exchange between travel modes.*
- *To provide improved cycling connections to and from the enclosed centre.*
- *To provide for two legible east-west pedestrian routes through the shopping centre.*
- *To provide for future increased traffic capacity on the Highpoint Ring Road while retaining pedestrian and cyclist connectivity.*
- *To balance convenient car park access with pedestrian priority on Rosamond Road.*
- *To provide sufficient loading bays and service roads close to Rosamond Road without comprising the visual amenity and character of Rosamond Road.*
- *To improve pedestrian and cyclist connections to adjacent open space including Pipemakers Park and Robert Barrett Reserve, including a safe crossing point to Pipemakers Park.*

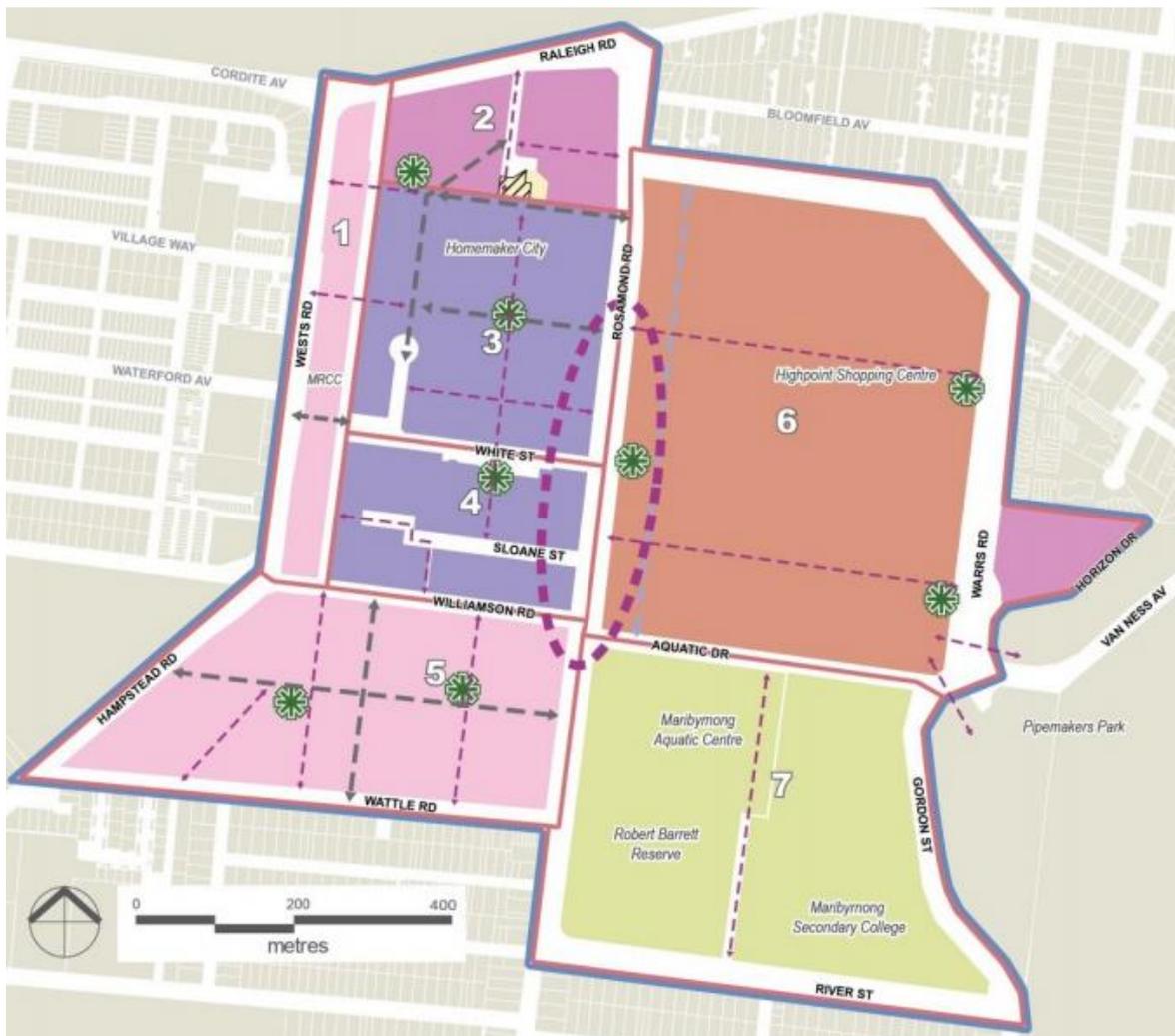
Access and Movement Guidelines

- *The network of roads and paths should be generally in accordance with Map 1- Highpoint Activity Centre Framework Plan.*
- *The new east-west pedestrian links should be publicly accessible for as long as is practicable each day.*
- *The new public transport interchange should provide legible, safe and convenient connection to both sides of Rosamond Road.*

- Screens throughout Highpoint Shopping Centre should provide 'real-time' public transport timetable information where possible.
- Aquatic Drive crossing locations should be aligned to desired pedestrian travel patterns.
- On-site parking should be sited as to minimise its impact on the public realm."

As illustrated in Figure 2.6, the Activity Centre is divided into five distinct precincts, with the site located in the Highpoint Hub Precinct (Precinct 6).

Figure 2.6: Highpoint Activity Centre Framework Plan





2.4.2. Other Relevant Documents

There are numerous other State and Local Government policy documents relevant to the site and surrounds which provide guidance on appropriate land use and development.

The encouragement of public transport, walking and cycling as modes of transport, and reducing the reliance on private car use, are central to achieving the aims of the various policy documents affecting the area and directing how it develops into the future.

An overview of the key policy documents is provided in Table 2.3.

Table 2.3: Transport Policy Overview

Document	Key Messages
Plan Melbourne (Refresh)	<ul style="list-style-type: none"> Delivering a pipeline of large scale, city shaping infrastructure and urban renewal projects Delivering a new 'integrated economic triangle', connecting key employment clusters, industrial precincts and economic gateways. Integrating active transport development into existing and future land use to support a productive city. Supporting 20-minute neighbourhoods by promoting local active transport choices and improving active/public transport infrastructure for the local area.
Transport Integration Act	<ul style="list-style-type: none"> Victoria's principal transport statute Establishes a framework for the provision of an integrated and sustainable transport system in Victoria Six transport system objectives and eight decision-making principles Establishes a triple bottom line approach – economic prosperity, social and economic inclusion, and being resource efficient and environmentally responsible
Clause 18 of Planning Scheme	<ul style="list-style-type: none"> Contains a range of guidelines for transport planning Develop integrated transport networks to connect people to jobs and services and goods to market Promote walking and cycling when planning for new suburbs, urban renewal precincts, greyfield redevelopment areas and transit-oriented development areas (such as railway stations). Integrate public transport services and infrastructure into new development.
Northern Maribyrnong Integrated Transport Study	<ul style="list-style-type: none"> The study identifies the likely transport requirements associated with the staged development of the Highpoint Activity Centre. The report emphasises that the identified transport requirements are not intended to be prescriptive due to the nature of assumptions and the coarseness of the analytics that informed the study. Recognises the future role of active travel modes servicing the activity centre as a means of reducing private vehicle travel.

Document	Key Messages
Maribyrnong Integrated Transport Strategy 2011	<ul style="list-style-type: none"> • A long-term plan to guide the development of Maribyrnong's transport network. • The Strategy seeks to relieve traffic congestion, reduce transport related greenhouse gas emissions and improve air quality. • Minimising the need for vehicle travel and prioritising sustainable travel is a key focus of the document. • <i>Due for updating soon.</i>
Highpoint PUDF (Amendment C135)	<ul style="list-style-type: none"> • Sets out the priorities to realise the transformational opportunities are Highpoint Shopping Centre. • Identified key elements including the establishment of a 'main street' environment on Rosamond Road and the addition of mixed land uses to the current retail offering. • Supports the promotion of sustainable transport options including walking and cycling.

2.5. Summary

The site is located in an area which is highly walkable and in general has good access to public transport however, there are opportunities to improve the current provisions. Current bicycle accessibility is limited, plans indicate that roads nearby and adjacent to the site have the potential to include bicycle facilities. Traffic conditions around the site area are reasonably congested during road network peak operation periods.

3. TRIP GENERATION & MODAL PRINCIPLES

03

3.1. Preamble

The Development Plan has been prepared adopting a modal hierarchy that favours walking, cycling and public transport, over private vehicles, as shown in Figure 3.1.

Figure 3.1: Proposed Modal Hierarchy



3.2. Mode Share Targets

Mode share targets have been assumed having regard to the site context (including the existing travel behaviour data), adopted car parking rates and modal hierarchy identified above. The existing and assumed future mode shares are shown in Table 3.1. It is noted that the existing mode shares have been sourced as follows:

- Retail – historic mode share surveys of the existing Shopping Centre (data extrapolated for 2020)
- Office – no relevant local data available for office uses
- Residential – VISTA data for inner Melbourne suburbs
- Hotel – VISTA data all suburbs.

Compared to the existing modal data, the table highlights a substantial mode shift to sustainable transport modes.

Table 3.1: Existing and Assumed Transport Mode Share Targets

Land Use	Existing (or “Business as Usual”)	Target Future
----------	-----------------------------------	---------------

	Car (Driver)	Car (Pass.)	PT	Walk	Cycle	Car (Driver)	Car (Pass.)	PT	Walk	Cycle	Mode Shift away from Private Vehicle
Retail	70%	15%	10%	4.5%	0.5%	52%	15%	23%	8%	2%	-18%
Office	-	-	-	-	-	10%	5%	65%	10%	10%	-
Residential	43%	18%	12%	23%	4%	25%	5%	25%	40%	5%	-18%
Hotel	50%	26%	7%	17%	0%	50%	20%	10%	18%	2%	No Change

Table 3.1 indicates that a mode shift away from private vehicle of 18% is required for the retail and residential land use. No change in mode is suggested for the hotel use.

3.3. Trip Generation

The forecast trip generation (for all transport modes) is presented in Table 3.2. The table assumes trip generation estimates based on the sources quoted.

It is further noted that given the mixed-use nature of the development the overall forecast trips for the site have been reduced by a factor of 25% to take into account multi-purpose trips (i.e. a hotel guest using the office use, a resident using the shopping centre, etc.)².

Table 3.2: Trips Generated by Use – Weekday PM Peak Hour

Land Use	Size	PM Peak Hour Trip Generation Rate	PM Peak Hour Trip Generation Estimate	Including External Trips Reduction Factor (25%)
<i>Existing Situation</i>				
Retail	156,000sqm	4.5 trips per 100sqm ^[1]	7,020	7,020
<i>Future Situation</i>				
Retail	211,089sqm	4.5 trips per 100sqm ^[1]	9,499	9,499
Hotel	147 rooms ^[1]	0.56 trips per room ^[2]	82	62
Residential	3,152 dwellings	0.65 trips per dwelling ^[3]	2,049	1,537
Office	148,830sqm	2.0 trips per 100sqm ^[4]	2,977	2,232
Total				13,330
Net Change				+6,310

[1] Retail trip generation estimated by factoring up the peak hour traffic generation by the adopted private vehicle mode share.

[2] First principles assessment.

[3] Sourced from the RMS Guide Technical Direction (August 2013).

[4] Based on an employee density of 1 per 17sqm and assuming 50% of employees arrive during the peak hour.

² The 25% value has been sourced from the RMS Guide to Traffic Generating Developments document from (1) multi-purpose vehicle trips to shopping centres and (2) residential subdivision vehicle trip reductions.

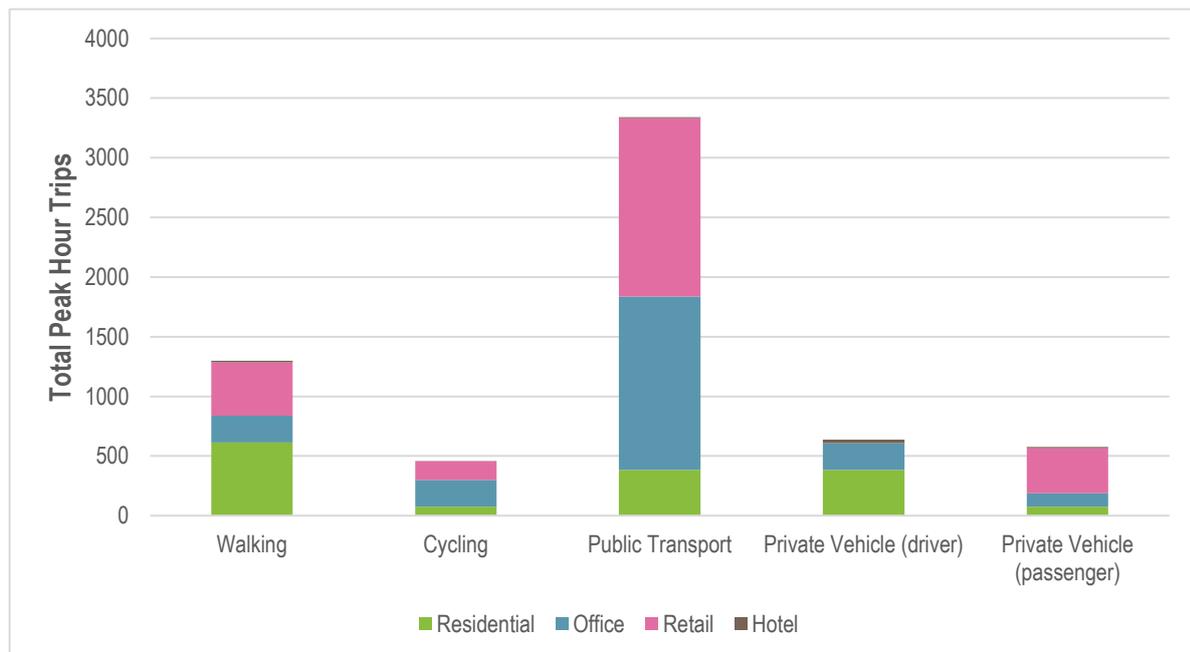
Table 3.2 indicates that the proposed development could be expected to generate in the order of approximately 6,300 person trips via all modes of transport in the weekday PM peak hour. This estimate relates to the ultimate full Development Plan and reflects total external trips.

Using the mode split information presented above (refer to Table 3.1), approximate travel demands by mode are presented in Table 3.3 for the weekday PM peak hour. The table indicates the ultimate development proposed in the Development Plan could be expected to generate in the order of 3,300 public transport trips, 1,300 walking trips, 640 vehicle trips (plus 580 passenger trips)³ and 460 bicycle trips during the peak hour (assuming each of the uses peak simultaneously). These trip estimates are in addition to the existing demands generated by the existing Shopping Centre. The additional trips are shown graphically in Figure 3.2.

Table 3.3: Trips Generation by Mode – Weekday PM Peak Hour

Mode	Retail (Additional)	Residential	Office	Hotel	Total
Walking	+449	615	223	11	+1,298
Cycling	+156	77	223	1	+458
Public Transport	+1,498	384	1,451	6	+3,340
Private Vehicle (driver)	0	384	223	31	+638
Private Vehicle (passenger)	+376	77	112	12	+577
Total	+2,479	1,537	2,232	62	+6,310

Figure 3.2: Trips Generation by Mode – Weekday PM Peak Hour



³ It is emphasised that the estimate of +638 peak hour vehicle trips generally aligns with the peak hour traffic generation estimate.

3.4. Overarching Movement and Place Principles

To accommodate the additional transport demands, it will be necessary to change the function of the existing transport network surrounding the site. In this respect, the beginnings of a Movement and Place framework has been developed for the site.

As detailed earlier in this report, Movement and Place is based on the philosophy that transport links performs two functions: the movement of people and goods and serving as a place i.e. a destination in its own right. The movement function is about minimising travel time and maximising throughput whilst the place function is about the destination and people seeking to dwell and spend time in the location. These two functions are vying for the same amount of road space, and thus are in conflict with one another.

The relevant transport policy for the site and surrounds identifies a number of future ambitions that can be translated into the Movement and Place framework. A summary of the existing Movement and Place classifications for key links is summarised in Table 3.4 (sourced from correspondence with the Department of Transport in 2017). Additionally, the table includes the indicative future operation of each link and the proposed development responses to achieve the future operation.

Table 3.4: Movement and Place Framework

Road	Existing Classifications	Future Classifications	Development Responses
Rosamond Road	<ul style="list-style-type: none"> Walking (W2) Bus (B3) Tram (T3) Cycling (C3) General Traffic (GT4) [1] 	<ul style="list-style-type: none"> Target: "Activity Street and Boulevard" Improvements Improve pedestrian facilities Minimise bus delays Reduce private vehicle traffic Increase 'Place' function 	<ul style="list-style-type: none"> Active street frontage on Rosamond Road Widen footpaths Consider dedicated bus lanes and signal phases Prioritise vehicle movements to Warrs Road and Aquatic Drive Minimise vehicle accesses and provide only low turnover parking
Warrs Road / Ring Road	<ul style="list-style-type: none"> Not assessed 	<ul style="list-style-type: none"> Target: "Connector" Increased vehicle capacity Continue to cater for loading and servicing for the Centre Maintain pedestrian and cyclist connectivity Moderate place function 	<ul style="list-style-type: none"> Duplication of carriageway Provide high turnover car parking off Ring Road Maintain the shared path on the outside of the Ring Road Provide regular pedestrian crossings
Aquatic Drive	<ul style="list-style-type: none"> Walking (W2) Bus (B4) Cycling (NA) General Traffic (GT5) 	<ul style="list-style-type: none"> Target: "Activity Street and Boulevard" Maintain existing classification Cater for cyclists 	<ul style="list-style-type: none"> Provide a shared path for cycling movements Increased pedestrian crossing opportunities Cater for bus, vehicle and loading movements
Little Rosamond Road	<ul style="list-style-type: none"> Not assessed 	<ul style="list-style-type: none"> Target: "City Place" Prioritise bus and pedestrian movements Minimise vehicle movements 	<ul style="list-style-type: none"> Prioritise bus movements Widen footpaths/shared paths and provide frequent pedestrian priority crossing treatments Minimise loading access points

Road	Existing Classifications	Future Classifications	Development Responses
			<ul style="list-style-type: none"> Minimise vehicle accesses and aim to provide only low turnover parking

1 = highest priority classification, 3 = lowest priority classification (except for general traffic which is 5)

[1] Adjacent to the site Rosamond Road is not classified for cycling or trams, the quoted classifications are for south of Aquatic Drive.

4. WALKING & CYCLING

04

4.1. Overview

The network surrounding the site is often congested with vehicle traffic. As population and activity increases in the local area, the private vehicle will become a comparatively less attractive option when accessing the precinct. Rather, more space efficient travel modes will grow in attractiveness with walking and cycling to have increasing importance as transport modes for the future centre.

The trip generation assessment (presented in Section 3.3) identifies that there will in the order of 4,600 walking trips to and from the Development Plan area during the peak hour (including approximately 3,300 pedestrian trips to surrounding public transport services). Additionally, cycling trips are forecast to account for a further 460 peak hour trips. The forecast number of peak hour active transport trips to and from the Development Plan area will outweigh vehicle trips by approximately 8 to 1.

In this context, the delivery of an active transport network that has high amenity, is convenient and is safe is critically important for successful delivery of the Development Plan. This importance is reflected in numerous local and state policies which seek to encourage active travel modes in place of private vehicle travel (refer to Section 2.4).

In developing the active transport strategy for the Development Plan the following overarching design principles have been adopted:

- **Pedestrian** – provide a permeable pedestrian network through the Centre with improved connections to surrounding land uses.
- **Cycling** – provide a cycling “loop” around the Centre linking onward external links to internal site links.

The below design responses have been identified to reflect the above principles.

4.2. Development Plan Responses

4.2.1. Development Plan Response #1 – Improved Site Permeability

The Development Plan Overlay identifies the following access and movement objective relating to improved pedestrian permeability:

“To provide for two legible east-west pedestrian routes through the shopping centre.”

The Development Plan Overlay identifies the following access and movement guideline relating to improved pedestrian permeability:

“The new east-west pedestrian links should be publicly accessible for as long as is practicable each day.”

The proposed redevelopment will create new connections both internally, and to the surrounding road network that have been previously unavailable to pedestrians. These new links will reduce pedestrian travel times and distances between surrounding land uses and the Centre itself, as well as the rest of the precinct. The improved public realm will also create a more favourable pedestrian environment to walk around, with an activated mixed-use areas, wide footpaths and boulevards with trees and green space.

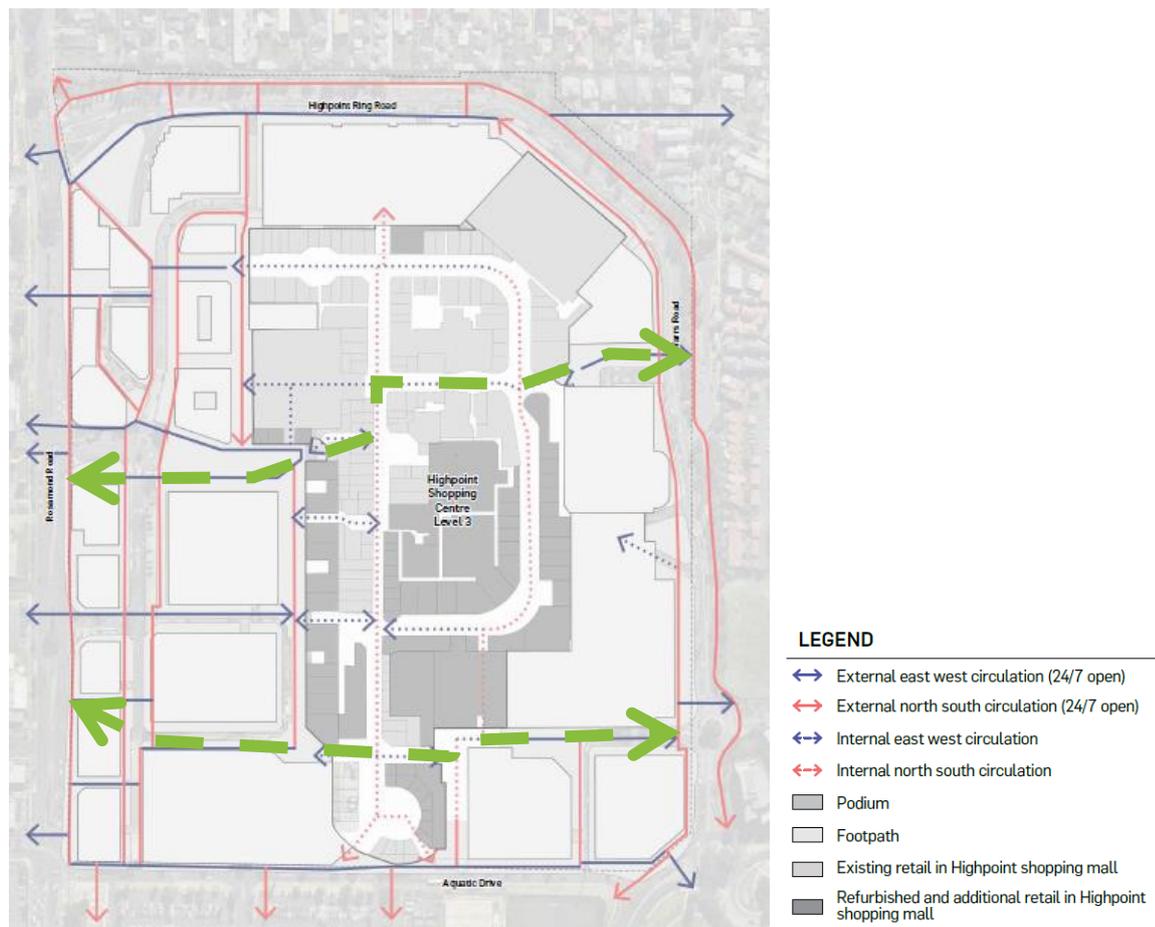
Central to the improved pedestrian permeability is the provision of multiple east-west pedestrian links through the Development Plan area (6 east-west routes are provided in total, including 4 internal to the

Centre and 2 external to the Centre on the Ring Road and Aquatic Drive which will be accessible 24 hours a day 7 days a week). The east-west pedestrian links are broadly aligned with the alignments shown in the Framework Plan (reproduced in Figure 2.6). Additionally, the east-west pedestrian links are bookended with either potential pocket parks or gateway treatments which will encourage pedestrians to use these links.

The existing Highpoint Shopping Centre will continue to occupy a large proportion of the Development Plan area and as such, the east-west pedestrian links which pass through the Centre itself will be restricted to shopping centre hours of operation. Outside of these hours, pedestrians will be required to use the active travel network provided on the Ring Road and Aquatic Drive external to the Shopping Centre. On the flipside the alignment of the east-west pedestrian paths through the Shopping Centre addresses the significant topographical change across the site (i.e. pedestrians will be able to use the existing vertical transport within the Centre rather than multiple switchback ramps to achieve the grade changes).

The proposed Development Plan pedestrian network, including the improved permeability and east-west links (shown in red) is illustrated in Figure 4.1. The figure illustrates that the key east-west pedestrian links will be largely clear of the key vehicle access and circulation routes, noting that pedestrian crossing treatments will be provided at the crossings of Little Rosamond Road.

Figure 4.1: Highpoint Pedestrian and Street Access Map



Note: two key east-west pedestrian routes shown in bold.

4.2.2. Development Plan Response #2 – Improved External Connections

The Development Plan Overlay identifies the following access and movement objective relating to improved pedestrian access to surrounding land uses:

“To improve pedestrian and cyclist connections to adjacent open space including Pipemakers Park and Robert Barrett Reserve, including a safe crossing point to Pipemakers Park.”

The Development Plan Overlay identifies the following access and movement guideline relating to improved pedestrian access to surrounding land uses:

“Aquatic Drive crossing locations should be aligned to desired pedestrian travel patterns.”

The key pedestrian connections external to the site are discussed below.

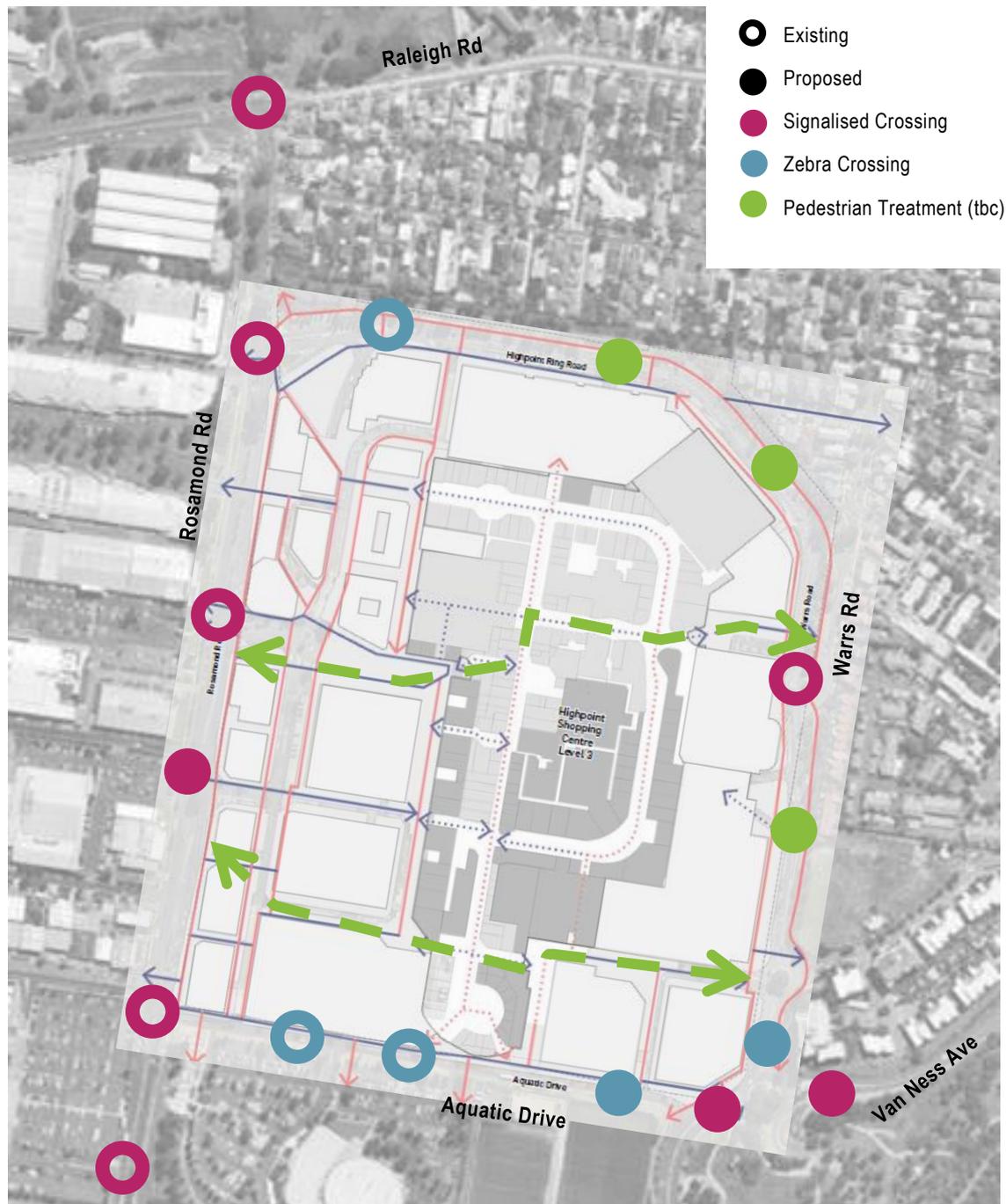
Pipemakers Park Connections

To improve pedestrian and cyclist connectivity to Pipemakers Park and onwards to the Maribyrnong River shared use path, it is proposed to install pedestrian operated signals on Gordon Street and Van Ness Avenue either side of the Warrs Road roundabout.

An indicative design for the pedestrian works, including the means to best facilitate separated pedestrian and cyclist access, is shown in Figure 4.2. The pedestrian operated signals would incorporate bike lanterns to allow for convenient bike connections.

It is noted that a signalised intersection at this location is not proposed due to its impact on intersection capacity, removal of vegetation and restriction on capacity and accessibility to Aquatic Drive.

Figure 4.3: External Pedestrian Connections



Three new pedestrian crossing locations have been identified along Warrs Road and the Ring Road to complement the existing pedestrian operated signals and zebra crossing. It is recommended that the type of crossing facility (pedestrian refuge, zebra crossing, pedestrian operated signals, etc.) at these locations be confirmed as part of each of the planning permit applications. The preferred treatment should have regard for forecast pedestrian demands, traffic volumes and specific site considerations (i.e. sightlines, desire paths, etc.).

4.2.3. Development Plan Response #3 – Enhanced Cycling Connections

The Development Plan Overlay identifies the following access and movement objectives relating to cycling connections:

“To provide improved cycling connections to and from the enclosed centre.”

“To improve pedestrian and cyclist connections to adjacent open space including Pipemakers Park and Robert Barrett Reserve, including a safe crossing point to Pipemakers Park.”

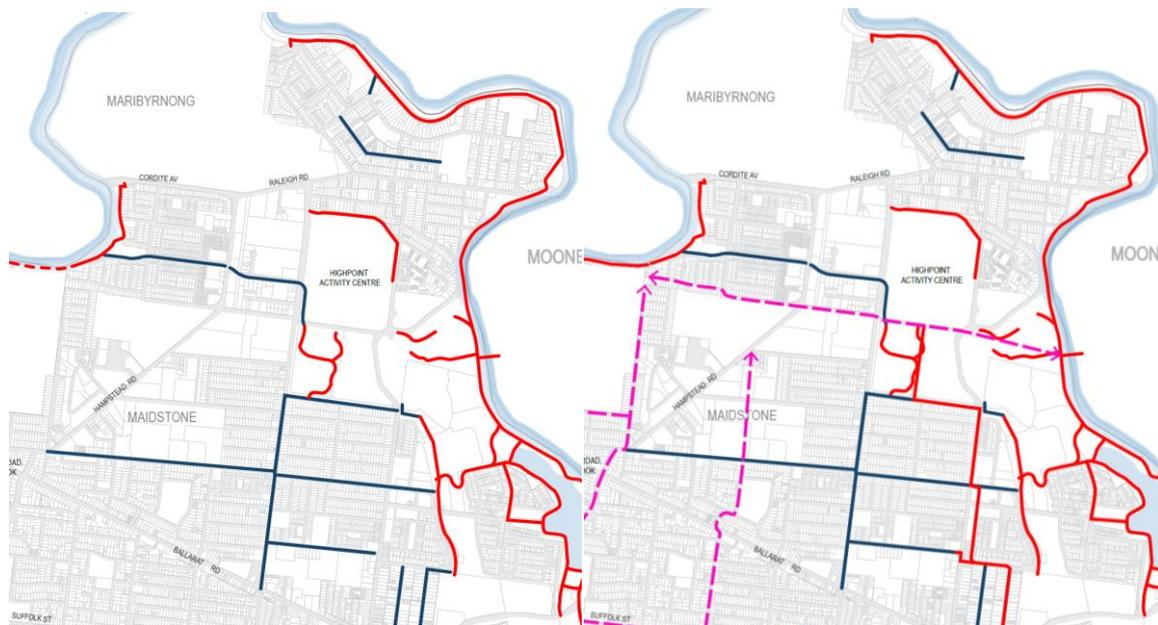
The Draft Maribyrnong Cycling Strategy document outlines Councils 10-year vision for cycling facilities in the Maribyrnong Local Government Area. The existing and proposed future cycling network in the vicinity of the Highpoint Activity Centre is presented in Figure 4.4 and Figure 4.5, respectively.

The Cycling Strategy document identifies the following proposed major projects that directly improve cycling access to the Development Plan area:

- 2019-2025 – improved connection to the south of the site through Robert Barrett Reserve to Footscray
- 2026-2029 – improved east-west connection along the Aquatic Drive-Williamson Road corridor connecting to the Maribyrnong River trails.

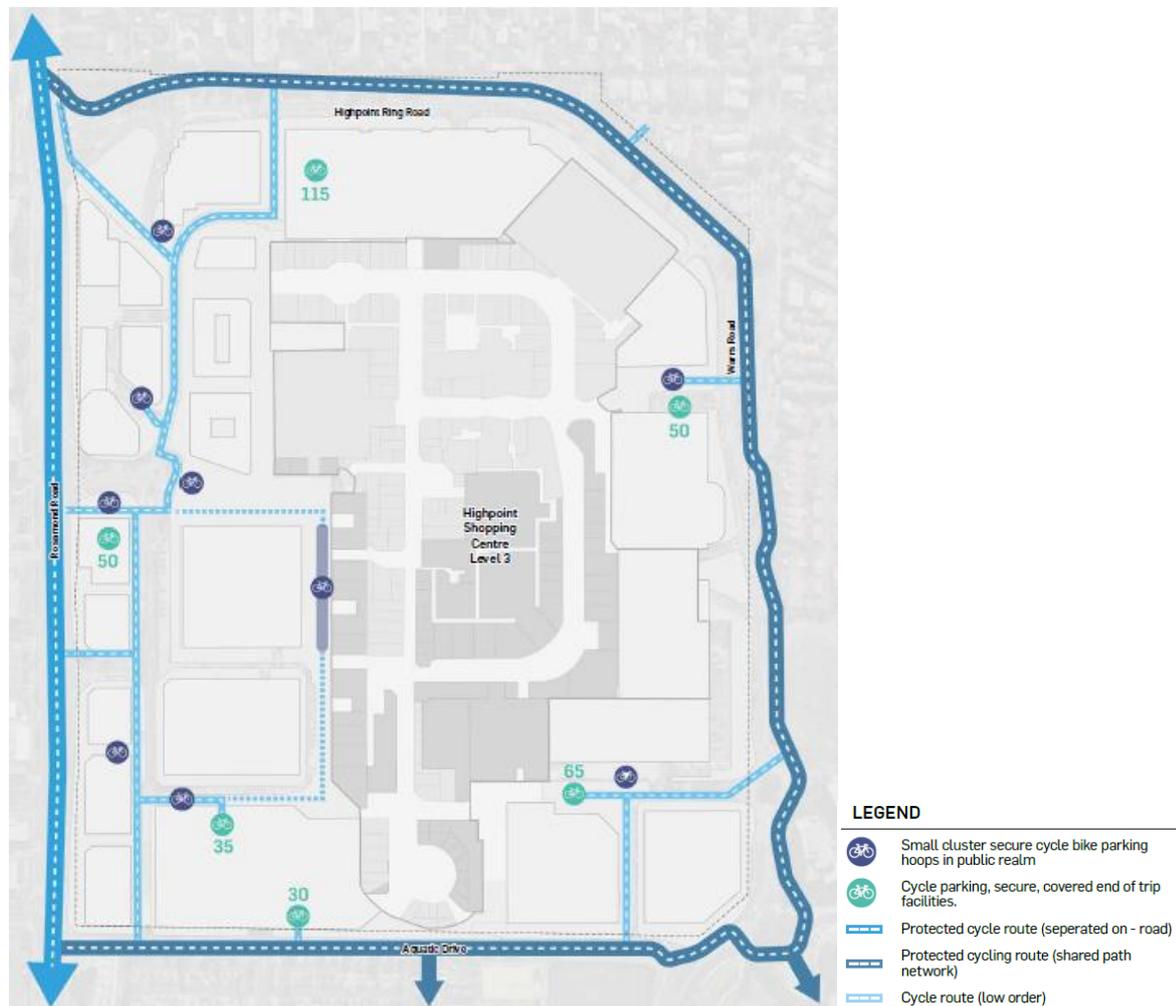
Figure 4.4: Existing Cycling Network (2019)

Figure 4.5: Future Cycling Network (2029)



With regard for the Cycling Strategy, the movement and place principles for the surrounding roads and the overarching cycling design principle for the site (creation of a loop network), the proposed cycling network in the Development Plan is shown in Figure 4.6.

Figure 4.6: Bicycle Infrastructure and End of Trip Facilities Map



The key changes proposed in this network include:

1. The extensions of the existing shared path network around the Ring Road and Warrs Road to connect Rosamond Road and Aquatic Drive. Consistent with the current arrangement, the shared path is proposed to be located on the outside of the Ring Road to minimise cyclist-vehicle interaction at the key vehicle access points to the Centre. Accordingly, safe cyclist/pedestrian crossing points of the Ring Road will be required to enable users to transfer safely from the shared path to the Centre and development sites. The provision of a shared path treatment is consistent with the Development Plan Overlay objective which seeks to increase traffic capacity on the Ring Road (through the duplication) and maintain cycling connectivity. A standard footpath would be provided on the inside of the Ring Road.
2. Consistent with the future role of Rosamond Road as a transit corridor (increased active and public transport function and reduced private vehicle function), the creation of a separated on-road cycling lane on Rosamond Road between Aquatic Drive and Raleigh Road.
3. The provision of a series of lower order cycling paths internally on the site which will link land uses (and associated bicycle parking and end of trip facilities) with the external loop network. (However,

given the existing footprint of the shopping centre extends the length of the site from north to south it is not feasible to provide any east-west cycling links through the Development Plan area.)

The combination of the above works, with the proposed upgrade of the Aquatic Drive shared path to be delivered as part of the Council Cycling Strategy, will complete a loop of off-road shared path and on-road separated cycling facilities surrounding the Centre and connecting to the existing and future external links. The provision of the lower order cycling paths within the site will also enhance internal cycling connectivity.

4.2.4. Development Plan Response #4 – Bicycle Parking and End of Trip Facilities

Bicycle Parking

The statutory requirements for the provision of bicycle parking are set out in Clause 52.34 of the Maribyrnong Planning Scheme. The statutory requirement for the provision of bicycle facilities for the Development Plan is set out in Table 4.1.

Table 4.1: Statutory Requirement for Bicycle Facilities

Use	Size	Statutory Rate		Statutory Requirement	
		Employee / Resident	Visitor / Shopper / Student	Employee / Resident	Visitor / Shopper / Student
Residential	3,152 dwellings	In developments of four or more storeys, 1 to each 5 dwellings	In developments of four or more storeys, 1 to each 10 dwellings	630	315
Office	148,830 sqm	1 to each 300sqm of net floor area if the net floor area exceeds 1000sqm	1 to each 1000sqm of net floor area if the net floor area exceeds 1000sqm	496	149
Retail	+55,089 sqm	1 to each 300sqm of leasable floor area	1 to each 500sqm of leasable floor area	183	110
Hotel	147 rooms	No specific rate		-	-
Total				1,309 spaces	574 spaces

Table 7.1 indicates the indicative Master Plan has a statutory requirement to provide in the order of 1,900 bicycle spaces, including 1,310 long-term secure spaces and 570 short-term visitor spaces. In the context of this development, it is considered appropriate to provide a notably greater number of bicycle spaces than the minimum statutory requirement.

In this respect, reference is made to the contemporary *Austrroads Guide to Traffic Management: Bicycle Parking Facilities* which bases bicycle parking provisions on future mode share split targets (approx. 10% minimum to bicycle). In the trip generation analysis completed above, mode split targets of between 2 and 10% have been documented. Accordingly, the AustRoads presented below should be treated as an aspirational target. A summary of 'best practice' bicycle parking rates that could be considered for the future development are presented in Table 4.2.

Table 4.2: AustRoads Requirement for Bicycle Facilities ('Best Practice')

Use	Size	Provision Rate		Recommended Provision	
		Short Stay	Long Stay	Short Stay	Long Stay

Residential	3,152 dwellings	0.02 per dwelling	1.0 per dwelling [1]	70	3,152
Office	148,830 sqm	0.05 per 100sqm	0.45 per 100sqm	74	670
Retail	+55,089 sqm	0.4 per 100sqm	0.1 per 100sqm	220	55
Hotel	147 rooms	-	0.1 space per staff	-	3 [2]
Total				364	3,880

[1] GTA recommended rate.

[2] Assuming up to approximately 30 staff

Broadly speaking, it is expected that up to the order of 4,200 bicycle parking spaces could be provided within the overall site for staff, resident, customer and visitor parking needs. This provision would be located conveniently for the users (ideally at ground or +/- one level from ground) within each of the development sites. Integrated shower and change room facilities would also be provided for employees.

Other End of Trip Facilities

Clause 52.34 similarly outlines requirements for other end of trip facilities, such as change rooms, showers and lockers. The requirements for these facilities are outlined in Table 4.3. These provisions should be collocated with the employee bicycle parking.

Table 4.3: Statutory Requirement for Showers and Change Rooms

End of Trip Facility	Employee / Resident	Visitor / Shopper / Student
Showers	If 5 or more employee bicycle spaces are required, 1 shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter.	None
Changerooms	1 change room or direct access to a communal change room to each shower. The change room may be a combined shower and change room.	None

Reference to other large scale developments with large consolidated EOTF suggests that the provision of showers and changerooms can be provided at a rate of 0.08 showers per bike space (compared to 0.1 showers per bike space required by the Planning Scheme).

4.2.5. Development Plan Response #5 – Implementation of Travel Planning Initiatives

In addition to the physical measures incorporated into the design (and identified in this report), it is recommended that a Green Travel Plan be prepared for each of the development sites at the permit condition stage.

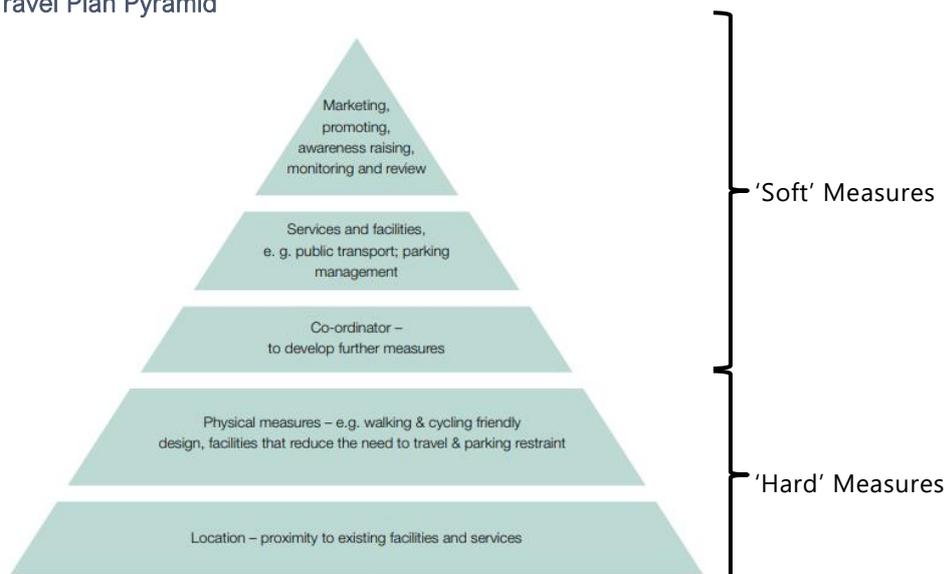
The Green Travel Plan will assist residents, employees and visitors make informed decisions about the most efficient and sustainable transport options for travel to/from the site, with the Plan encouraging a reduction in mode share away from car (driver).

Travel planning has been found to be effective in encouraging accessibility to office sites via sustainable travel modes (in both the international and local contexts) and is particularly beneficial where a Green Travel Coordinator role is incorporated into the Centre Management function at such developments. This type of role currently exists at precincts such as Macquarie Park and Rouse Hill in NSW and are anticipated to become increasingly more common in the Victorian market.

Figure 4.7 below, reproduced from the “*Good Practice Guidelines: Delivering Travel Plans through the Planning Process*” guideline prepared by the UK Department for Transport (April 2009), illustrates how successful Travel Plans are built and indicates that a mixture of “hard” and “soft” measures are often critical to the success of a strategy in reducing the use of private motor vehicle.

The specific ‘soft’ measures will be identified at the time of preparing the Plan (and will preferably be revisited once specific office tenants are known).

Figure 4.7: Green Travel Plan Pyramid



Source: Good Practice Guidelines: Delivering Travel Plans through the Planning Process, Department for Transport UK

4.3. Summary

The proposed Development Plan Responses to enhance walking and cycling as modes of travel to and from the proposed development include:

1. Improved site permeability for pedestrians including east-west links through the Development Plan area.
2. Improved external connections to Pipemakers Park, Maribyrnong Defence Site and Robert Barrett Reserve (and the surrounding residential area more broadly).
3. Enhanced cycling connections to the existing and future cycling network.
4. Bicycle parking and end of trip facilities beyond the minimum statutory requirements.
5. Implementation of travel plan initiatives, via Green Travel Plans required for each development stage, to encourage future residents, employees and visitors to use alternate modes to private vehicle.

The combination of the above responses / network alterations within the Development Plan meet the walking and cycling objectives and guidelines from the Development Plan Overlay.

5. PUBLIC TRANSPORT

05

5.1. Overview

To deliver the desired land use intensification envisaged as part of the Development Plan (as well as for the broader Highpoint Activity Centre and Maribyrnong Defence Site), a substantial mode shift from private vehicle to public transport is required.

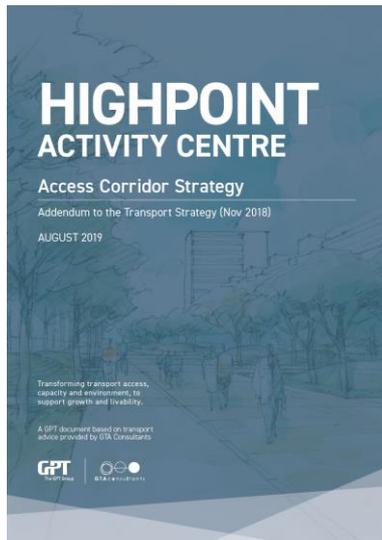
As the current public transport network performance servicing Highpoint is relatively poor (with buses and trams currently sharing the congested road space with private vehicles), public transport access to Highpoint needs to be improved through the prioritisation of higher density modes of transport (i.e. buses and trams). These improvements are required on the key corridors leading to Highpoint from surrounding activity centres (Sunshine, Essendon and Footscray).

As the responsibility for the efficiency and quality of public transport services across Melbourne resides principally with State Government and its agencies, the proposed public transport works / measures to achieve the desired mode share shift are presented in this report in two classifications:

- **Development Responses** – The proposed works / improvements to be delivered as part of the Development Plan by the Applicant, subject to transport authority and/or Council approvals where relevant
- **Precinct Opportunities** – Other potential works / improvements to be explored further by Council and the Department of Transport as part of the overall precinct wide transport response (incorporating the land use intensification envisaged as part of the broader Highpoint Activity Centre and Maribyrnong Defence Site). These opportunities include the “big ticket” infrastructure works and/or the network changes that can only be adopted by Government.

This framework for public transport improvement has been informed by extensive research and analysis undertaken by GTA over the past 5 years. This research / analysis is documented in the ‘*Highpoint Activity Centre – Transport Strategy*’ (November 2018) and the ‘*Highpoint Activity Centre – Access Corridor Strategy*’ (August 2019), which are included in Appendix A. The documents are summarised as follows:





The two strategies support the concept that accessibility within the Activity Centre itself is not the most critical transport issue as options exist to improve intersection configurations and public transport services (refer to Development Plan Responses below). Rather, the strategies confirm that congestion on the key corridors to/from Highpoint is the main limitation to accessibility, particularly for persons arriving by public transport modes. This finding has been supported by the Department of Transport, who advised the following after a meeting with GPT, DoT and VPA in February 2019⁴:

“General agreement that:

- *Highpoint is undergoing a transition from traditional shopping centre to mixed-use precinct (retail, commercial, residential and recreation) and improvement to the local transport network is critical in supporting this transition.*
- *Several of the transport challenges within the Highpoint precinct have a direct relationship with the broader western subregional network and corridor context.*
- *On-road traffic congestion is a key issue (although lack of available modelling/analysis for Saturday midday peak) and has direct impact on PT service reliability and competitiveness.*
- *Important to change focus on the movement of cars to the movement of people. As such, PT and active transport are critical to addressing on-road congestion.*
- *Important to consider opportunities for road space reallocation to allow for on-road PT priority and safer, more connected active transport movements“.*

The following sections of this report provide further information on potential public transport improvements, using this previously agreed framework.

⁴ Refer to Appendix X.

5.2. Development Plan Responses

5.2.1. Development Plan Response #1 – Relocate Bus Interchange

The Development Plan Overlay identifies the following access and movement objective relating to the public transport interchange:

“To contribute to a new public transport interchange that enables easy exchange between travel modes.”

The Development Plan Overlay identifies the following access and movement guideline relating to the public transport interchange:

“The new public transport interchange should provide legible, safe and convenient connection to both sides of Rosamond Road.”

The existing bus interchange caters for 8 bus bays and is located internal to the Shopping Centre off Rosamond Road. Whilst this location was logical when the Shopping Centre was the heart of the interchange, as it positioned buses as close to their destination as possible, it is no longer consistent with the need for buses to service the broader Northern Maribyrnong precinct.

As part of the Development Plan, it is proposed to upgrade and relocate the bus interchange to be closer to Rosamond Road, in one of the two possible locations shown in Figure 5.1. In comparison to the existing bus interchange, the two bus interchange locations provide the following:

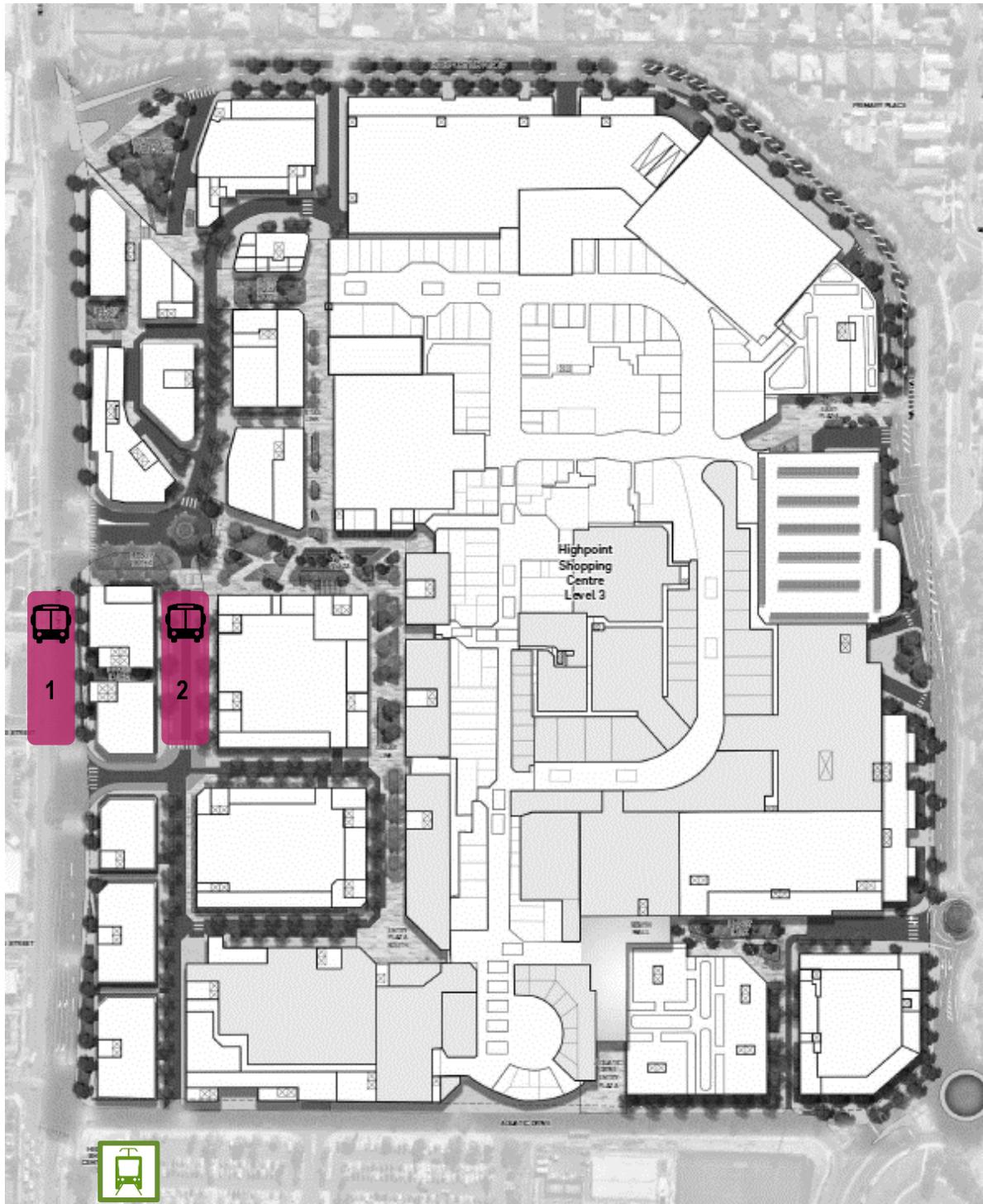
1. **Improved Modal Integration** - Reduces the travel distance between the existing Rosamond Road tram stop and the bus interchange from approximately 450m to 250m. Further discussion regarding the potential to realign the existing tram network on Rosamond Road (to be fully integrated with the bus interchange) is discussed in the following section.
2. **Improved Connectivity** – Centrally located between Highpoint Shopping Centre and the lands to be redeveloped on the westside of Rosamond Road. East-west pedestrian connections across Rosamond Road are provided as part of the existing and proposed traffic signals. Given the scale and intensity of development, it is considered appropriate that the bus interchange could be located off Rosamond Road giving a bias to the Shopping Centre (i.e. Option 1).

The provision of bus stops on Rosamond Road, as proposed in Option 2, would align with the Movement and Place principles outlined earlier and Council’s desire to downgrade the street to have a more ‘transit oriented’ function. From a design perspective, it is envisaged that this arrangement would be achieved by widening verge widths to enhance the pedestrian experience and provide bus stops in the existing kerbside lanes.

The preferred location of the bus interchange (Option 1 or 2) will need to be determined in conjunction with the Department of Transport and should have consideration for the following (but not limited to): service the greatest catchment of land uses/bus passengers, minimise bus travel times and distances, enhance customer experience and safety, and Integrate with future tram stop locations.

It is acknowledged that some routes which currently terminate / turnaround at Highpoint may also need to be altered for Option 2. However, as it is envisaged that the relocated bus interchange would be delivered as part of the medium term (Stage 2) works of the Development Plan, sufficient time exists to investigate and implement such rerouting. It is also noted that rerouting is not required for Option 1 and therefore a solution exists should the rerouting not be possible.

Figure 5.1: Proposed Highpoint Bus Interchange Options



A recent example of an on-street bus stop arrangement in an activated CBD/Activity Centre environment is Lake Street in Cairns. The constructed arrangements and a photomontage of the future

development is shown in Figure 5.2 and illustrate a single through lane is provided (for all vehicles), with kerbside bus stops on either side of the street.

Figure 5.2: On-Street Bus Interchange in CBD/Activity Centre (Cairns Example)



Source: <https://www.barkdesign.com.au/public/cairns-cbd/>

5.2.2. Development Plan Response #2 – Ensure 400m Public Transport Catchment

The Department of Transport's 'Public Transport Guidelines for Land Use and Development' sets out the preferred design requirements for public transport networks and preferred catchment extents. Specifically, this document states the following in relation to public transport accessibility:

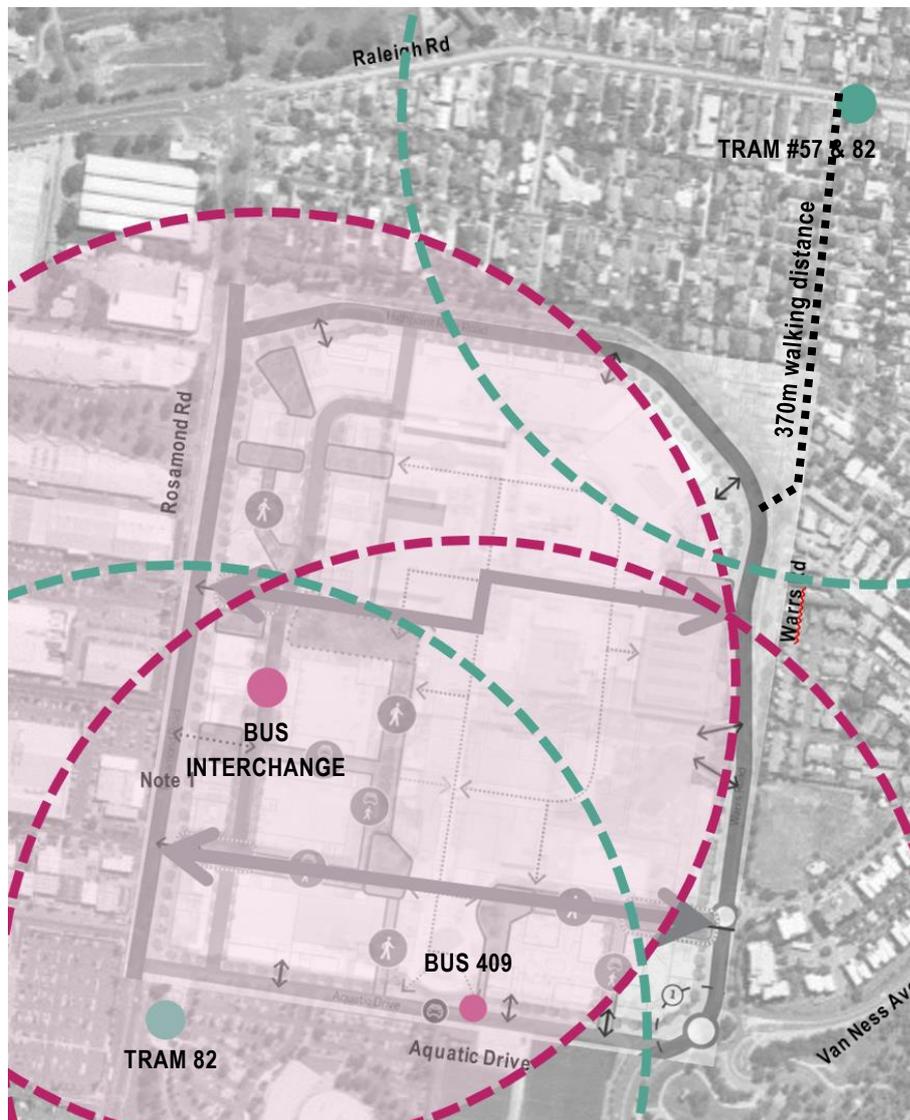
"Targets for planning and designing new public transport routes include the following:

- *Ninety-five percent (95%) of residential land uses in established and urban growth areas to be designed to allow access to public transport services within 400 metres safe walking distance"*

Figure 5.3 illustrates the catchment from the existing public transport stops in the vicinity of the site and the proposed future bus interchange. The figure illustrates that the majority of the site is located within 400m of the bus interchange.

After hours when pedestrian movements through the shopping centre are restricted the future land uses in the southeast and northeast corners will not be within 400m of the future bus interchange, these sites will however be accessible by alternate public transport modes (including Tram #57 and 82 and Bus #409).

Figure 5.3: Public Transport Accessibility



Note: 400m radius from each nearby public transport stop is illustrated.

5.3. Precinct Opportunities

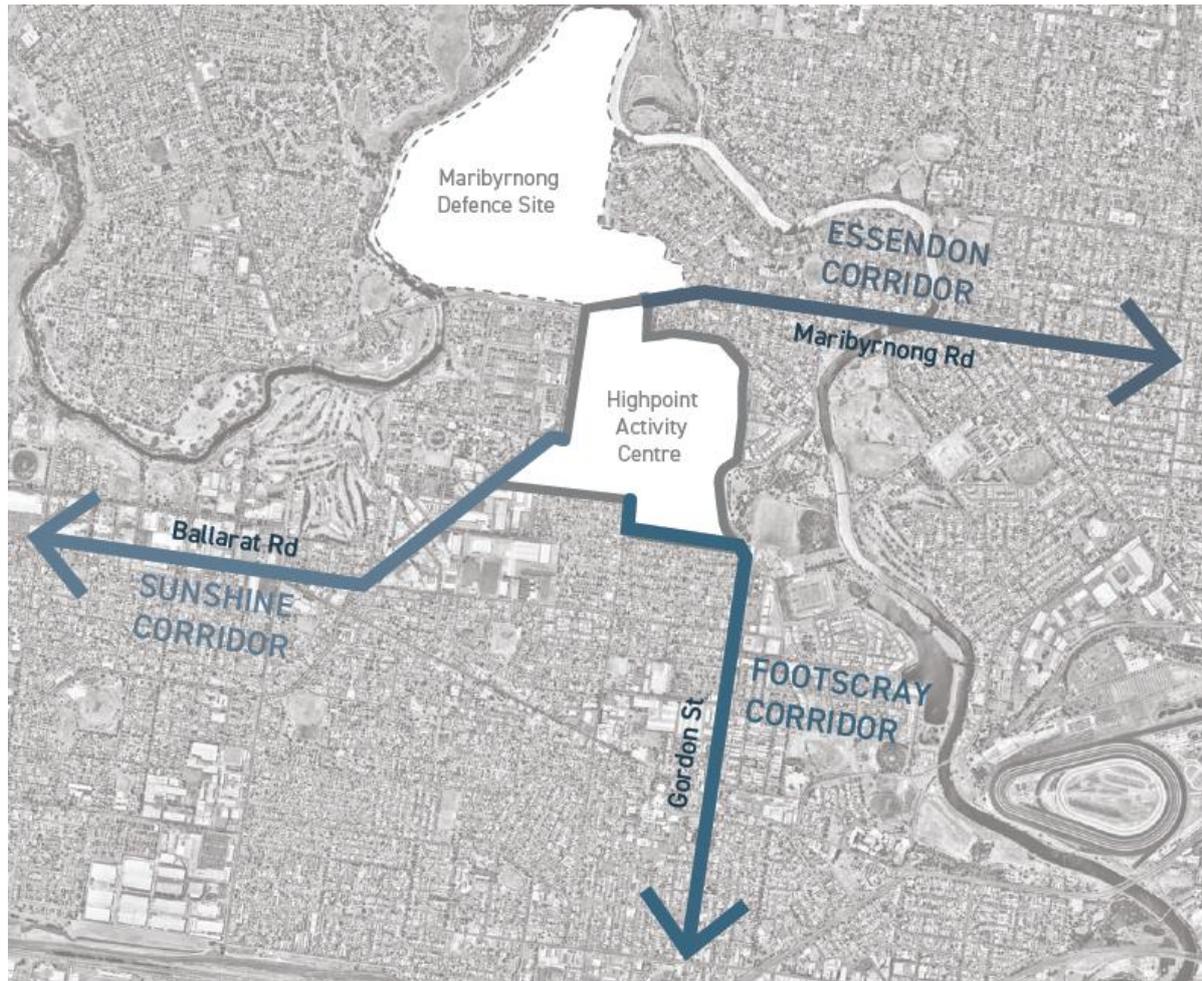
5.3.1. Precinct Opportunity #1 – Improve Key Public Transport Corridors

Currently bus and tram services in the vicinity of the site are required to share road space with private vehicles. Over time this sharing of road space has resulted in a public transport system that has slow travel speeds, long delays and is plagued by unreliability.

Footscray to the south, Essendon to the east and Sunshine to the west have been identified as three key destinations for future employees, residents and visitors to Northern Maribyrnong. These corridors are illustrated in Figure 5.4. These public transport corridors need to be improved to service the Development Plan and surrounding Northern Maribyrnong precinct.

To improve public transport performance along the identified corridors, measures have been identified to prioritise bus and tram movements. These include the prioritisation of road space to public transport through the creation of tram and bus fairway, the removal of kerbside car parking on key corridors and/or introduce turn bans to remove obstructions to trams / buses, the rationalisation / consolidation public transport stops to maintain appropriate stop spacing and the optimisation of traffic signals to prioritise public transport modes.

Figure 5.4: Key Public Transport Corridors



The identified measures for the three corridors are reproduced in Figures 7.3 to 7.5, with further information contained in Appendix A.

Figure 5.3: Potential Public Transport Improvements on Footscray Corridor

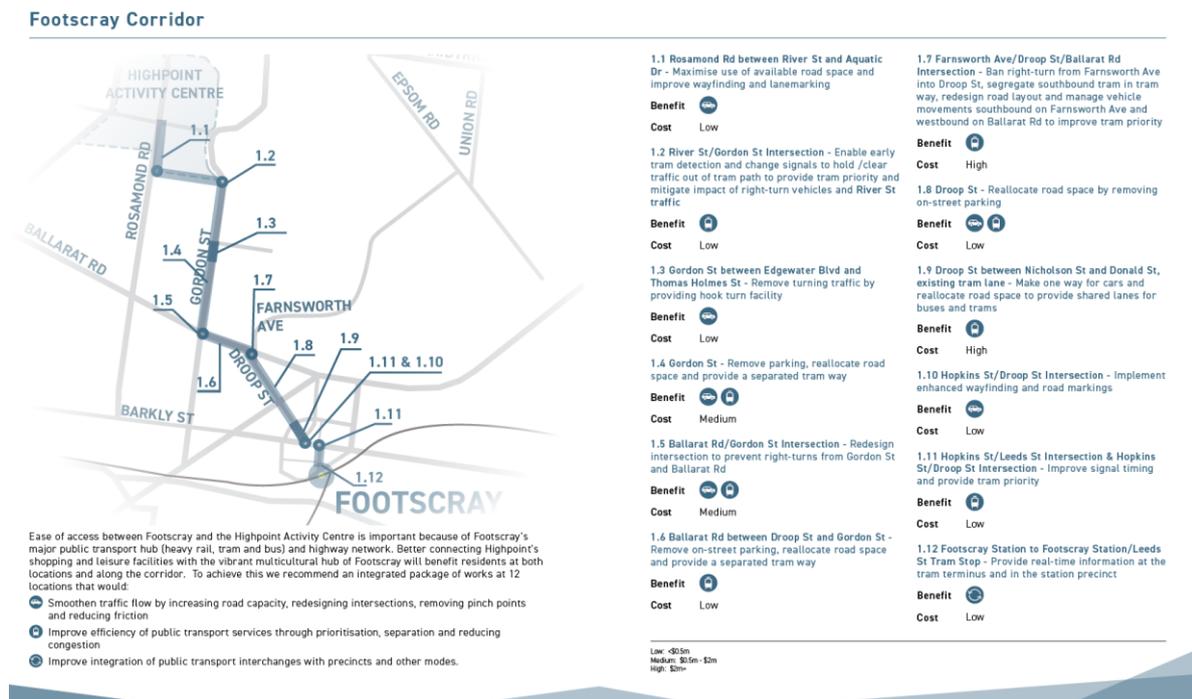


Figure 5.4: Potential Public Transport Improvements on Essendon Corridor

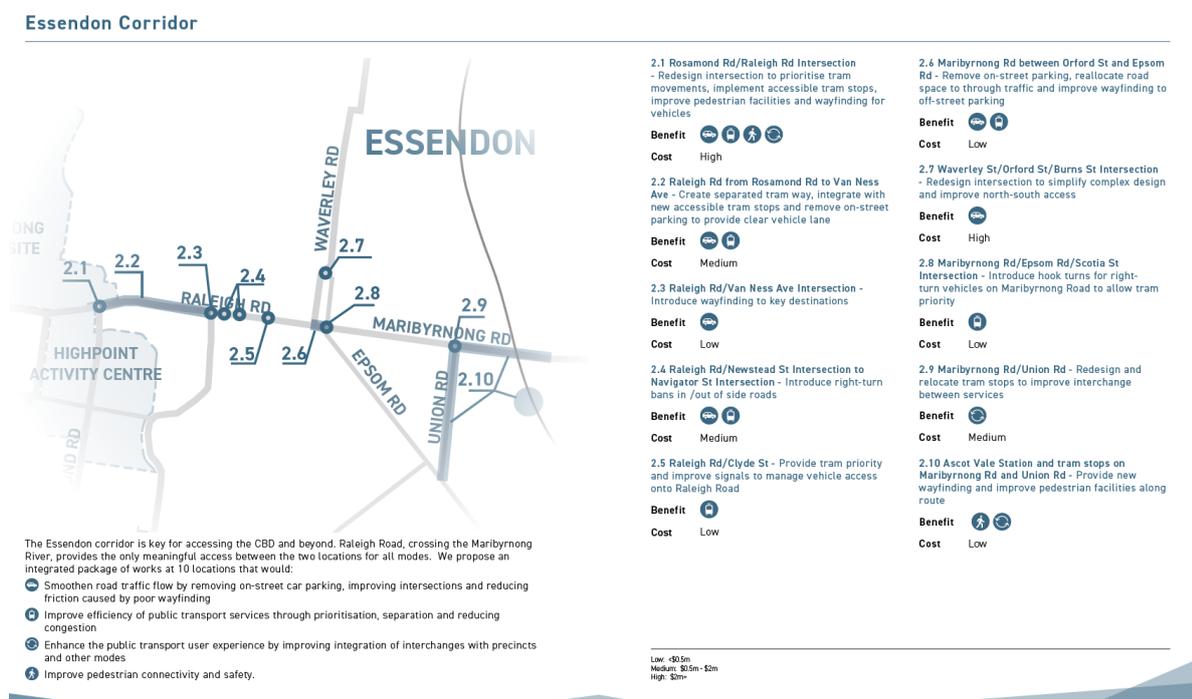
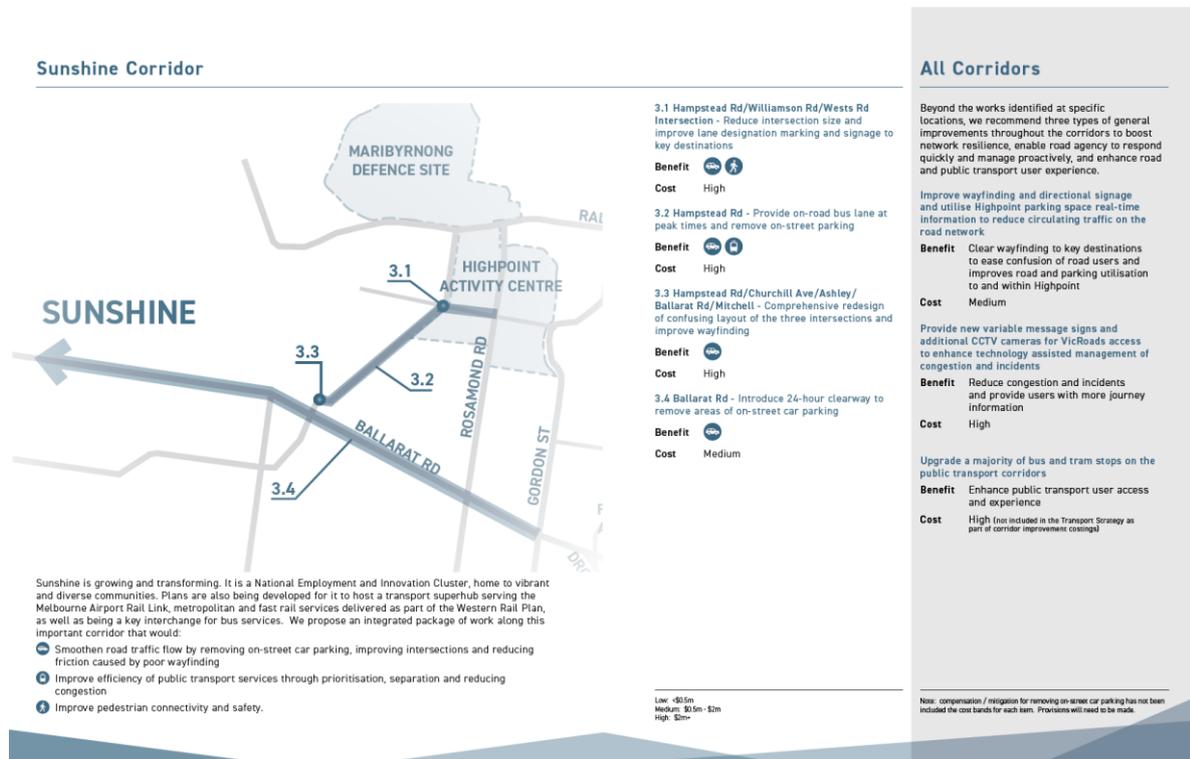


Figure 5.5: Potential Public Transport Improvements on Sunshine Corridor



5.3.2. Precinct Opportunity #2 – Realign Existing Tram Route

The current tram network in the immediate vicinity is aligned along Rosamond Road, Williamson Road, Wests Road (or parallel to) and Raleigh Road. At Highpoint, the tram service does not adjoin the bus interchange or reach the “heart” of the Activity Centre.

In 2012, the Northern Maribyrnong Integrated Transport Strategy was prepared which identified potential options to realign the exiting tram network to better service the Development Plan area and better integrate with the proposed future bus interchange. The alignment included in the ITS is shown in Figure 7.6.

It is understood that the existing steep gradient of Rosamond Road on approach to Raleigh Road (north of the Development Plan area) would not cater for a tram along this alignment. However, the tram could be realigned further north along Rosamond Road and then connect west towards the existing Wests Road alignment.

The realignment of the tram on Rosamond Road north of Aquatic Drive would further improve the “exchange between travel modes” as sought by the Development Plan Overlay objectives as it would enable the bus and tram services to be integrated in the one interchange. An exemplar of this arrangement is the Haluchere Mobility Hub in France, as shown in Figure 5.7.

The detail detailed of this interchange would clearly need to be developed by the Department of Transport if the tram rerouting were to be pursued. For now, however, the potential for this rerouting highlights the likely benefit of moving the bus interchange to the edge of the site. Indeed, even if the tram services was

not rerouted, the relocation of the bus interchange as proposed would still enhance this connectivity (by reducing the walk distance between the two services).

Figure 5.6: Potential Tram Realignment

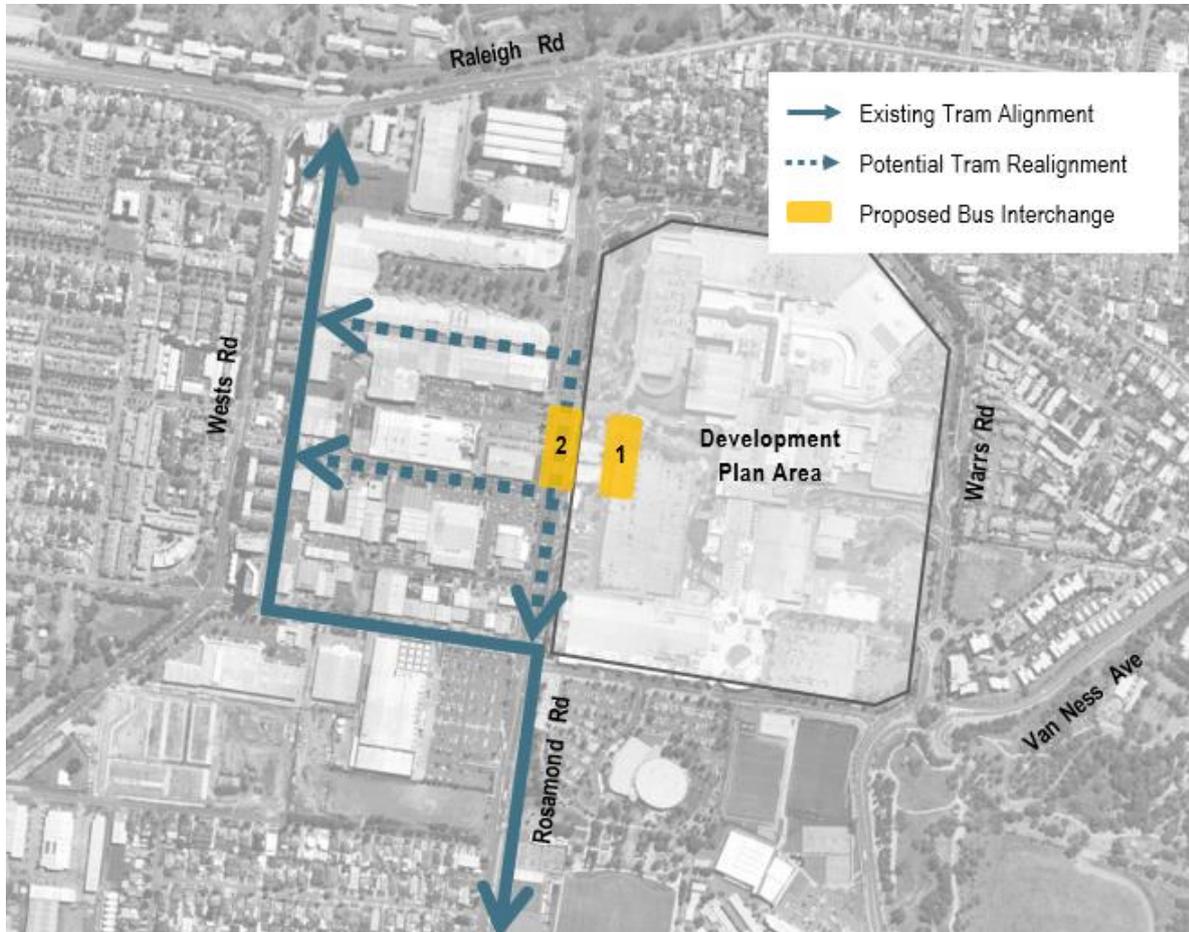


Figure 5.7: Example Tram & Bus Integration – Haluchere Mobility Hub, France



5.4. Summary

The proposed Development Plan Responses to enhance public transport as a mode of travel to and from the proposed development include:

Development Plan Responses

1. Relocate bus interchange to improve passenger experience and provide land use integration.
2. Ensure development parcels are located within 400m walking distance of public transport

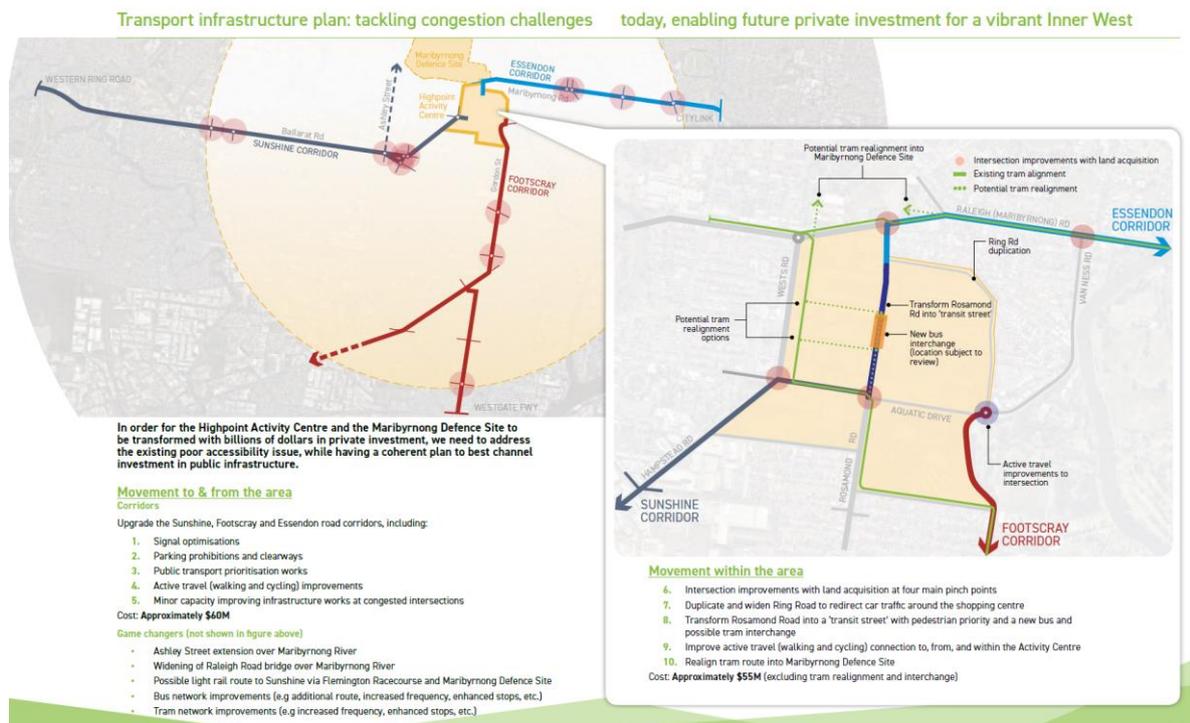
Precinct Opportunities

1. Improve key public transport corridors to improve travel times and reliability of services accessing Footscray, Sunshine and Essendon/Moonee Ponds.
2. Realign existing tram service along Rosamond Road north of Aquatic Drive to better service the Development Plan area and link to the future bus interchange.

The relocation of the bus interchange as proposed within the Development Plan, coupled with the precinct opportunities to improve public transport access to/from Highpoint more meaningfully, meet the public transport objectives and guidelines from the Development Plan Overlay.

As outlined earlier in this report, this strategy has previously been presented to, and agreed in-principle by, the Department of Transport within the 'Highpoint Activity Centre – Transport Strategy' (November 2018), which summarises the proposed works as shown in Figure 7.8.

Figure 5.8: Highpoint Transport Strategy – “Plan on a Page”



6. LOGISTICS / LOADING

06

6.1. Overview

Clause 65 of the Maribyrnong Planning Scheme indicates that “Before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate: ... The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts...”. In this regard, the following presents an assessment of the proposed loading response.

6.2. Development Plan Responses

The Development Plan Overlay identifies the following access and movement objective relating to loading and servicing:

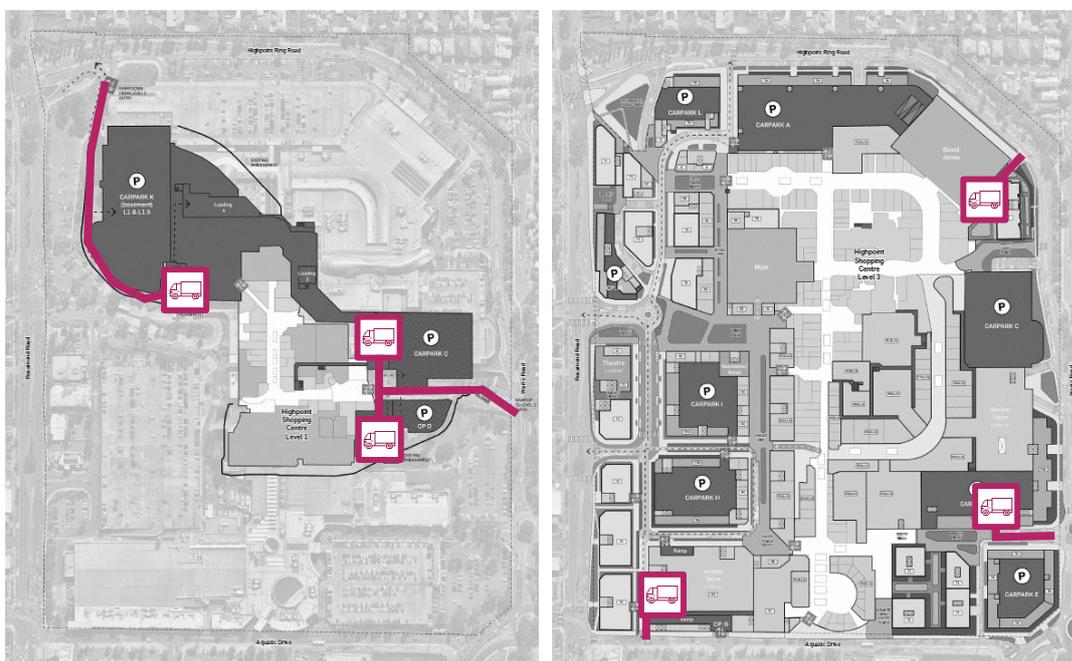
“To provide sufficient loading bays and service roads close to Rosamond Road without comprising the visual amenity and character of Rosamond Road.”

The following development responses have been established based on this objective and guideline.

6.2.1. Development Plan Response #1 – High-Turn Over Loading Away from Rosamond Road

The Development Plan concentrates most of the retail loading away from Rosamond Road, as shown in Figure 6.1.

Figure 6.1: Proposed Primary Loading Locations



(Level 1)

(Level 3)

Importantly, it is noted that all high turnover loading activity (such as retail loading) is proposed to be accessed primarily via Ring Road/Warrs Road (with some loading accessed via Aquatic Drive). The provision of major loading facilities accessed from the Ring Road/Warrs Road is entirely consistent with its existing and identified future function.

It is noted that each of the individual development sites will have their own loading facilities. However, the level of activity and size of vehicles associated with the individual residential, office and hotel development sites will be minor in comparison compared to the retail loading demands.

6.2.2. Development Plan Response #2 – Enhanced Management of Loading Docks

With loading demands expected to notably increase at Highpoint in the future, it is recommended that vehicle access to the loading docks be managed and controlled by an online dock management system (such as Bestrane's MobileDock).

This type of management has been successfully implemented at major redevelopment sites including Melbourne Emporium, Westfield Sydney CBD and the Sydney Opera House. The management systems maximise the efficiency of loading docks by enabling loading events at narrower bookings thereby increasing the number of loading events possible within the dock per day.

From a traffic management perspective, such systems can also be used to lessen congestion on abutting road networks by spreading demands across the day rather than at concentrated peaks. For Highpoint, loading activity would naturally best be scheduled away from peak visitation periods.

6.3. Summary

The proposed development plan responses to ensure the appropriate management of loading movements to and from the proposed development include locating higher turnover loading and logistics areas on the Ring Road to minimise truck movements through the Activity Centre itself, and the implementation of a loading dock management system to optimise the use of the existing and proposed facilities.

7. CAR PARKING & TRAFFIC

07

7.1. Overview

As outlined earlier (Section 2.4), planning for the future land use development on the site will need to be cognisant of the need to maximise travel by sustainable transport modes (walking, cycling and public transport) and minimise, as far as practical, travel by private motor vehicle.

Like all Major Activity Centres, this will require a change to the 'status quo' in terms of the supply and management of car parking for both existing and future land uses. Specifically, rather than adopting the traditional approach to private vehicles, it will be necessary to adopt a travel demand management approach that implements measures such as, limiting car parking provision, to minimise traffic generation and encourage other modes of transport.

7.2. Development Plan Responses – Car Parking

The Development Plan Overlay identifies the following access and movement objective relating to car parking:

“To balance convenient car park access with pedestrian priority on Rosamond Road.”

The Development Plan Overlay identifies the following access and movement guideline relating to car parking:

“On-site parking should be sited as to minimise its impact on the public realm.”

The following development responses have been established based on this objective and guideline.

7.2.1. Development Plan Response #1 – Reduced Car Parking Provision

Contemporary Approach to Car Parking

The standard approach to car parking provision (i.e. provide a minimum) has historical origins which follow a *'predict and provide'* approach.

The Austroads 'Guide to Traffic Management Part 11 (2017)' describes this approach as a technique which readily interprets a *'parking problem'* as an issue of *'inadequate supply'*. It goes on to note that this problematic ideology is underlined by the premise that:

- *“More parking is better,*
- *Every destination should satisfy its own parking needs (minimum ratios),*
- *Car parks should never fill,*
- *Parking should always be free or subsidised or incorporated into buildings costs.”*

In more recent times, the *'predict and provide'* approach has been steadily replaced by a range of travel demand management techniques which challenge historical travel behaviours and encourage mode change away (reversing the trend) from private motor vehicle travel, particularly during road network peak hours. This approach is aligned with the sustainable transport policies summarised in Section 3 of this report.

For the proposed development, it is considered appropriate – and indeed necessary – to adopt a reduced car parking rate approach which is consistent with Travel Demand Management orientated transport and land use planning practise, as well as Councils' overarching transport objectives.

Car Parking Trends

The provision of car parking in Major Activity Centres has been the subject of numerous studies over the years, with notably lower car parking rates prescribed in the Planning Scheme.

Using office as an example, the following rates have recently been adopted for nearby sites:

- Footscray Inner: 0 to 1.5 car spaces per 100sqm GFA (or approx. 1.35 car spaces per 100sqm NFA)
- Footscray Outer: 0 to 2.0 car spaces per 100sqm GFA (or approx. 1.8 car spaces per 100sqm NFA)

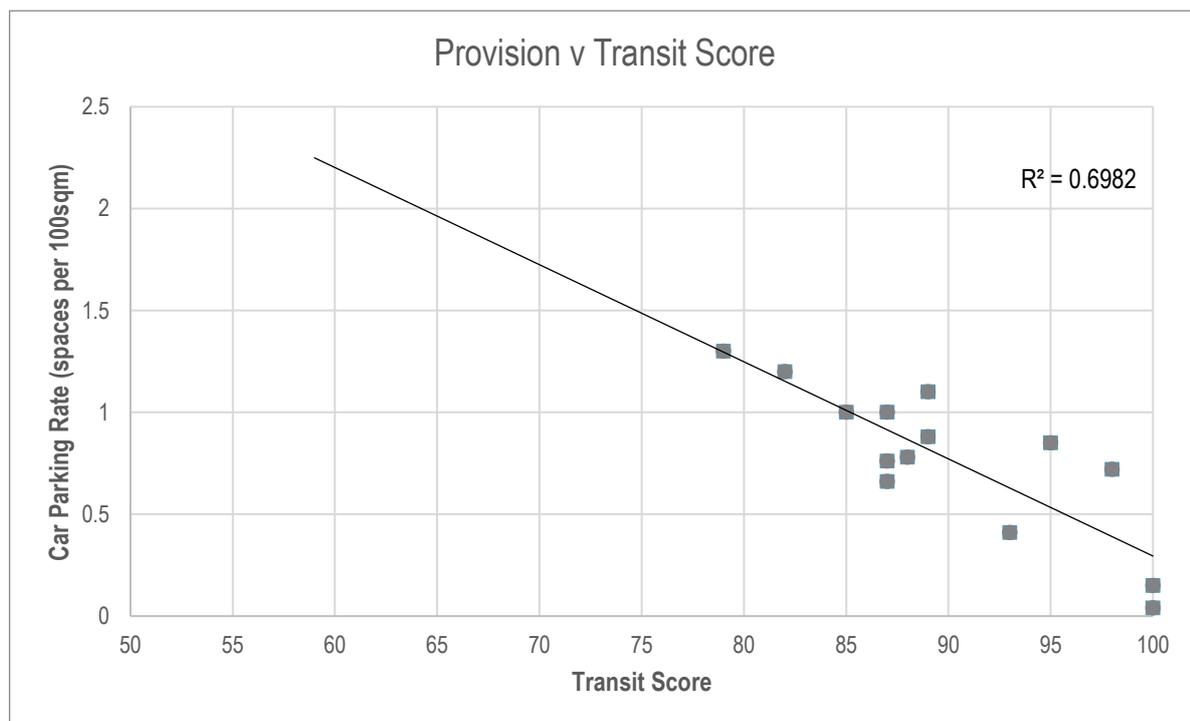
Lower car parking rates have also been adopted for other activity centres outside of Maribyrnong LGA, as follows:

- Fishermans Bend: 0 to 1.0 space per 100sqm (City of Melbourne)
- Arden Macaulay: 0 to 1.0 space per 100sqm (City of Melbourne)
- Forrest Hill: 0 to 1.48 spaces per 100sqm (City of Stonnington)

Importantly, these rates are maximum car parking rates and as such, office developments in these locations could provide zero car parking.

There are also numerous case studies of reduced office car parking rates for sites located in activity centres in inner Melbourne areas. The case study data from GTA's database of recently approved office developments has been plotted against a sites public transport accessibility ('transit score') with the results presented in Figure 7.1. It is noted that the existing Centre has a transit score of 64 based on current conditions. The improvements to public transport identified in this report would significantly improve the site's future public transport accessibility.

Figure 7.1: Office Case Study Car Parking Rates Data



Recommended Rates

The recommended car parking rates for adoption for the Development Plan are set out in Table 7.1.

It is important to note that the Development Plan is envisaged to be delivered over 30 years and the proposed car parking rates will need to be reviewed during this period. It is further noted that the initial stages of development are likely to adopt rates at the higher end of the indicative range, with the overall car parking rates to be incrementally reduced over time as public transport access improves.

The rates detailed in the below table are therefore indicative only and presented principally for the purposes of assessing of traffic impacts and confirming the appropriateness of space allocated in the Development Plan for car parking.

Table 7.1: Recommended Car Parking Rates

Land Use	Rate
Residential <ul style="list-style-type: none"> • 1-bedroom apartments • 2-bedroom apartment • 3-bedroom apartment Weighted Average ^[1]	~0.25 spaces per apartment ~0.5 spaces per apartment ~1 space per apartment 0.5 to 0.6 spaces per apartment
Office	0.5 to 1 space per 100sqm
Retail	3 to 4 spaces per 100sqm
Hotel	0.2 to 0.4 spaces per room

[1] Assuming 20%, 60% and 20% mixture of one-, two- and three-bedroom apartments.

Using the rates identified above, and the indicative development yields outlined earlier, Table 7.2 presents an assessment of the anticipated car parking demand against the provision proposed in the Development Plan.

Table 7.2: Recommended Car Parking Rates

Land Use	Size	Parking Rate	Resultant Provision		Development Plan Proposed Provision	
			Lower	Upper	Weekday	Weekend
Residential	3,152 apartments	0.5-0.6 spaces / apartment	1,576 spaces	1,891 spaces	1,1827 spaces (0.58)	1,827 spaces (0.58)
Office	148,830sqm	0.5-1.0 space / 100sqm	744 spaces	1,488 spaces	744 spaces (0.5)	192 spaces (0.10)
Retail	211,089sqm	3.0-4.0 spaces / 100sqm	6,333 spaces	8,444 spaces	6,262 spaces (3.0)	6,814 spaces (3.3)
Hotel	147 rooms	0.2-0.4 spaces / room	29 spaces	59 spaces	44 spaces (0.3)	44 spaces (0.3)
Total			8,682 spaces	11,882 spaces	8,877 spaces	8,877 spaces

Table 6.2 indicates that the proposed provision of approximately 8,900 car spaces is at the lower end of the recommended provision (approximately 8,682 to 11,882 car spaces).

Adequacy of Provision

The proposed parking provision is considered appropriate for the following reasons:

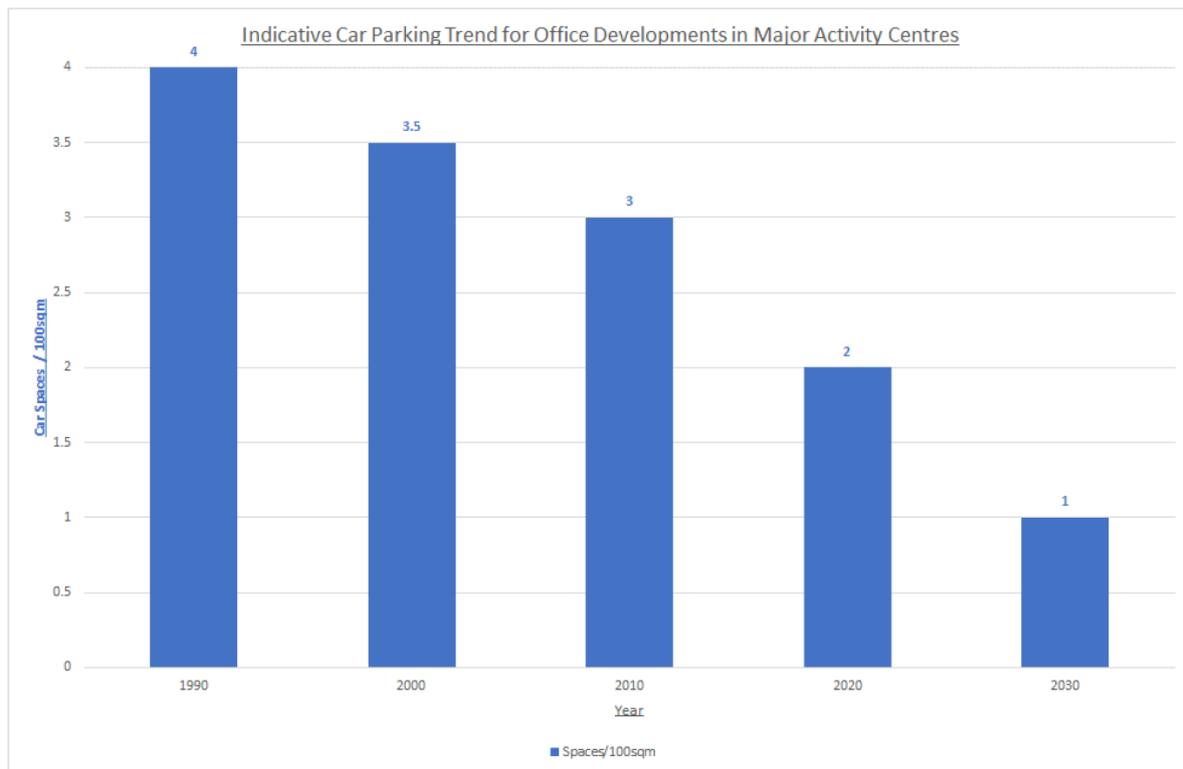
1. The reduced provision is consistent with the Travel Demand Management approach identified earlier.
2. The retail parking demands will be lower on weekdays and highest on weekends. (Typically, retail weekday demands are equal to approximately 85% of the peak weekend demands). Conversely, office parking demands can only be expected during the week. Assuming 80% of the office parking spaces are available for use by retail staff and / or customers on weekends, approximately 6,814 car spaces would be available for the retail floor area on weekends (at a rate of 3.3 spaces per 100sqm). This provision is slightly less than the existing supply of car parking at Highpoint at present (7,276 car spaces).

Short-Term versus Long-term Rates

The Masterplan for Highpoint Shopping Centre is envisaged to be delivered over a 30-year timeframe (approx.). The proposed car parking rates presented above represent the ultimate build out of the Masterplan. In reality it is anticipated that car parking rates for short-term development will be higher than those quoted above and transition to the recommended rates for the full build out.

For example, Figure 7.2 illustrates that indicative office car parking rates for activity centre locations have steadily declined over the past 30 years and can be expected to further decline over the next 10+ years. Therefore, for office uses it would be expected that any initial development may provide car parking in the range of 1 to 2 spaces per 100sqm, with later stages of development providing car parking at lower rates once substantial improvements in public transport to the activity centre have been realised.

Figure 7.2: Indicative Office Car Parking Trends for Activity Centre (1990 to 2030+)

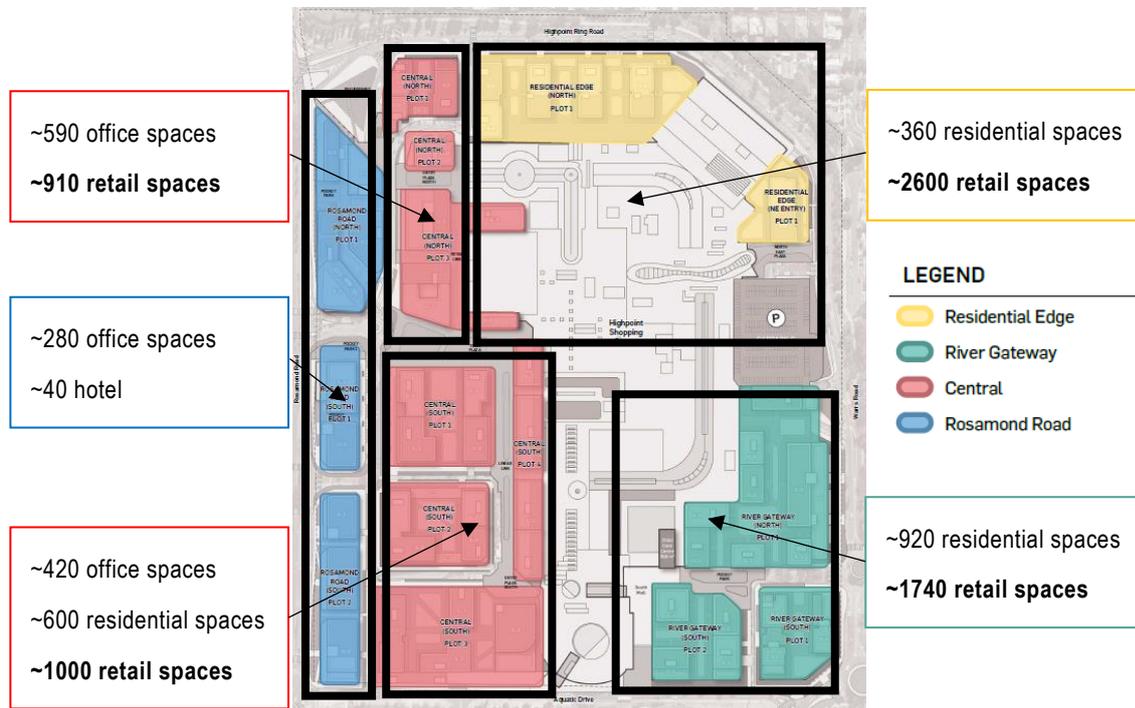


A similar approach would be expected with the other land uses. The rate of retail car parking is anticipated to gradually decrease from the current rate of 4.7 spaces per 100sqm to the recommended rate of 3 to 4 spaces per 100sqm. Likewise, residential parcels delivered as part of Stage 1 would be expected to provide car parking at rates closer to the minimum statutory requirement and gradually transition to lower rates as part of Stage 2 and 3, once again coinciding with improved accessibility to alternate transport modes.

7.2.2. Development Plan Response #2 – Location of Car Parking

The Development Plan proposes the provision of the higher turnover retail car parking predominantly on the east side of the site, where greater vehicle access capacity is provided from the Ring Road/Warrs Road, with the lower turnover residential and office car parking dispersed more evenly throughout the Development Plan area. The location of proposed car parking in the Development Plan is shown in Figure 7.3.

Figure 7.3: Car Parking Distribution (Weekday Allocation)



Note: high turnover retail car parking spaces shown in **Bold**.

7.2.3. Development Plan Response #3 – Controlled Car Parking for Retail Uses

The key benefit of controlled parking (i.e. boom gates) is that it suppresses long-term car parking that is not associated with the retail uses. This outcome is achieved through the pricing of the car parking which typically involves charging a high cost of car parking beyond (approximately) 4-hours duration, excluding retail staff parking.

It is recommended that parking restrictions be introduced to the residential streets to the north and east of the Centre to protect them from long-term unrestricted car parking. This will ensure that any surplus car parking demands are suppressed rather than relocated to on-street. The introduction of on-street car parking restrictions surrounding an activity centre is a typical car parking and travel demand management response.

It is noted that whilst third party car parking demands are not necessarily a major issue for the Centre at the moment, as the activity centre is developed (including land use intensification for the site itself) third party car parking demands will likely become an increasing issue for the retail asset.

7.2.4. Development Plan Response #4 – Resident/Employee Car Share Scheme

To further support the reduced car parking provision, car share provides a convenient option to enable access to a car but removes the need to own a vehicle. Car share is currently a popular transport alternative in inner Melbourne suburbs where densities are higher, congestion greater and car ownership rates are historically lower.

With minimal car share spaces presently available surrounding the site, the provision of additional vehicles will further support the travel demand management approach required for Highpoint. This report does not seek to commit to a specific rate of car share vehicles, noting that any provision needs to be

agreed commercially with a provider. However, this report does commit to car share being part of the overall transport solution for the site and particularly the proposed office and residential components.

7.2.5. Development Plan Response #5 – Electric Vehicle Parking

In 2018, new registrations of EVs hit a new record globally, with many industry commentators and government authorities having to revise upward their projections for future market uptake. Whilst the Australian government has so far not made the level of progress as other countries, electric vehicles are still on the rise, with the number of electric vehicles sold in Australia in 2019 tripling compared to 2018.

Meanwhile, governments around the world are now actively seeking to phase out petrol and diesel motor vehicles to improve air quality, reduce greenhouse gas emissions, and promote greater energy security (i.e. reduce reliance on foreign oil). The UK and French governments, for example, have announced that they will ban the use of petrol and diesel vehicles by 2040, while many jurisdictions, such as in Europe and China, have already started to ban such vehicles from operating in otherwise heavily-polluted cities.

Given the 30-year design horizon of the Development Plan, electric vehicle parking will form a key component of future development. It is expected that each residential car parking space will be electric vehicle capable, either upfront or with charging points to be easily retrofitted. Whilst some electric vehicle charging stations will be provided for the office, retail and hotel car parking (say up to 5%) it is not proposed that all spaces will be capable of electric vehicle charging.

7.3. Development Plan Responses – Traffic

The Development Plan Overlay identifies the following access and movement objective relating to traffic:

“To provide for future increased traffic capacity on the Highpoint Ring Road while retaining pedestrian and cyclist connectivity.”

The Development Plan Overlay identifies the following access and movement guideline relating to traffic:

“The network of roads and paths should be generally in accordance with Map 1 - Highpoint Activity Centre Framework Plan.”

Further discussion regarding traffic impacts and associated responses is detailed below.

7.3.1. Development Plan Response #1 – Increased Capacity on the Ring Road

To align with the strategic vision for the precinct, as envisaged by the PUDF, it is proposed to reduce reliance on vehicle access from Rosamond Road by improving the capacity of the Ring Road/Warrs Road. In this context, the Development Plan proposes the duplication and widening of the Ring Road/Warrs Road on the north and eastern frontages of the site.

The Ring Road/Warrs Road will provide access to most of the retail car parking which is higher turnover compared to the residential and office car parking. The Ring Road/Warrs Road will also be the key access route to the major retail loading areas (accommodating more frequent and larger loading vehicles than the residential and office loading areas).

It is noted that options to include separated facilities for cyclists will be investigated when detailed plans are prepared for the duplication. Broadly speaking, it is hoped that sufficient width is available to achieve the indicative cross-section of the Ring Road/Warrs Road presented in the Urbis Masterplan material.

7.3.2. Development Plan Response #2 – Internal Road Network

The proposed internal road network includes a north-south running parallel to Rosamond Road connecting the Ring Road and Aquatic Drive, as shown in in Figure 7.4.

The provision of the internal north-south link is generally consistent with the “internal link” shown on the Highpoint Activity Centre Framework Plan (reproduced in Figure 2.6). It is noted that the north-south link is offset from Rosamond Road by approximately 60m and given the proximity of the connection to the Rosamond Road / Aquatic Drive signalised intersection only a left in / left out intersection is proposed at Aquatic Drive.

Figure 7.4: Vehicle Access Map



(Note: the figure excludes individual lot vehicle access points and pedestrian operated signals)

It is noted that the Development Plan seeks to increase the number of vehicle access points to Rosamond Road from 2 to 3, increase the number of vehicle access points on Aquatic Drive from 3 to 4 and maintain the existing number of access points to the Ring Road/Warrs Road. These increases are considered modest in the overall planning of the site.

There are a number of other lower order road links within the Development Plan which primarily provide vehicle access to internal car parks (primarily the lower generating office and residential car parks rather than the high turnover retail car parks) and the external road network.

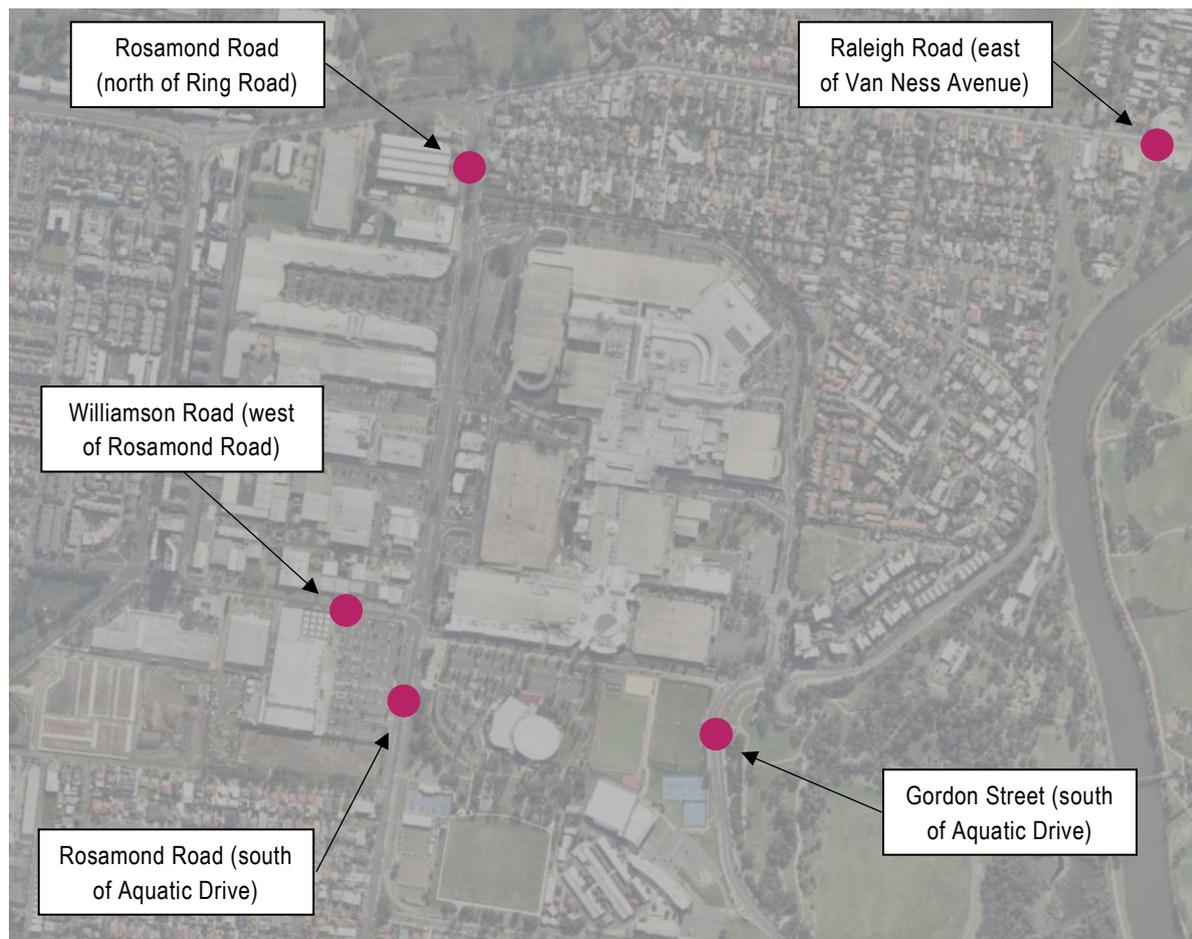
7.3.3. Development Plan Response #3 – External Real Time Parking Guidance Signage

The benefits of external real time parking guidance signage to customers and other road users include:

1. Ability to direct vehicles to use preferred vehicle routes to access car parking areas and direct them away from less preferred vehicle routes (such as Rosamond Road).
2. Allow drivers to make a more meaningful judgment at key decision points when accessing the site.
3. Direct drivers to on-site car parking areas where parking vacancies exist helping disperse traffic activity across a range of access points.
4. Provides an ability to make a more informed decision on where to enter the shopping centre.
5. Reduces internal circulation within the shopping centre car park.

The indicative location of real time parking guidance signage is illustrated in Figure 7.5.

Figure 7.5: Indicative External Real Time Guidance Signage Locations



7.4. Traffic Impact Assessment including Precinct Mitigation Opportunities

7.4.1. Traffic Generation

A summary of the anticipated peak hour and daily traffic generation from the site, based on rates obtained from various sources is presented in Table 7.3.

It is noted that the traffic generation assessment is based on ‘per space’ generation rather than a ‘per 100sqm/dwelling’ metric. This approach has been adopted given a travel demand management approach is to be adopted to limit car parking provision, to minimise traffic generation and encourage other modes of transport.

Table 6.4 indicates that the ultimate development of Highpoint as proposed in the Development Plan could be expected to generate additional peak hour traffic volumes as follows:

- AM Peak Hour: +721 vehicle movements per hour
- PM Peak Hour: +662 vehicle movements per hour
- Saturday Lunchtime Peak Hour: +394 vehicle movements per hour.

Against existing volumes in the vicinity of the site, it is considered that the greatest impact of this additional traffic is likely in the PM peak hour given congestion of the road network is comparatively higher than during the AM peak hour, whilst the volume increase on Saturday is relatively modest (i.e. estimated to be less than 10%). In this regard, the following assessment focuses on the weekday PM peak hour only.

Table 7.3: Forecast Development Traffic Generation

Peak Hour	Land Use	No. of Additional Spaces	Traffic Generation Rate	Traffic Generation
AM Peak Hour	Residential	1,827	0.2 movements per space [1]	365
	Office	744	0.44 movements per space [2]	327
	Retail	None	0.9 movements per space [3]	0
	Hotel	44 (147 rooms)	0.2 movements per room [1]	29
	Total Movements			
PM Peak Hour	Residential	1,827	0.2 movements per dwelling [1]	365
	Office	744	0.36 movements per 100sqm [2]	268
	Retail	None	0.9 movements per 100sqm [3]	0
	Hotel	44 (147 rooms)	0.2 movements per room [1]	29
	Total Movements			

Saturday Peak Hour	Residential	1,827	0.2 movements per dwelling [1]	365
	Office	192	0 movements per 100sqm [2]	0
	Retail	None	0.9 movements per 100sqm [3]	0
	Hotel	44 (147 rooms)	0.2 movements per room [1]	29
	Total Movements			+394 movements

[1] Based on empirical data.

[2] Based on data presented in the RMS Guide to Traffic Generating Developments: Technical Direction (August 2013).

[3] Based on existing turnover of Centre and having regard for floor area increase.

7.4.2. Traffic Distribution

The anticipated distribution and assignment of post development traffic volumes is provided in Appendix B. The figures present peak hour turning movement diagrams for the existing, additional and post development scenarios.

The assessment includes the reassignment of some 500vph from Rosamond Road (north of Aquatic Drive) to Aquatic Drive and some 500vph from Rosamond Road (south of the Ring Road) to the Ring Road. This redistribution is reflective of the future intent of Rosamond Road and the reallocation of the high turnover car parking to the periphery of the site.

7.4.3. Traffic Impact

The existing and post development operation of the surrounding signalised intersections⁵ during the critical PM peak hour has been assessed using *SIDRA INTERSECTION 8*⁶, a computer-based modelling package which calculates intersection performance.

The commonly used measure of intersection performance is referred to as the *Degree of Saturation (DOS)*. The DOS represents the flow-to-capacity ratio for the most critical movement on each leg of the intersection. The Degree of Saturation performance objectives for signalised and unsignalised intersections is presented in Table 7.4. For signalised intersections, a DOS of 0.95 is considered the 'ideal' limit, beyond which queues and delays increase disproportionately.

⁵ The individual site access points have not been assessed as part of this report, with each of the access points to be assessed as part of the planning permit stage with any potential mitigation measures identified at that time.

⁶ Program used under license from Akcelik & Associates Pty Ltd.

Table 7.4: Level of Service Performance Metrics

Level of Service		Intersection Degree of Saturation (DOS)		
		Unsignalised Intersection	Signalised Intersection	Roundabout
A	Excellent	<=0.60	<=0.60	<=0.60
B	Very Good	0.60-0.70	0.60-0.70	0.60-0.70
C	Good	0.70-0.80	0.70-0.90	0.70-0.85
D	Acceptable	0.80-0.90	0.90-0.95	0.85-0.95
E	Poor	0.90-1.00	0.95-1.00	0.95-1.00
F	Very Poor	>=1.0	>=1.0	>=1.0

The SIDRA results for the existing and post development operation of the surrounding intersections is presented in Table 7.5, with more detailed results provided in Appendix B. It is important to note that the assessment assumes no mitigation measures at any of the intersections and does not consider any additional traffic generation growth from surrounding land parcels e.g. the Maribyrnong Defence Site⁷.

The modelling indicates:

- The Rosamond Road/Aquatic Drive intersection is forecast to operate well above its theoretical capacity, with extensive delays and queuing anticipated.
- The Raleigh Road/Van Ness Avenue and Raleigh Road/Rosamond Road intersection is forecast to operate close to or at its theoretical capacity.
- The Rosamond Road/Ring Road and Van Ness Avenue/Raleigh Road intersections are forecast to continue to operate satisfactorily.

Overall, the analysis confirms that the intersections on approach to the activity centre are the constraints in the network rather than the intersections directly servicing Highpoint. This is consistent with the findings outlined in the ‘Highpoint Activity Centre – Transport Strategy’ (November 2018) included at Appendix A.

Table 7.5: Existing and Post Development SIDRA Intersection Operation

Intersection	Existing Conditions			Post Development		
	DOS	Average Delay (sec)	95 th Percentile Queue (m)	DOS	Average Delay (sec)	95 th Percentile Queue (m)
Raleigh & Van Ness	0.826	34	358m	0.915	46.0	464m
Raleigh & Rosamond	0.926	44.1	290m	0.930	45.4	313m
Rosamond & Ring Road	0.701	10.7	47m	0.806	12.4	44.9m
Rosamond & Aquatic	0.929	54.6	204m	1.564	158.2	736m
Van Ness & Gordon	0.416	7.3	22m	0.545	8.4	34m

⁷ This approach was confirmed with Maribyrnong City Council on 12 March 2020 (via teleconference). At this teleconference it was confirmed that Council had engaged Cardno to undertake a holistic assessment of the future traffic impacts of the redevelopment of the broader activity centre/precinct including consideration of the Maribyrnong Defence site.

7.4.4. Potential Mitigation Measures (as part of Precinct Study)

The SIDRA analysis presented above indicates that mitigating works would be beneficial at the Raleigh Road & Rosamond Road, Rosamond Road & Aquatic Drive, and Raleigh Road & Van Ness Avenue intersections.

In our opinion, the operation of these intersections – and the potential mitigation works at each – is best considered at a precinct level as part of Council’s Highpoint Infrastructure Masterplan and/or the Victorian Planning Authority assessment for the Maribyrnong Defence Site. This approach is recommended for two reasons:

1. To ensure that the cumulative traffic impacts of the proposed development envisaged in the Development Plan, on the Maribyrnong Defence Site and the activity centre more broadly is assessed and the relevant contributions for the mitigation measures determined.
2. To enable that the consideration of the possible mitigation measures at each intersection is not limited solely to the works feasible within the existing road reserves. Based on our assessment of the key intersections, the scope for mitigation is very limited if existing road reservations are assumed as a limiting factor. This assumption is common for Applicant-led mitigation reviews (as it commonly accepted that it is not reasonable to expect a private sector party to purchase third party land to facilitate road works) but is not a constraint for a Government-led study (where consideration of strategic property acquisitions is common)⁸.

7.5. Summary

The proposed Development Plan Responses to car parking and traffic arrangements include:

Car Parking

1. Adopt a travel demand management approach to car parking provision which results in a reduced car parking provision and in turn reduced traffic generation.
2. Implement a controlled car parking scheme to manage long-term car parking demands.
3. Provide car share for residents and employees to reduce car ownership/reliance for users of the future site.
4. Provide electric vehicle charging for residential car parking (or in the first instance ensure it can be retrofitted in the future).

Traffic

1. Duplicate the Ring Road/Warrs Road link to provide capacity for additional traffic to the site and reassigned traffic from the downgraded Rosamond Road.
2. Continue to engage with Council and the VPA to explore mitigation works at surrounding intersections (Rosamond Road/Aquatic Drive, Rosamond Road/Raleigh Road and Van Ness Avenue/Raleigh Road) to cater for additional traffic demands from the Development Plan.
3. Implement a new internal road network to provide vehicle access to land uses and car parking areas.

⁸ GTA is more than happy to meet with Council and/or VPA to share concept designs for the potential mitigation works at the key intersections in the vicinity of Highpoint without the limitation of the existing road reservations.

4. Implement external real time guidance signage to direct vehicles via defined vehicle routes to the Centre.

It is considered that the combination of the above Development Plan Responses addresses the relevant loading and private vehicle objectives and guidelines from the Development Plan Overlay.

8. CONCLUSION

08

Based on the analysis and discussions presented within this report, the following conclusions are made:

1. The encouragement of the use of public transport, walking and cycling as modes of transport is central to achieving the objectives of the various transport policies relevant to the site. As such, a multi-modal transport strategy has been prepared for the site.
2. This report identifies numerous Development Plan Responses (for the Applicant to complete) to address the future transport needs of the proposed development. The report also identifies precinct opportunities (for others to consider and complete) to improve public transport accessibility to the broader Activity Centre.
3. With the adoption of these responses, the transport (including traffic) impacts of the proposed Development Plan could be managed and will not unreasonably impact the operation of the already congested road network.

A summary of the proposed responses to the Transport Plan requirements as set out in the Design Development Overlay is presented in Table 8.1.

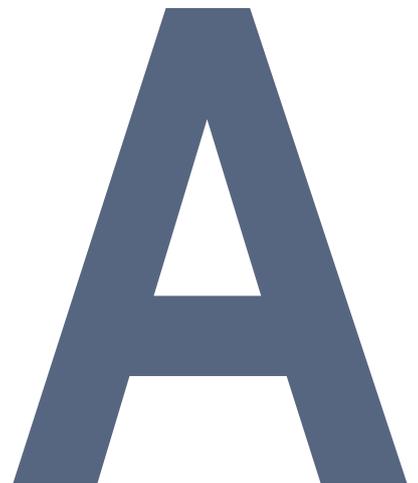
Table 8.1: Transport Plan Response

Transport Plan Requirement	Response	Section
<i>The likely traffic generation of the proposed uses and development including results from traffic modelling showing the likely traffic impacts on surrounding sites, the broader road network and public transport services</i>	SIDRA Intersection modelling has been completed and identifies the impact on the road network. Mitigation measures are required to surrounding intersections.	Section 7.4
<i>Any works necessary to mitigate unreasonable impacts on the road network and unreasonable delays to public transport services caused by traffic generated by the proposed development, including the implementation and indicative timing of such works</i>	The location where intersection works would be beneficial are documented in this report. It is recommended that a consolidated study be completed which assesses the cumulative impact of the proposed development of the Development Plan, Maribyrnong Defence Site and the activity centre and identifies the required mitigation measures and the relevant contribution.	Section 7.4
<i>The indicative location of on-site car and bicycle parking for the land uses shown on the Development Plan</i>	Car parking areas have been identified within the site, long-term bicycle parking will be provided as part of the development sites and short-term visitor and customer parking provided at key arrival locations.	Section 4.2 & 7.2
<i>Movement networks within the Development Plan area for vehicles, bicycles and pedestrians</i>	The strategy is for vehicle and cycle movements to primarily operate around the site, with increased pedestrian permeability provided through the site.	Figure 4.1, Figure 4.6 & Figure 7.4
<i>The indicative internal street network including the layout and proposed reservation widths</i>	Future cross-sections have been developed having regard for movement and place principles.	Figure 3.3, Figure 3.6 & Figure 7.4
<i>Existing and proposed public transport routes and stops in the vicinity of the Development Plan area</i>	A new bus interchange is proposed to be provided as part of the Development Plan.	Section 2.2 & Section 5.2
<i>The location of bicycle and pedestrian paths in the vicinity of and connections to the Development Plan area</i>	Future connections from the site to surrounding points of interest have been identified.	Section 4.2

CONCLUSION

<i>Indicative connections from the precincts to existing roads and means of vehicular ingress and egress from the Development Plan area to surrounding roads</i>	A new internal road network has been identified providing connections to the existing and proposed car parking areas.	Figure 7.4
<i>Points of access to the site from the adjoining roads, including any treatments necessary to enable access to the site</i>	Any specific mitigating works to the site access points will be identified at individual planning permit stages.	Figure 7.4

A. PUBLIC TRANSPORT IMPROVEMENTS



HIGHPOINT ACTIVITY CENTRE

Access Corridor Strategy

Addendum to the Transport Strategy (Nov 2018)

AUGUST 2019

Transforming transport access,
capacity and environment, to
support growth and livability.

A GPT document based on transport
advice provided by GTA Consultants

Overview

Highpoint Activity Centre and Maribyrnong Defence Site are part of one of the largest mixed-use precincts in Australia. Already under significant infrastructure pressure, actions are urgently needed to overhaul the transport capacity to address existing issues and unlock the massive economic potential of the area.

The Highpoint Activity Centre Transport Strategy released in November concluded:

- Development is currently stifled by the fundamental transport disadvantages of the Inner West and livability is compromised by congestion
- Access corridors to / from the area and connectivity to alternative modes of transport must be improved to enable people and communities to thrive
- Movement within the area must be improved through redesigning key road sections and intersections, enhancing the environment for active transport users, and integrating public transport interchanges seamlessly with the broader precinct.

This report has been compiled to summarise how best to improve access to the precinct. The key issues and proposals discussed in this report are:

Problem - Suboptimal allocation of transport space for moving people.

Solution - Prioritise higher density modes of transport.

Problem - Road space occupied by parked vehicles reduces road capacity and creates congestion.

Solution - Reallocate road space to improve traffic flow by removing on-street parking.

Problem - Inefficient use of available road capacity due to driver confusion, unnecessary circulation and changing lanes.

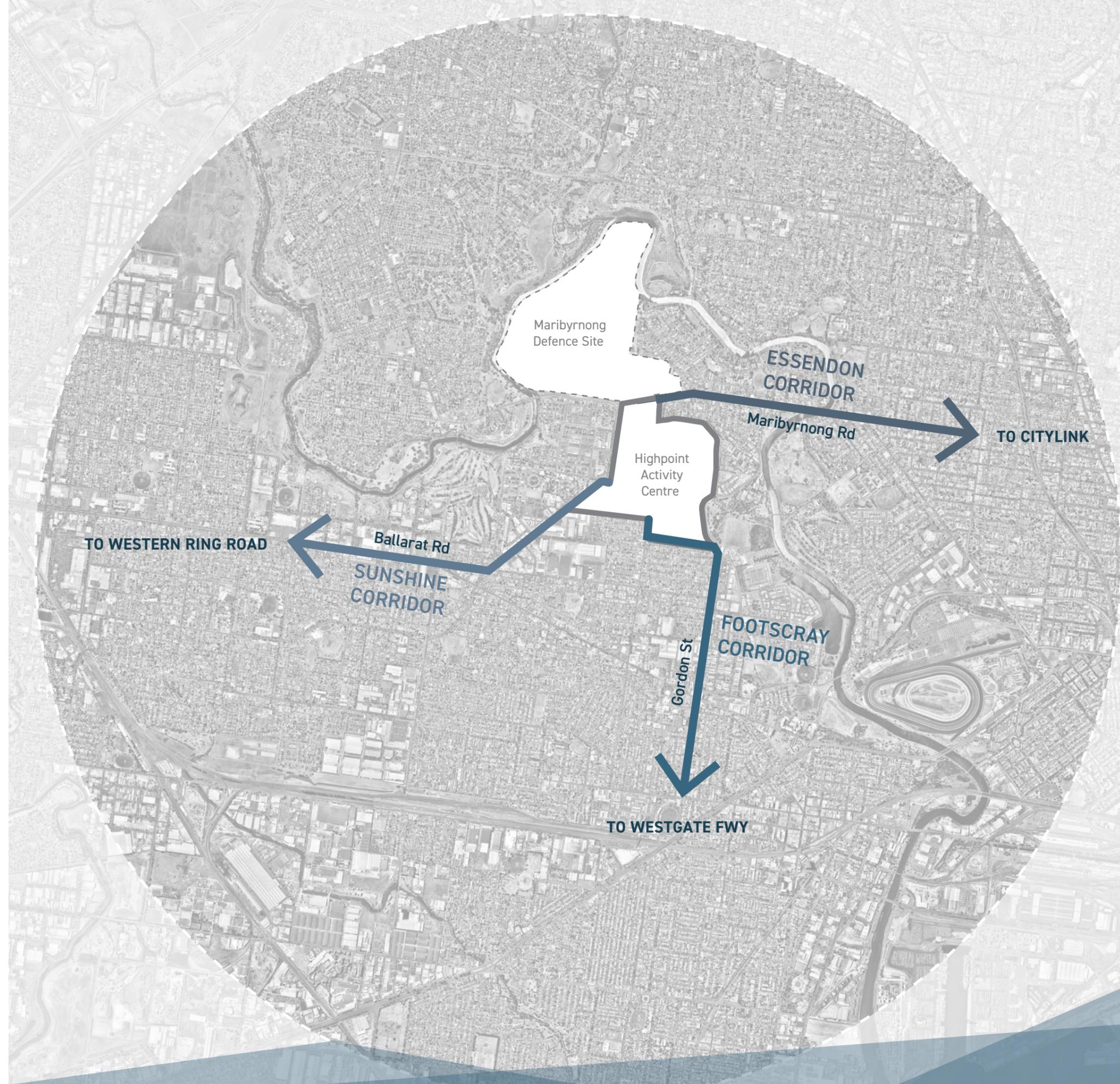
Solution - Improve lane marking and signage / wayfinding.

Problem - Ineffective intersections for multiple modes

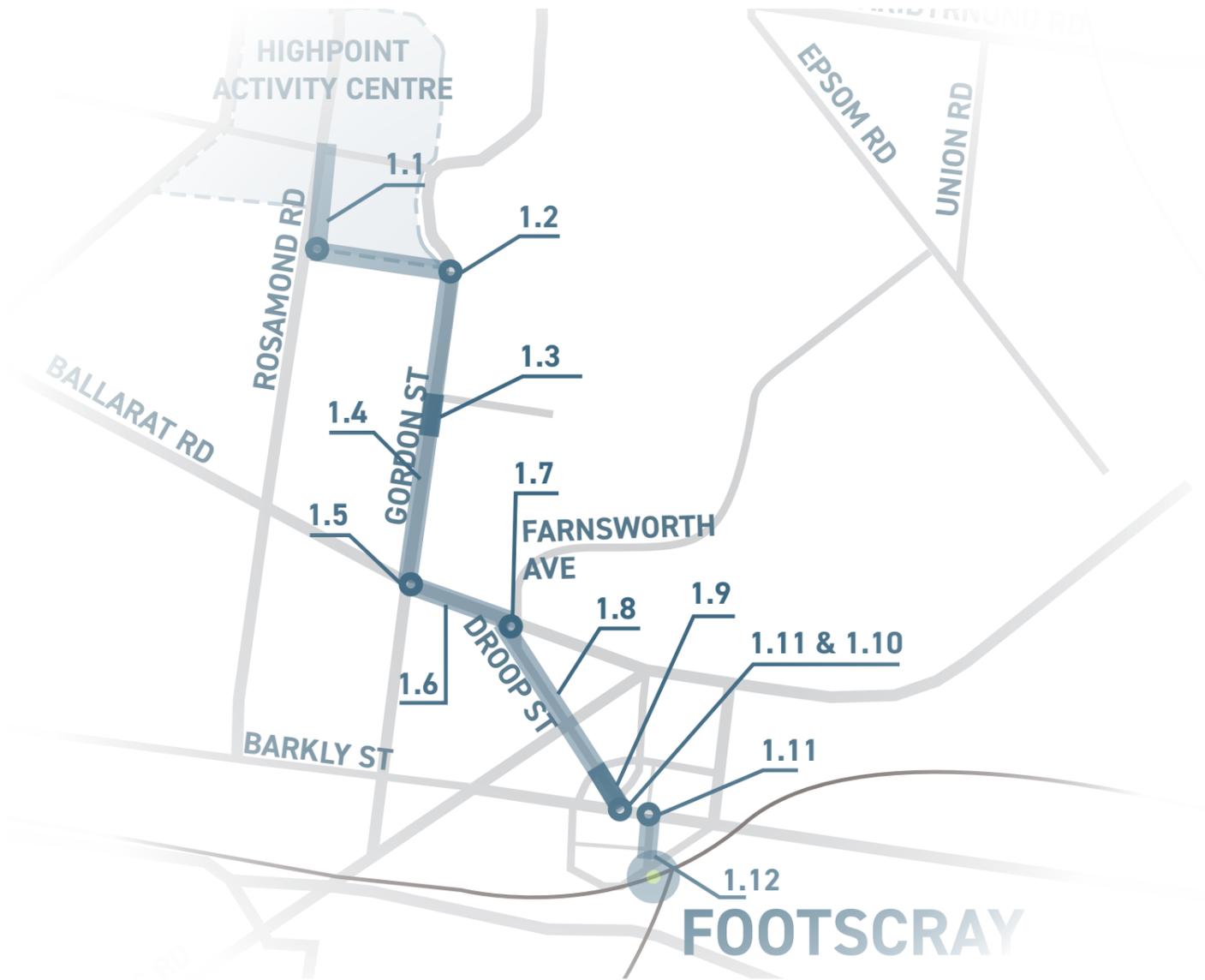
Solution - Intersections should be remodelled to improve safety for pedestrians and cyclists, efficiency of public transport services and capacity for vehicles in the peak periods.

The solutions above are further detailed on the following pages, and grouped based on the following geographies:

- Footscray corridor
- Essendon corridor
- Sunshine corridor
- All corridors



Footscray Corridor



Ease of access between Footscray and the Highpoint Activity Centre is important because of Footscray's major public transport hub (heavy rail, tram and bus) and highway network. Better connecting Highpoint's shopping and leisure facilities with the vibrant multicultural hub of Footscray will benefit residents at both locations and along the corridor. To achieve this we recommend an integrated package of works at 12 locations that would:

- Smoothen traffic flow by increasing road capacity, redesigning intersections, removing pinch points and reducing friction
- Improve efficiency of public transport services through prioritisation, separation and reducing congestion
- Improve integration of public transport interchanges with precincts and other modes.

1.1 Rosamond Rd between River St and Aquatic Dr - Maximise use of available road space and improve wayfinding and lanemarking

Benefit
Cost Low

1.2 River St/Gordon St Intersection - Enable early tram detection and change signals to hold /clear traffic out of tram path to provide tram priority and mitigate impact of right-turn vehicles and River St traffic

Benefit
Cost Low

1.3 Gordon St between Edgewater Blvd and Thomas Holmes St - Remove turning traffic by providing hook turn facility

Benefit
Cost Low

1.4 Gordon St - Remove parking, reallocate road space and provide a separated tram way

Benefit
Cost Medium

1.5 Ballarat Rd/Gordon St Intersection - Redesign intersection to prevent right-turns from Gordon St and Ballarat Rd

Benefit
Cost Medium

1.6 Ballarat Rd between Droop St and Gordon St - Remove on-street parking, reallocate road space and provide a separated tram way

Benefit
Cost Low

1.7 Farnsworth Ave/Droop St/Ballarat Rd Intersection - Ban right-turn from Farnsworth Ave into Droop St, segregate southbound tram in tram way, redesign road layout and manage vehicle movements southbound on Farnsworth Ave and westbound on Ballarat Rd to improve tram priority

Benefit
Cost High

1.8 Droop St - Reallocate road space by removing on-street parking

Benefit
Cost Low

1.9 Droop St between Nicholson St and Donald St, existing tram lane - Make one way for cars and reallocate road space to provide shared lanes for buses and trams

Benefit
Cost High

1.10 Hopkins St/Droop St Intersection - Implement enhanced wayfinding and road markings

Benefit
Cost Low

1.11 Hopkins St/Leeds St Intersection & Hopkins St/Droop St Intersection - Improve signal timing and provide tram priority

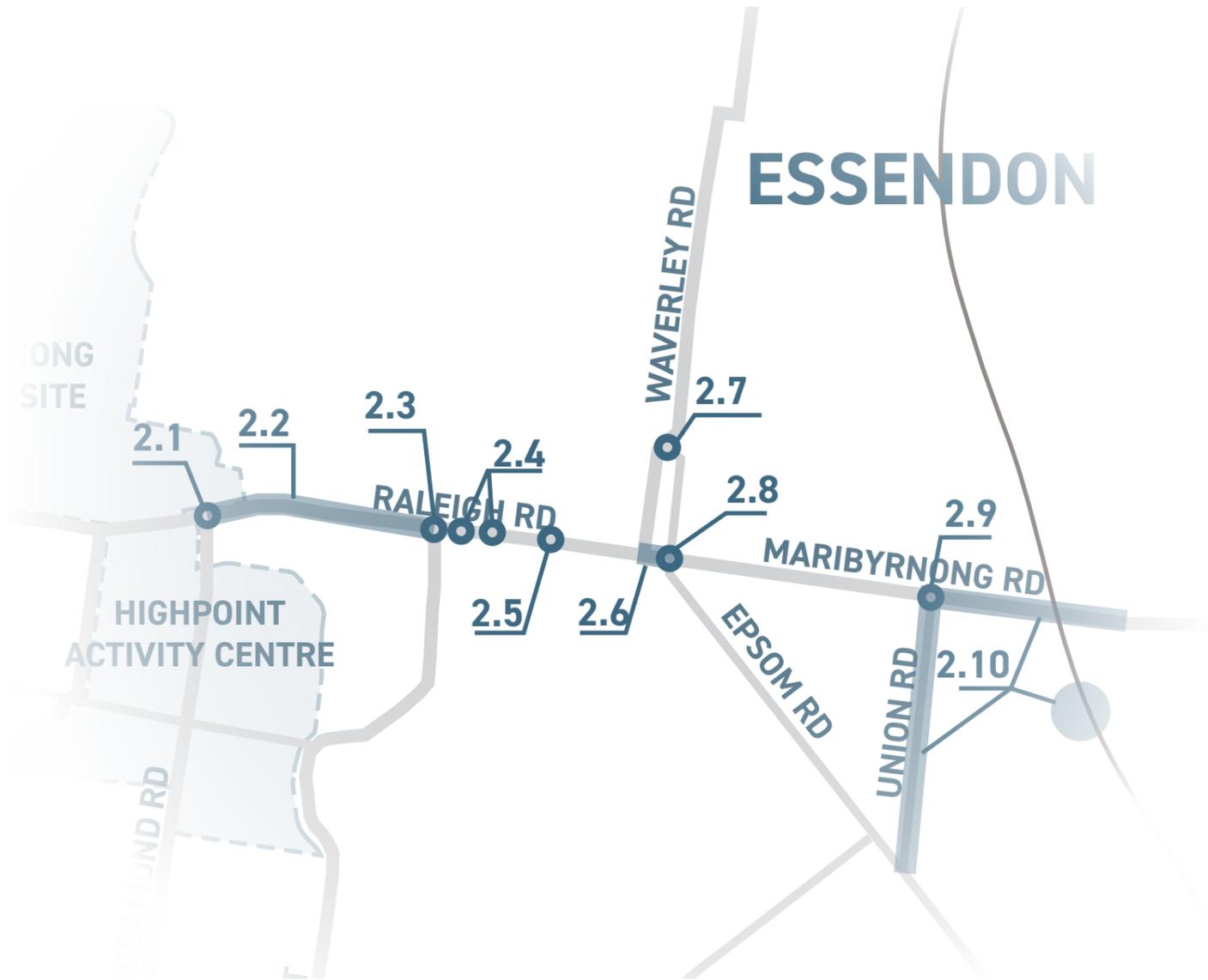
Benefit
Cost Low

1.12 Footscray Station to Footscray Station/Leeds St Tram Stop - Provide real-time information at the tram terminus and in the station precinct

Benefit
Cost Low

Low: <\$0.5m
 Medium: \$0.5m - \$2m
 High: \$2m+

Essendon Corridor



The Essendon corridor is key for accessing the CBD and beyond. Raleigh Road, crossing the Maribyrnong River, provides the only meaningful access between the two locations for all modes. We propose an integrated package of works at 10 locations that would:

- Smoothen road traffic flow by removing on-street car parking, improving intersections and reducing friction caused by poor wayfinding
- Improve efficiency of public transport services through prioritisation, separation and reducing congestion
- Enhance the public transport user experience by improving integration of interchanges with precincts and other modes
- Improve pedestrian connectivity and safety.

2.1 Rosamond Rd/Raleigh Rd Intersection
- Redesign intersection to prioritise tram movements, implement accessible tram stops, improve pedestrian facilities and wayfinding for vehicles

Benefit

Cost High

2.2 Raleigh Rd from Rosamond Rd to Van Ness Ave
- Create separated tram way, integrate with new accessible tram stops and remove on-street parking to provide clear vehicle lane

Benefit

Cost Medium

2.3 Raleigh Rd/Van Ness Ave Intersection
- Introduce wayfinding to key destinations

Benefit

Cost Low

2.4 Raleigh Rd/Newstead St Intersection to Navigator St Intersection
- Introduce right-turn bans in /out of side roads

Benefit

Cost Medium

2.5 Raleigh Rd/Clyde St
- Provide tram priority and improve signals to manage vehicle access onto Raleigh Road

Benefit

Cost Low

2.6 Maribyrnong Rd between Orford St and Epsom Rd
- Remove on-street parking, reallocate road space to through traffic and improve wayfinding to off-street parking

Benefit

Cost Low

2.7 Waverley St/Orford St/Burns St Intersection
- Redesign intersection to simplify complex design and improve north-south access

Benefit

Cost High

2.8 Maribyrnong Rd/Epsom Rd/Scotia St Intersection
- Introduce hook turns for right-turn vehicles on Maribyrnong Road to allow tram priority

Benefit

Cost Low

2.9 Maribyrnong Rd/Union Rd
- Redesign and relocate tram stops to improve interchange between services

Benefit

Cost Medium

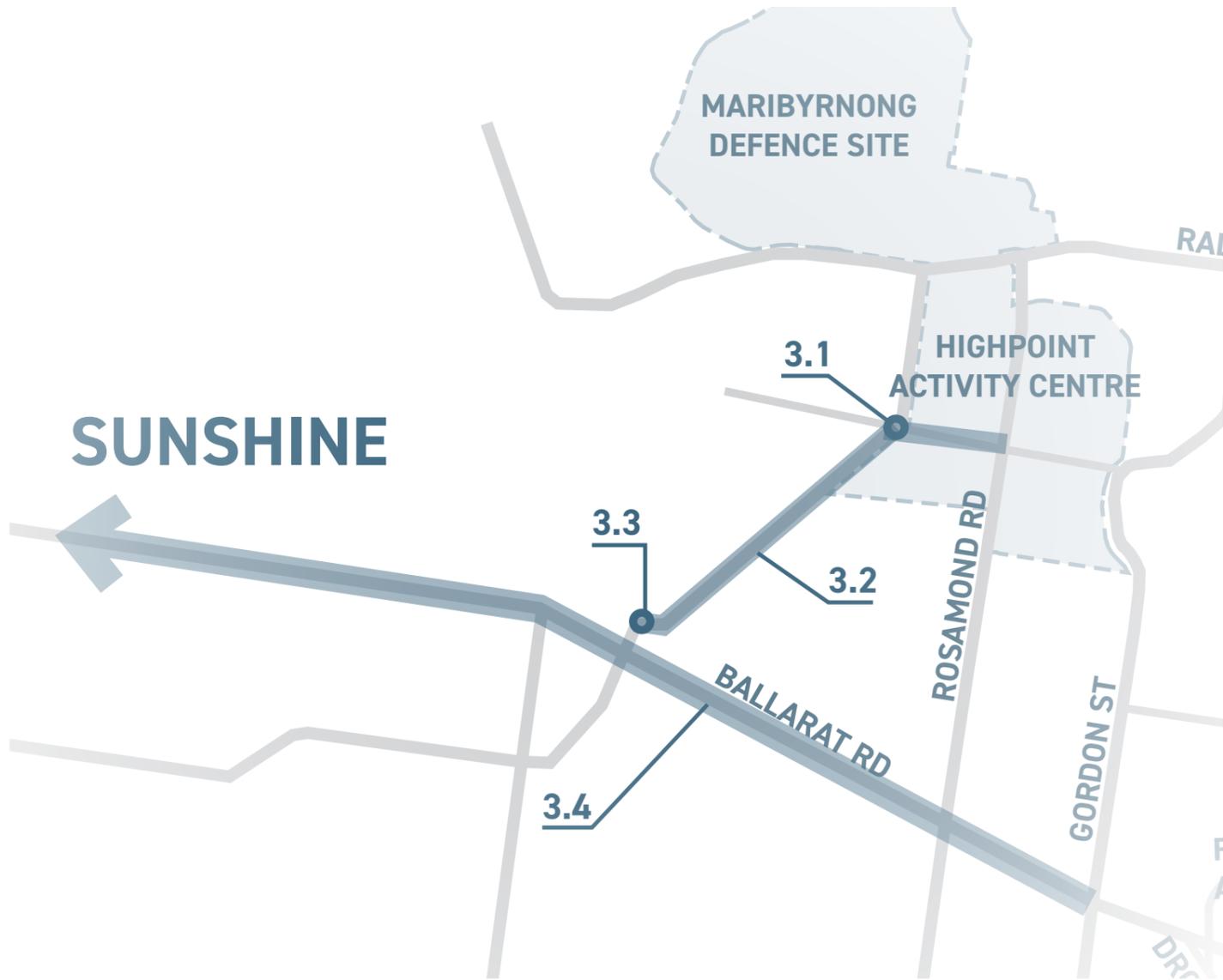
2.10 Ascot Vale Station and tram stops on Maribyrnong Rd and Union Rd
- Provide new wayfinding and improve pedestrian facilities along route

Benefit

Cost Low

Low: <\$0.5m
Medium: \$0.5m - \$2m
High: \$2m+

Sunshine Corridor



Sunshine is growing and transforming. It is a National Employment and Innovation Cluster, home to vibrant and diverse communities. Plans are also being developed for it to host a transport superhub serving the Melbourne Airport Rail Link, metropolitan and fast rail services delivered as part of the Western Rail Plan, as well as being a key interchange for bus services. We propose an integrated package of work along this important corridor that would:

- Smoothen road traffic flow by removing on-street car parking, improving intersections and reducing friction caused by poor wayfinding
- Improve efficiency of public transport services through prioritisation, separation and reducing congestion
- Improve pedestrian connectivity and safety.

3.1 Hampstead Rd/Williamson Rd/Wests Rd Intersection - Reduce intersection size and improve lane designation marking and signage to key destinations

Benefit

Cost High

3.2 Hampstead Rd - Provide on-road bus lane at peak times and remove on-street parking

Benefit

Cost High

3.3 Hampstead Rd/Churchill Ave/Ashley/Ballararat Rd/Mitchell - Comprehensive redesign of confusing layout of the three intersections and improve wayfinding

Benefit

Cost High

3.4 Ballararat Rd - Introduce 24-hour clearway to remove areas of on-street car parking

Benefit

Cost Medium

Low: <\$0.5m
Medium: \$0.5m - \$2m
High: \$2m+

All Corridors

Beyond the works identified at specific locations, we recommend three types of general improvements throughout the corridors to boost network resilience, enable road agency to respond quickly and manage proactively, and enhance road and public transport user experience.

Improve wayfinding and directional signage and utilise Highpoint parking space real-time information to reduce circulating traffic on the road network

Benefit Clear wayfinding to key destinations to ease confusion of road users and improves road and parking utilisation to and within Highpoint

Cost Medium

Provide new variable message signs and additional CCTV cameras for VicRoads access to enhance technology assisted management of congestion and incidents

Benefit Reduce congestion and incidents and provide users with more journey information

Cost High

Upgrade a majority of bus and tram stops on the public transport corridors

Benefit Enhance public transport user access and experience

Cost High (not included in the Transport Strategy as part of corridor improvement costings)

Note: compensation / mitigation for removing on-street car parking has not been included the cost bands for each item. Provisions will need to be made.

The Highpoint Activity Centre and the Maribyrnong Defence Site could attract billions of dollars of private investment, transforming the urban space, improving the lives of local people, and supporting communities to thrive in a highly liveable 20-minute city.

To realise the benefits from this once in a life-time opportunity, we have to overcome transport challenges.

Based on advice provided by GTA Consultants, we have developed a strategy that will improve access at the corridor level and enable smooth travel locally. Our corridor plan includes upgrading road sections and intersections, installing tram priorities, removing on-street parking, enhancing wayfinding and pedestrian connectivity. Delivering these initiatives will underpin and enable urban transformation.

When so much can be achieved for our people, the time to act is now.



HIGHPOINT ACTIVITY CENTRE

Transport Strategy

With considerations for the
Maribyrnong Defence Site

November 2018

**Transforming transport access, capacity and
environment, to support growth and liveability.**

A GPT document based on transport advice
provided by GTA Consultants

There is a once in a lifetime opportunity to transform the Highpoint Activity Centre and the Maribyrnong Defence Site into a world class residential, commercial and employment hub, benefitting the people and communities of Melbourne's inner west.

However, the current transport infrastructure is failing. The area needs public infrastructure investment to support a massive change to the urban landscape within this precinct, realising the benefits from billions of dollars of private investment.

This document provides a solution based on advice from GTA Consultants, setting out a strategy to tackle transport challenges at the corridor and local levels. When so much can be achieved for our people and our future, the time to act is now.

The keys to unlock this massive potential

The Highpoint Activity Centre and the Maribyrnong Defence Site are strategically located 10km from the CBD, between the metropolitan activity centres of Sunshine and Footscray, and the urban centre of Essendon.

There is the potential for the Activity Centre to benefit from well over \$1B of private investment, with plans to add 3,000+ dwellings, 15,000+ m² office space, 70,000+ m² retail space and 5,000+ m² transport industry space. The neighbouring 127 ha Defence Site has the potential for another 6,000+ dwellings approximately. The combined area will therefore become one of the largest mix-use precincts in Australia. [Source: Highpoint Planning and Urban Design Framework]

The number of yearly visitor trips to the GPT owned land within the Activity Centre is expected to increase from around 17M, to around 25M by 2028. Given the Defence Site's potential for more dwellings than as planned in the Activity Centre, it is plausible that there will be a further 8M trips to and from the Defence Site, bringing the combined number of trips in and out of the area to at least 33M by 2028.

An overhaul to transport capacity in this part of Melbourne is urgently required on two fronts -

- 1. Movement to and from the area:** improving transport corridors and introducing a step change to public transport connectivity
- 2. Movement within the area:** improving liveability by removing key constraints and congestion.



With the envisaged developments, demand will far exceed capacity on most roads (data based on morning peak traffic, doubling from current levels in Victorian Integrated Transport Model)

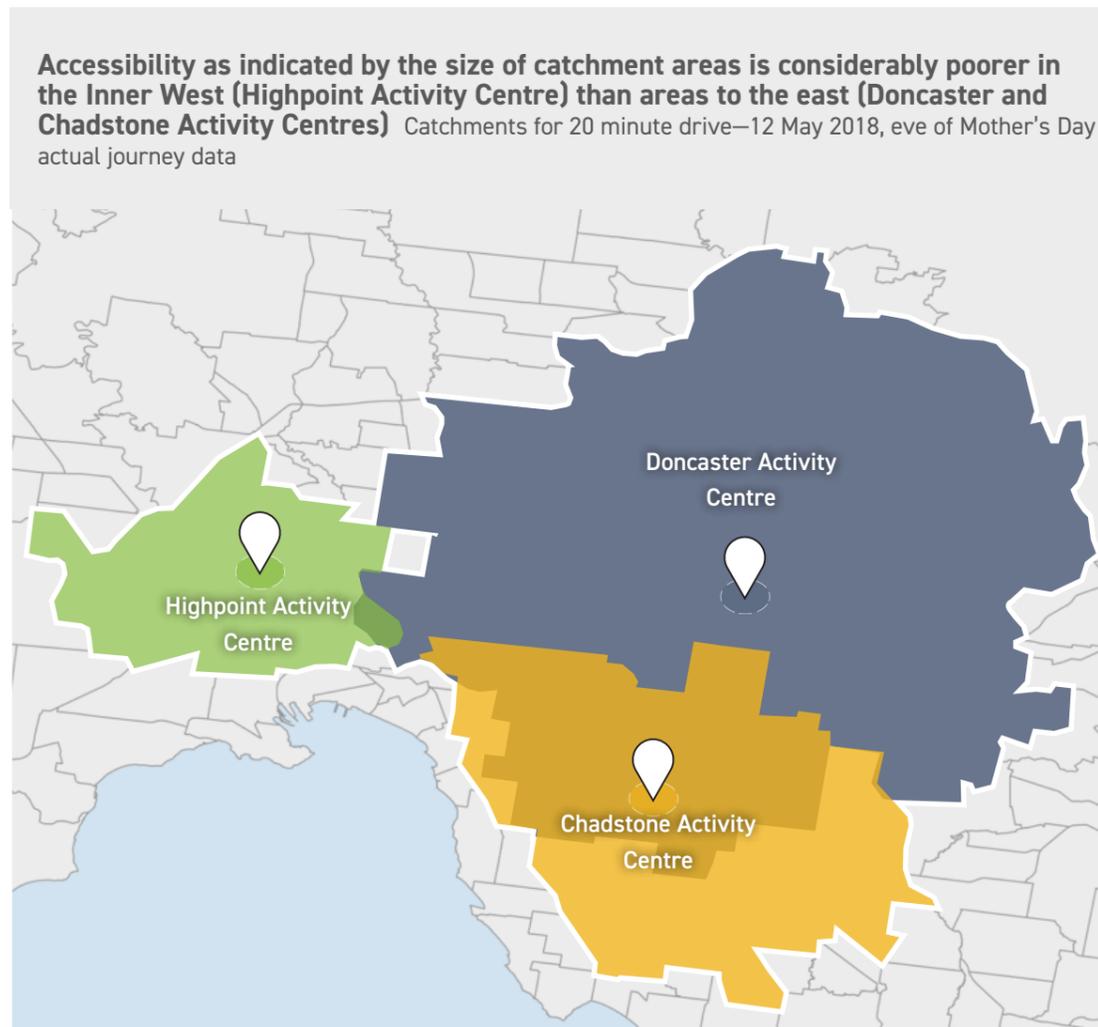
- Vehicle traffic being 150%+ of road capacity
- 100% to 150%
- 50% to 100%
- <50%

The following is required to facilitate the movement of people to, from, and within the area.

1. Movement to and from the area

Improve transport corridors and accessibility to create an attractive destination

The 'up and coming' Inner West suffers from poor accessibility, especially when compared to the more established suburbs in the east. Fulfilling the potential from private urban development means we need to redress the Inner West's transport disadvantage. Improving access corridors is crucial for the future of this area, if it is to be a high quality place for people and thriving communities. This is the first public infrastructure priority.



Introduce a step change to transport connectivity, benefitting local communities

There are many barriers in the area. The Maribyrnong River forms a natural barrier to three sides of the Defence Site, resulting in future traffic being channelled through already busy access points. The site also lacks supporting road links in the north-south direction, tram connections to the north, west and south-west, and direct access onto the heavy rail network. These issues stifle local developments. Game changing infrastructure must be considered such as new bridge crossings, new tram routes and bus network improvements.

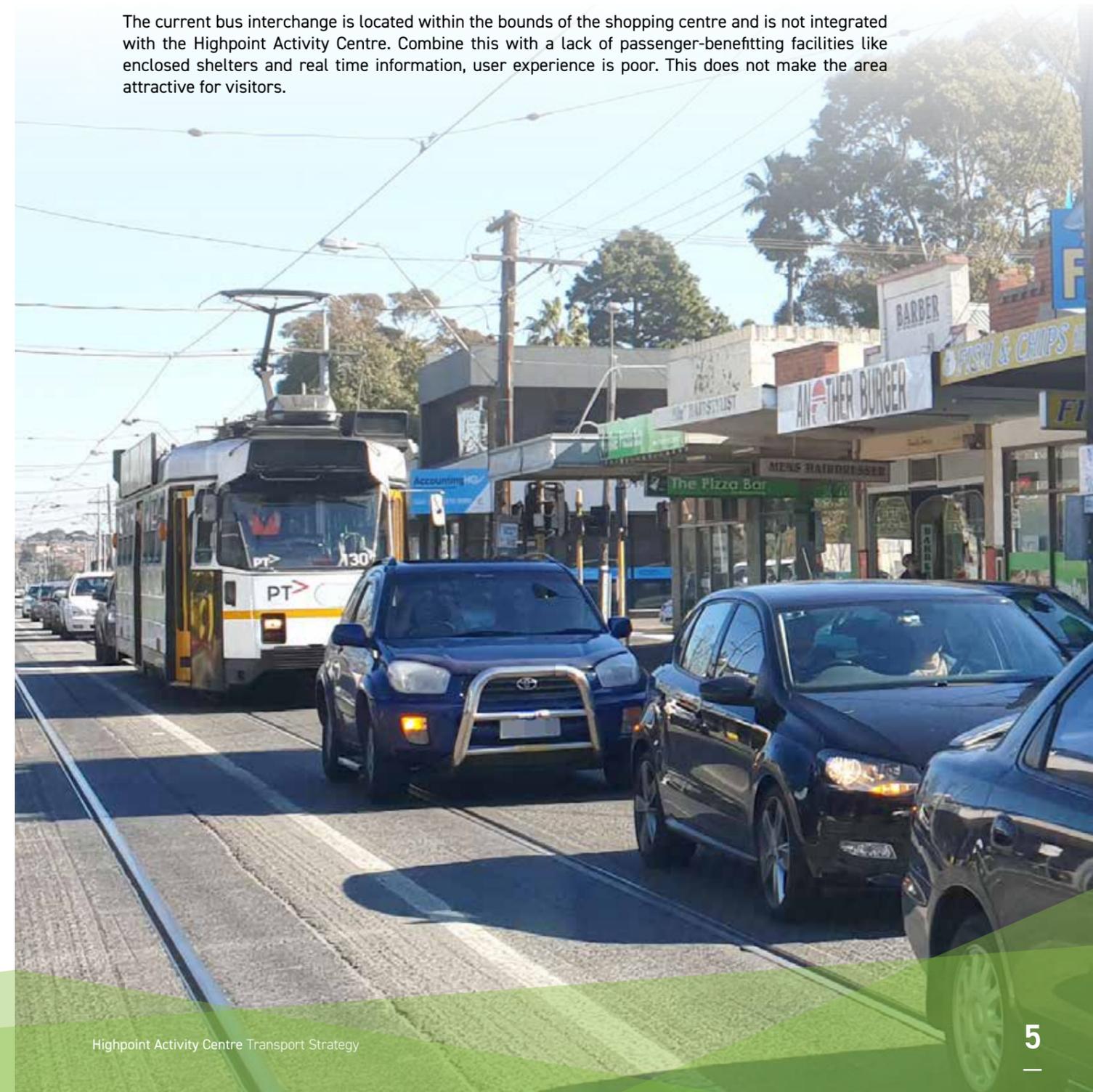
2. Movement within the area

Make the area more liveable by addressing key constraints, encouraging active transport and improving the interchange

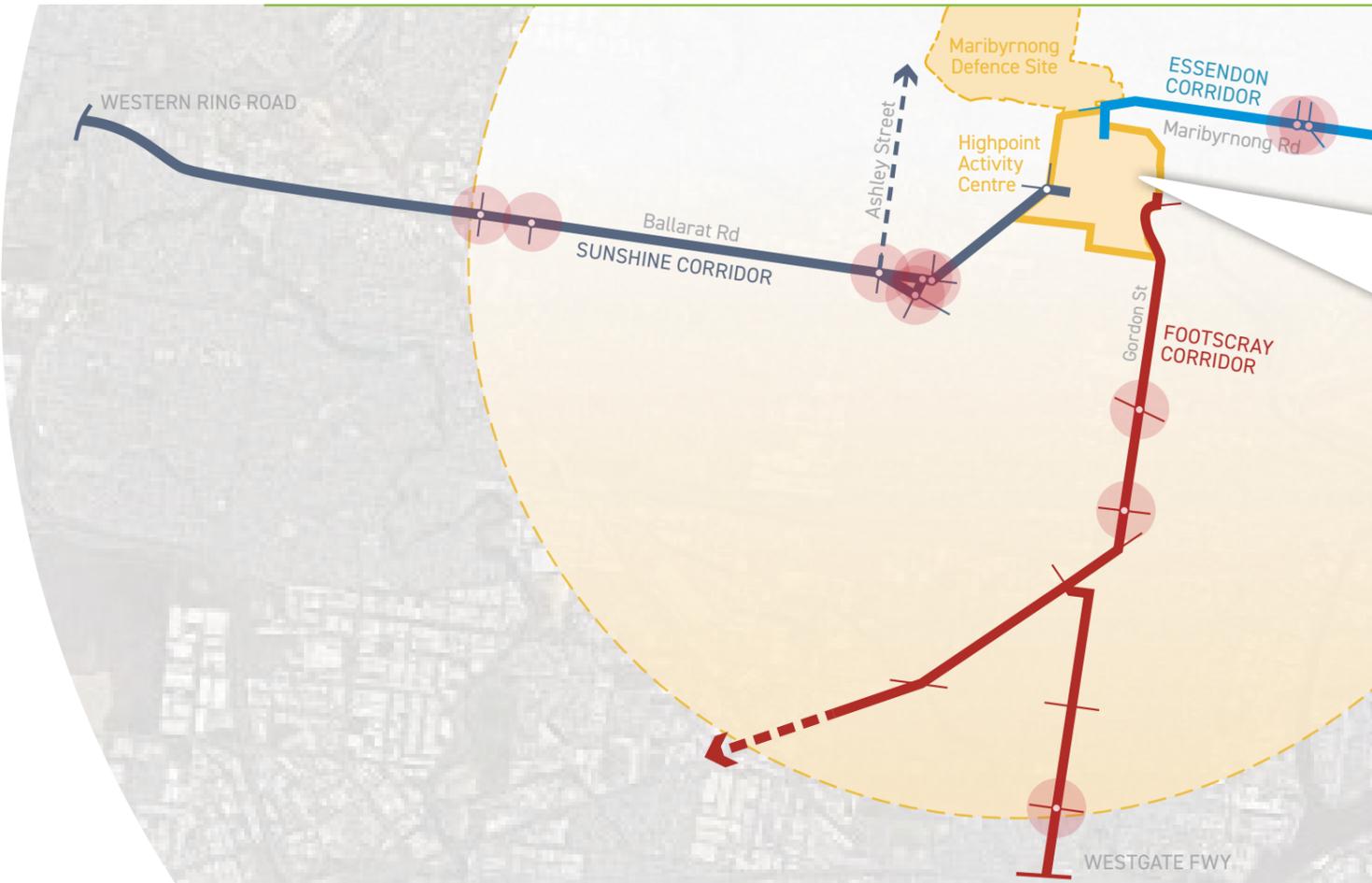
Key road sections and intersections are congested. Improving local design will improve traffic circulation, while benefitting both public and private transport modes.

The current environment for pedestrians and cyclists is poor with a lack of road crossings and cycle facilities. These are missed opportunities, not only in terms of transport, but also of amenity value and in creating a 'sense of place'.

The current bus interchange is located within the bounds of the shopping centre and is not integrated with the Highpoint Activity Centre. Combine this with a lack of passenger-benefitting facilities like enclosed shelters and real time information, user experience is poor. This does not make the area attractive for visitors.



Transport infrastructure plan: tackling congestion challenges today, enabling future private investment for a vibrant Inner West



In order for the Highpoint Activity Centre and the Maribyrnong Defence Site to be transformed with billions of dollars in private investment, we need to address the existing poor accessibility issue, while having a coherent plan to best channel investment in public infrastructure.

Movement to & from the area

Corridors

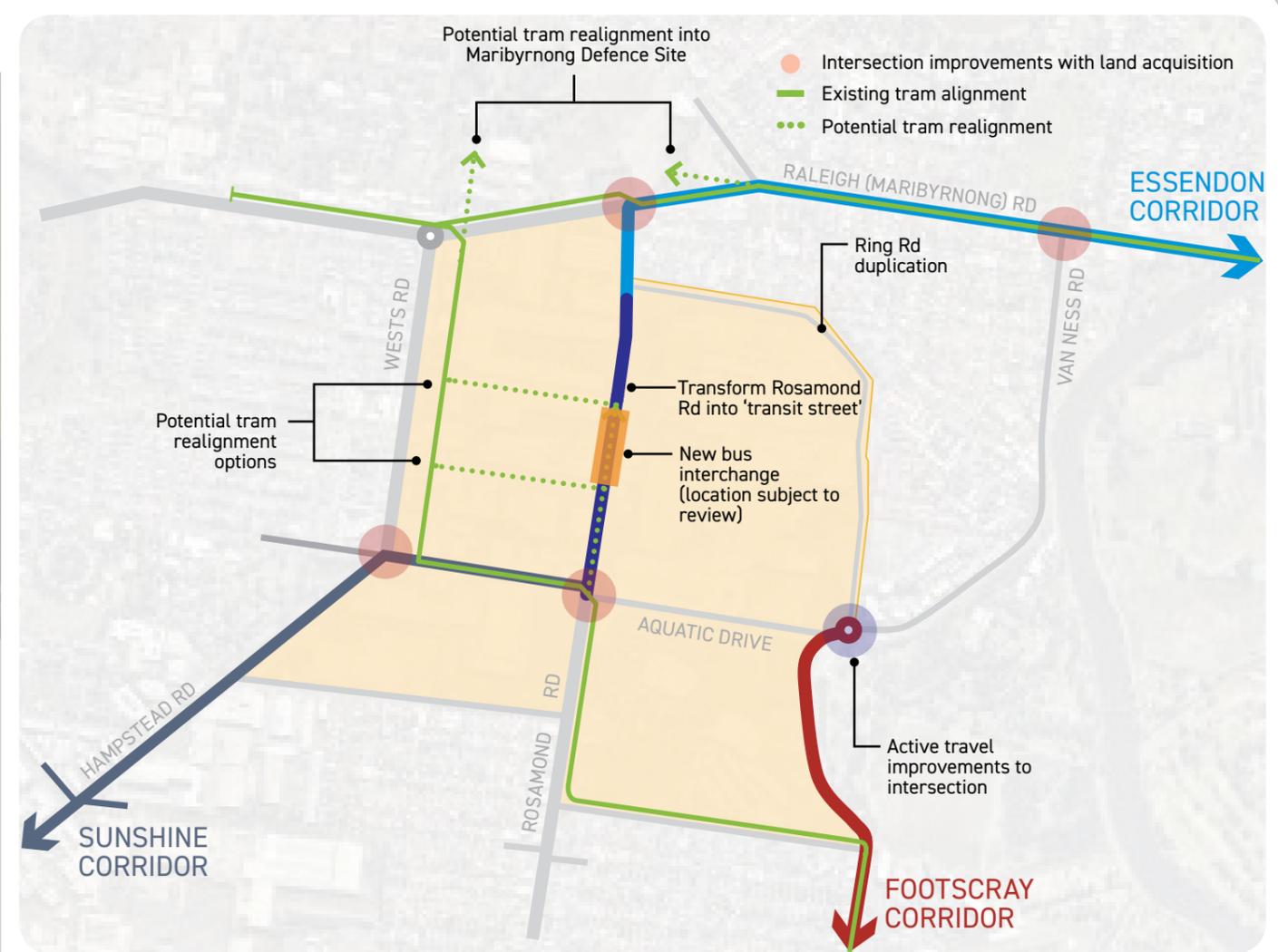
Upgrade the Sunshine, Footscray and Essendon road corridors, including:

1. Signal optimisations
2. Parking prohibitions and clearways
3. Public transport prioritisation works
4. Active travel (walking and cycling) improvements
5. Minor capacity improving infrastructure works at congested intersections

Cost: **Approximately \$60M**

Game changers (not shown in figure above)

- Ashley Street extension over Maribyrnong River
- Widening of Raleigh Road bridge over Maribyrnong River
- Possible light rail route to Sunshine via Flemington Racecourse and Maribyrnong Defence Site
- Bus network improvements (e.g additional route, increased frequency, enhanced stops, etc.)
- Tram network improvements (e.g increased frequency, enhanced stops, etc.)



Movement within the area

6. Intersection improvements with land acquisition at four main pinch points
7. Duplicate and widen Ring Road to redirect car traffic around the shopping centre
8. Transform Rosamond Road into a 'transit street' with pedestrian priority and a new bus and possible tram interchange
9. Improve active travel (walking and cycling) connection to, from, and within the Activity Centre
10. Realign tram route into Maribyrnong Defence Site

Cost: **Approximately \$55M** (excluding tram realignment and interchange)



The time to act is now

We need your support to deliver the transport solutions in this plan.

Improving access corridor to Highpoint Activity Centre and the Maribyrnong Defence Site is key for realising the potentials within the area.

Improving transport within the area will support urban development.

These solutions form an integrated package of public infrastructure and transport schemes, critical for realising the benefits from billions of dollars of private investment.

This is a once in a life-time opportunity for the people of the Inner West. Let's not miss it. Let's deliver.

We support the delivery of Government policy objectives and local plans

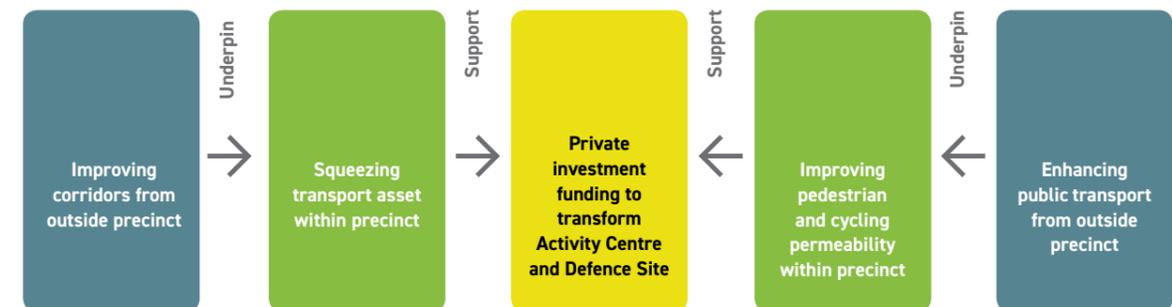
Our transport infrastructure plan aligns to State and Local Governments' visions for the city and the local area, in terms of investment, housing and integration at the strategic level, as well as at the detailed level on public transport and infrastructure improvements.

Plan Melbourne

- ✓ Attract investment: building a liveable city and a resilient economy
- ✓ Provide housing: at a higher density, accessible in locations where people want to live
- ✓ Integrate transport systems: meet future needs and support land use changes

Maribyrnong Integrated Transport Strategy

- ✓ Coordinate land use and transport: support redevelopments, connect communities, encourage sustainable travel
- ✓ Enhance public transport, including higher quality tram and bus services, improving road intersections and Rosamond Road in particular, build connections to the Defence Site



The Highpoint Activity Centre and the Maribyrnong Defence Site could attract billions of dollars of private investment, transforming the urban space, improving the lives of local people, and supporting communities to thrive in a highly liveable 20-minute city.

To realise the benefits from this once in a life-time opportunity, we have to overcome transport challenges as they threaten the success of our future.

Based on advice provided by GTA Consultants, we have developed a strategy that will improve access at the corridor level and enable smooth travel locally. Our plans include upgrading road sections and intersections, installing bus priorities, improving tram accessibility and extending services, enhancing the walking and cycling environment, and redeveloping the bus interchange. Delivering these initiatives will underpin and enable urban transformation.

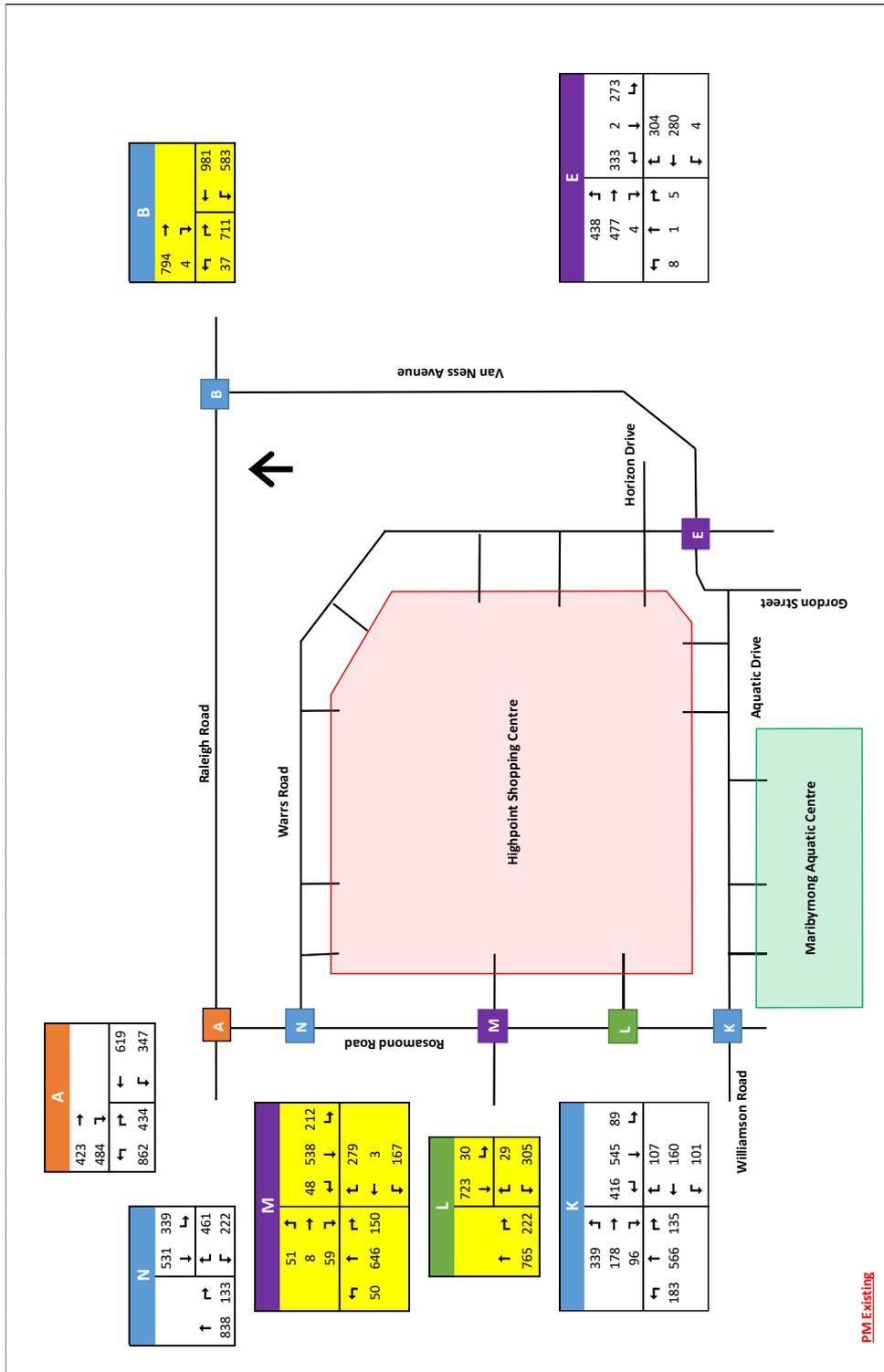
When so much can be achieved for our people, the time to act is now.

B. TRAFFIC IMPACT ASSESSMENT ADDITIONAL INFORMATION

B

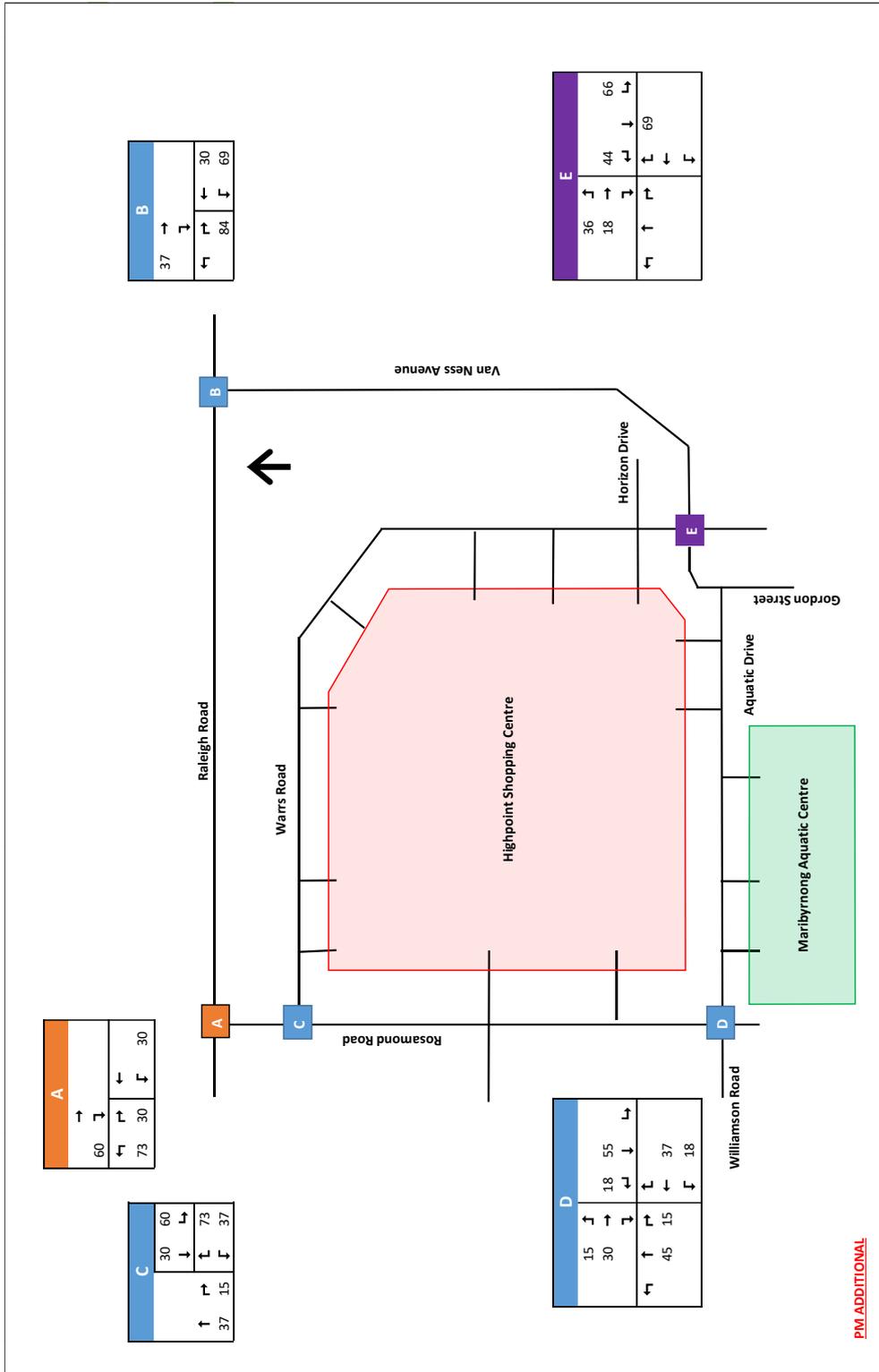
APPENDIX: TRAFFIC IMPACT ASSESSMENT ADDITIONAL INFORMATION

Figure B1: Existing Traffic Volumes – PM Peak Hour Volumes



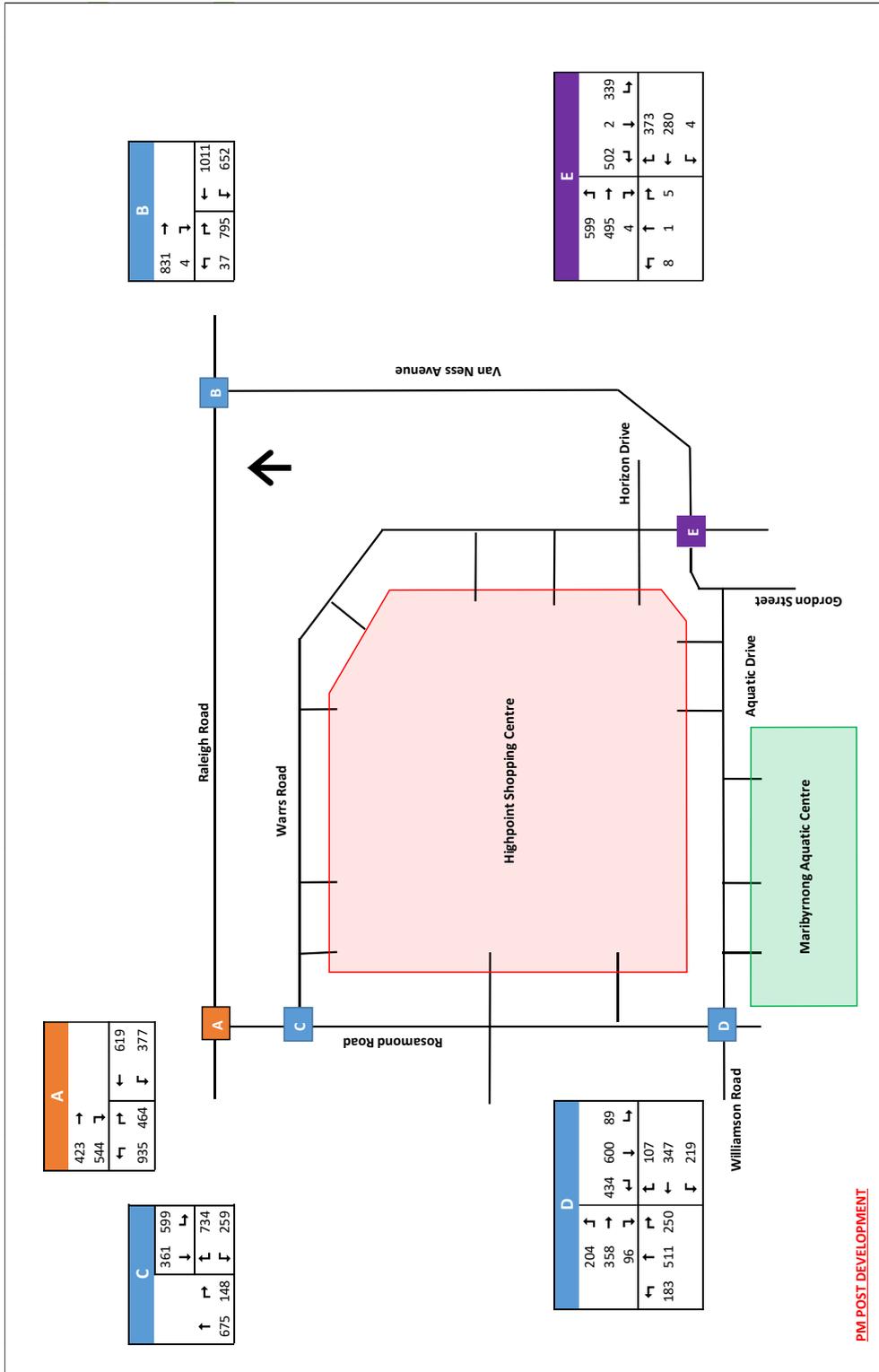
APPENDIX: TRAFFIC IMPACT ASSESSMENT ADDITIONAL INFORMATION

Figure B2: Site Generated Traffic Volumes – PM Peak Hour Volumes



APPENDIX: TRAFFIC IMPACT ASSESSMENT ADDITIONAL INFORMATION

Figure B3: Post Development Traffic Volumes – PM Peak Hour Volumes



APPENDIX G

ENVIRONMENTALLY SUSTAINABLE DESIGN STRATEGY (ADP CONSULTING)

Highpoint Development Plan

Environmentally Sustainable Design (ESD) Strategy

Prepared for: The GPT Group

Project No: MEL1951
Date: 16 October 2020
Revision: 04



Project:	Highpoint Development Plan
Location:	120-200 Rosamond Road Maribyrnong, VIC, 3032
Prepared by:	ADP Consulting Pty Ltd Level 11, 60 Albert Road South Melbourne VIC 3205
Project No:	MEL1951
Revision:	04
Date:	16 October 2020

Rev	Date	Comment	Author	Signature	Technical Review	Signature	Authorisation & QA	Signature
01	28/02/20	For Client Review	David Mahony	DM	Sophie Hutchinson	SH	Jason Afford	JA
02	08/09/20	For Client Review	David Mahony	DM	Sophie Hutchinson	SH	Frank Cattafi	FC
03	07/10/20	Final Issue	David Mahony	DM	Sophie Hutchinson	SH	Frank Cattafi	FC
04	16/10/20	Final Issue	David Mahony	DM	Sophie Hutchinson	SH	Frank Cattafi	FC

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Sustainability Consultant	ADP Consulting
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Contents

Executive Summary	4
1. Introduction	5
1.1 Development Summary	6
2. Sustainability Objectives	8
2.1 Highpoint Development Plan Sustainability Vision	8
2.2 Statutory Context	9
2.3 National Construction Code	10
2.4 Relevant Documents	10
3. Sustainability Approach	11
3.1 Green Building Council of Australia	11
4. ESD Strategy	13
4.1 Energy Conservation	13
4.2 Water conservation.....	15
4.3 Water sensitive urban design	16
4.4 Operational Waste	17
4.5 Materials.....	18
4.6 Demolition and construction management.....	19
4.7 Landscape and biodiversity	21
4.8 Indoor Environment Quality.....	23
5. Aspirational Targets	26
5.1 Community	26
5.2 Prosperous	27
5.3 Places.....	28

Figures

Figure 1: Highpoint Shopping Centre relative to the Melbourne CBD	5
Figure 2: Proposed Highpoint Development Plan, Urbis 2020	7

Tables

Table 1: Future Highpoint Development area summary.....	6
Table 2: Future Highpoint open space area summary.....	6
Table 3: Schedule 17-3 Environmentally Sustainable Design Strategy requirements.....	9
Table 4: Summary of Green Star for New Buildings and Communities categories.....	11
Table 5: Highpoint Development Plan Green Star Targets.....	12
Table 6: Highpoint Development ESD Strategy for energy conservation.....	13
Table 7: Highpoint Development ESD Strategy for water conservation.....	15
Table 8: Highpoint Development ESD Strategy for water sensitive urban design	16
Table 9: Highpoint Development ESD Strategy for waste reduction.....	17
Table 10: Highpoint Development ESD Strategy for building materials	18
Table 11: Highpoint Development ESD Strategy for demolition and construction.....	19
Table 12: Highpoint Development ESD Strategy for landscape and biodiversity	21
Table 13: Highpoint Development ESD Strategy for indoor environment quality	23
Table 14: Highpoint Development ESD Strategy for Community.....	26
Table 15: Highpoint Development ESD Strategy for Prosperous.....	27
Table 16: Highpoint Development ESD Strategy for Places	28

Executive Summary

The vision for the Highpoint Activity Centre as articulated in the Maribyrnong Planning Scheme is to create a vibrant mixed-use centre that is an exciting place to live, work and visit. Consistent with this vision, GPT is seeking to develop parts of the Highpoint Shopping Centre site to accommodate a mix of uses including residential, commercial, retail, short stay and community uses.

The Highpoint Development Plan ESD Strategy will translate and apply the GPT Sustainability Strategy and Local Government requirements to set key sustainability requirements, and foster ambition and innovation by comparing these key requirements against world-leading sustainability approaches.

Statutory Context

An Environmentally Sustainable Design Strategy is to be prepared to the satisfaction of the Responsible Authority having regard to the particular stage, site or precinct, which identifies sustainability performance standards to be adopted.

Overall, the proposed ESD initiatives of this development will meet Council’s overarching goal of promoting sustainable design and buildings.

Sustainability Vision

GPT’s current sustainability vision for the project is to set a market “World Leadership” benchmark in social and environmental sustainability in the built environment, including:

- > A precinct with enhanced **connectivity** to mass public transit.
- > A culturally vibrant community that facilitates engagement with **cultural diversity, identity, heritage** with a “sense of place”
- > A **safe and resilient community** that is both inclusive and cohesive, creating conditions for equal opportunity.
- > Community **health and well-being** facilitated by walkable access to amenities, access to affordable fresh food, access to green spaces promoting physical exercise, biophilic design and optimal ambient conditions.
- > Adoption of **environmentally sustainable design** and construction practices which contribute to reductions in **waste, water and energy consumption** as well as **greenhouse gas emissions**.

“To set a market **World Leadership** benchmark in social and environmental sustainability in the built environment”
- GPT

Sustainability Approach

Green Star for New Buildings and Communities reimagines the existing rating tool for new buildings and major refurbishments and precincts. It aims to deliver a better, more accessible and relevant experience that meets today’s challenges. The Green Star for New Buildings and Communities Tools has formed the basis for the Highpoint Development Plan ESD Strategy, with the below targets for the development.

Green Star Tools	Green Star Targets	Residential	Office	Retail	Precinct
Green Star for New Buildings	Benchmarked 5-star minimum equivalent	○	○	○	
Green Star for Communities	Benchmarked 5-star minimum equivalent				○

1. Introduction

Highpoint Shopping Centre is located in Maribyrnong, 8km northwest of the Melbourne CBD. It is one of the largest shopping centres in Australia, with 154,000m² of floor space and over 500 stores.

The Centre is located within the Highpoint Activity Centre which is designated as a Major Activity Centre in the State Government’s Activity Centre Hierarchy and a Principal Activity Centre in the Maribyrnong Planning Scheme.



Figure 1: Highpoint Shopping Centre relative to the Melbourne CBD

The vision for the Highpoint Activity Centre as articulated in the Planning Scheme is to create a vibrant mixed-use centre that is an exciting place to live, work and visit.

Consistent with this vision, GPT is seeking to develop parts of the Highpoint Shopping Centre site to accommodate a mix of uses including residential, commercial, retail, short stay and community uses.

The Highpoint Activity Centre is split into 7 key precincts under the Local Planning Scheme, with the Shopping Centre being located within Precinct 6 – Highpoint Hub.

1.1 Development Summary

1.1.1 Future Highpoint Development Summary

Table 1 summarises the future expected gross floor area of each asset type in the Highpoint Development Plan.

Table 1: Future Highpoint Development area summary

Land Use	Total GFA	Total no. of dwellings	Total no. of hotel rooms	Total no. of car parks
Residential	327,011	3,152	-	2,041
Hotel	8,476	-	147	44
Commercial	148,830	-	-	1,604
Retail – Additional	69,063	-	-	2,926
Retail – Refurbished	15,036	-	-	-
Community	10,685	-	-	-
Existing Retail				
Existing to be retained	126,990	-	-	-
Existing to be removed	13,974	-	-	-
Total	692,117	3,152	147	8,877

Table 2 outlines the expected open green space area that will be developed as part of the Highpoint Development Plan.

Table 2: Future Highpoint open space area summary

Land Use	Total GFA
Open Space (softscape)	19,968
Total	19,968



Figure 2: Proposed Highpoint Development Plan, Urbis 2020

2. Sustainability Objectives

The Highpoint Development Plan ESD Strategy will translate and apply the GPT Sustainability Strategy and Local Government requirements to set key sustainability requirements, and foster ambition and innovation by comparing these key requirements against world-leading sustainability approaches.

2.1 Highpoint Development Plan Sustainability Vision

GPT’s sustainability vision for the project is to set a market “World Leadership” benchmark in social and environmental sustainability in the built environment, including:

- > A precinct with enhanced **connectivity** to mass public transit.
- > A culturally vibrant community that facilitates engagement with **cultural diversity, identity, heritage** with a “sense of place”
- > A **safe and resilient community** that is both inclusive and cohesive, creating conditions for equal opportunity.
- > Community **health and well-being** facilitated by walkable access to amenities, access to affordable fresh food, access to green spaces promoting physical exercise, biophilic design and optimal ambient conditions.
- > Adoption of **environmentally sustainable design** and construction practices which contribute to reductions in **waste, water and energy consumption** as well as **greenhouse gas emissions**.

“To set a market **World Leadership** benchmark in social and environmental sustainability in the built environment”

- GPT

2.1.1 GPT Sustainability Strategy and Commitments

To ensure that GPT delivers on its environmental sustainability vision a number of key policies and targets have been established. These policies and targets relate to:

- > **Climate Change and Energy:** Identify and respond to climate change risks and opportunities in managing the property portfolio and work towards carbon neutrality in operations, developments and corporate activities.
- > **Water:** Employ leading practice approaches to sustainable use and management of water resources within the business operations, developments and corporate activities.
- > **Waste and Resource:** Adopt a “closed loop” and lifecycle optimisation approach to managing waste and resource use within the business operations, developments and corporate activities. This includes best practice levels of:
 - Construction and demolition waste to landfill (less than 5%); and
 - Construction materials that are easy to reuse or recycle at end of life (at least 95%).
- > **Biodiversity:** Make a positive contribution to biodiversity, in the local environment wherever possible.

The GPT Group’s Sustainability Commitments will form a key component of the Highpoint Development Plan and will be referenced as part of the development’s requirements.

2.2 Statutory Context

2.2.1 Maribyrnong City Council

The Highpoint Shopping Centre is located within the municipal boundaries of the Maribyrnong City Council (MCC). MCC have a number of Development Plan Overlays (DPOs) and amendments related to the Highpoint Activity Centre.



These requirements have formed part of GPT's ESD Strategy for the development and are detailed in the following sub-sections.

Overall, the proposed ESD initiatives of this development will meet Council's overarching goal of promoting sustainable design and buildings.

2.2.1.1 Schedule 17 to Clause 43.04 Development Plan Overlay

Schedule 17 to Clause 43.04 Development Plan Overlay, shown on the planning scheme map as DPO17, refers to the Highpoint Activity Centre, with the Highpoint Shopping Centre referred to as Precinct 6, which includes the **Vision and Objectives** statement;

To create a compact, highly accessible and distinctive place that provides regional high-quality living, working and recreation opportunities around a prominent town centre with new development that respects the area's spectacular setting and proximity to the Maribyrnong River.

Redevelopment will reinforce the centre's significant regional retail role and will accommodate quality housing for a range of people, new local retailing to complement the existing large-format retailing, office-based business at different scales, improved vehicle, pedestrian and cycle connectivity and plentiful greenspaces.

2.2.1.2 Schedule 17 – Item 3.0: Environmentally Sustainable Design Strategy

An Environmentally Sustainable Design Strategy must be prepared to the satisfaction of the Responsible Authority having regard to the particular stage, site or precinct, which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles and requirements, as outlined in Table 3, with references to report sections with the applicant's response:

Table 3: Schedule 17-3 Environmentally Sustainable Design Strategy requirements

Principles	Requirement	Report Reference
Energy conservation	Energy conservation with the objective of contributing to industry standards to reduce energy usage and greenhouse gas emissions	Section 4.1
Water conservation	Water conservation, ensuring that water resources are managed in a sustainable way	Section 4.2
Water Sensitive Urban Design	Water Sensitive Urban Design and the reductions of the impacts of stormwater on catchments consistent with the general principles as detailed in Urban Stormwater Best Practice Environmental Management Guidelines (Melbourne Water)	Section 4.3

Principles	Requirement	Report Reference
Operational waste	Reduction of the amount of waste generated and encouragement of increased reuse and recycling of waste materials	Section 4.4
Materials	Building materials conservation	Section 4.5
Demolition and construction management	Sustainability options in demolition and construction practices	Section 4.6
Landscape and biodiversity	Landscaping considering the provision of habitat, green spaces and climate control as appropriate	Section 4.7
Indoor environment quality	Indoor environmental quality and healthy internal environments	Section 4.8

2.2.2 Response to Council Feedback

Any responses to future council feedback shall be provided in this space in subsequent revisions.

2.3 National Construction Code

Compliance with the latest version of the National Construction Code Section J should be achieved for all buildings and building classes in the development.

2.4 Relevant Documents

Whilst this ESD Strategy responds directly to the DPO requirements of Schedule 17-3, the report should be read in context with the following reports, developed in conjunction with the wider design team to target holistic sustainability outcomes;

- > Urban Context Report; Urbis
- > Social Infrastructure Report; Urbis
- > Water Sensitive Urban Design Report; Peritas
- > Services and Infrastructure Report; ADP Consulting
- > Traffic and Transport Report; GTA Consultants

3. Sustainability Approach

3.1 Green Building Council of Australia

3.1.1 Green Star for New Buildings and Communities

Announced in March 2019, Green Star for New Buildings reimagines the existing rating tool for new buildings and major refurbishments. It aims to deliver a better, more accessible and relevant experience that meets today’s challenges.



Green Star for Communities reframes current issues to provide a more accessible definition of a sustainable precinct whilst staying technically robust. The new framework underpinning Green Star for Communities matches global movements and initiatives, such as the Paris Climate Change Agreement, 100 Resilient Cities and the United Nations’ Sustainable Development Goals – those that are increasingly on the radar of investors, governments and communities.

Table 4: Summary of Green Star for New Buildings and Communities categories

Category	Description
Responsible	Credits in this category recognise activities that ensure the building is designed, procured, built and handed over in a responsible manner
Healthy	Promotes actions and solutions that improve the physical and mental health of occupants
Resilient	Encourages solutions that address climate change impacts, potential infrastructure losses, as well as those that enhance community resilience
Positive	Drives the building to address energy use, carbon emissions, water consumption and the impact of materials and resources
Places	Supports the creation of safe, enjoyable, and comfortable places that are integrated into the broader urban fabric and enable communities to connect and thrive
People	Encourages solutions that address the social health of the community, promote inclusion, and enhance our social fabric
Nature	Encourages the creation of green buildings, new natural corridors in cities, and the restoration of our natural environment
Leadership	Recognises projects that set a strategic direction, build a vision for industry or enhance the industry’s capacity to innovate
Community	Encourages delivery of services, infrastructure, and programs that promote social cohesion and equity throughout the life of the development
Prosperous	Promotes the development of a precinct that provides equitable access to jobs, services, housing and similar services

3.1.2 Approach

The Green Star for New Buildings and Communities Tools has formed the basis for the Highpoint Development Plan ESD Strategy, with the below targets for the development.

Table 5: Highpoint Development Plan Green Star Targets

Green Star Tools	Green Star Targets	Residential	Office	Retail	Precinct
Green Star for New Buildings	Benchmarked 5-star minimum equivalent	○	○	○	
Green Star for Communities	Benchmarked 5-star minimum equivalent				○

4. ESD Strategy

The following sub-sections outline the proposed ESD Strategy for the Highpoint Development Plan, bringing together GPT’s vision for sustainability and elements of the Green Star tool, setting the minimum requirements and aspirational targets for the development in response to the DPO ESD Strategy requirements.

4.1 Energy Conservation

4.1.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > **Energy conservation** with the objective of contributing to industry standards to reduce energy usage and greenhouse gas emissions

4.1.2 GPT Group Requirements

GPT’s energy conservation strategies include:

- > Adoption of **environmentally sustainable design** and construction practices which contribute to reductions in waste, water and **energy consumption** as well as **greenhouse gas emissions**.
- > Identify and respond to **climate change risks** and opportunities in managing the property portfolio and work **towards carbon neutrality** in operations, developments and corporate activities.

4.1.3 Approach to energy conservation

Table 6: Highpoint Development ESD Strategy for energy conservation

Criteria	Pathway	Minimum Requirement	Aspirational Target
Energy Use			
Energy Use	<p>Buildings must be built to have at least a 10% lower energy use than one built to the 2019 National Construction Code.</p> <ul style="list-style-type: none"> > Minimum 10% improvement on AC value in the NCC wall-glazing calculator; > Minimum 10% reduction on energy consumption of fan systems (J5.4), pump systems (J5.7), refrigerant chillers (J5.10) and heat rejection equipment (J5.12); > Minimum 10% reduction on energy consumption on lighting efficiency W/m²; > Minimum 10% reduction on total building systems energy use 	○	
Energy Source			

Criteria	Pathway	Minimum Requirement	Aspirational Target
Transition Plan	To enable a move towards net zero carbon outcomes, GPT must provide a transition plan. The transition plan delineates steps to deliver a net zero carbon in operations outcome from 2030 onwards.		○
Renewable Energy			
Rooftop solar PV	Rooftop solar PV will be prioritised in the development, targeting a minimum 40% of available roof area, balanced with the integration of green roofs and landscaping		○
Climate Change			
Climate Change Resilience Plan	The development must include a comprehensive project-specific climate change risk and adaptation assessment for the precinct.	○	

4.2 Water conservation

4.2.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > **Water conservation**, ensuring that water resources are managed in a sustainable way

4.2.2 GPT Group Requirements

GPT's water conservation strategies include:

- > Adoption of **environmentally sustainable design** and construction practices which contribute to reductions in waste, **water** and energy **consumption** as well as greenhouse gas emissions.
- > Identify and respond to **climate change risks** and opportunities in managing the property portfolio and work towards carbon neutrality in operations, developments and corporate activities.

4.2.3 Approach to water conservation

Table 7: Highpoint Development ESD Strategy for water conservation

Criteria	Pathway	Minimum Requirement	Aspirational Target
Water Use			
Water Use	All buildings must install water efficient fixtures and appliances. All fixtures must meet the WELS ratings below: <ul style="list-style-type: none"> > Taps: 5 Star > Urinals: 5 Star > Toilets: 4 Star > Showers: 3 Star > Dishwashers: 5 Star 	○	
	All buildings must demonstrate a minimum 20% reduction in potable water consumption when compared to a standard practice building.	○	
Rainwater Collection			
Rainwater Collection	All buildings must harvest rainwater falling on non-trafficable areas for reuse in the building toilet flushing systems and/or landscape requirements	○	

4.3 Water sensitive urban design

4.3.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > **Water Sensitive Urban Design** and the reductions of the impacts of stormwater on catchments consistent with the general principles as detailed in Urban Stormwater Best Practice Environmental Management Guidelines (Melbourne Water)

4.3.2 GPT Group Requirements

GPT's water sensitive urban design strategies include:

- > Adoption **environmentally sustainable design** and construction practices which contribute to reductions in waste, **water** and energy **consumption** as well as greenhouse gas emissions.
- > Identify and respond to **climate change risks** and opportunities in managing the property portfolio and work towards carbon neutrality in operations, developments and corporate activities.

4.3.3 Approach to water sensitive urban design

Table 8: Highpoint Development ESD Strategy for water sensitive urban design

Criteria	Pathway	Minimum Requirement	Aspirational Target
Waterway Protection			
Stormwater	<p>The development must show that its stormwater management solution addresses runoff volume and water pollution reduction targets.</p> <ul style="list-style-type: none"> > Runoff volume: The development must demonstrate an annual average flow reduction (ML/yr) of 40% compared to pre-development levels. > Water Pollution: All runoff discharged from site meets specified pollution reduction targets listed in Table A of the Green Star Technical Guidance 	○	
Water Sensitive Urban Design			
WSUD	For complete WSUD catchment areas and treatment requirements, please refer Peritas DRW: PC19390-CI-SK_02_B	○	

4.4 Operational Waste

4.4.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > Reduction of the amount of **waste** generated and encouragement of increased **reuse and recycling** of waste materials

4.4.2 GPT Group Requirements

GPT's construction and operational waste reduction strategies include:

- > Minimisation of waste to landfill by the maximising of recycling during demolition, construction and operation
- > Optimised use of recycled materials in construction and recyclability at end of lifecycle.

4.4.3 Approach to operational waste

Table 9: Highpoint Development ESD Strategy for waste reduction

Criteria	Pathway	Minimum Requirement	Aspirational Target
Operational waste			
Separation of waste streams	All buildings must provide bins or storage containers to building occupants to enable them to separate their waste. They must allow for segregating the following as a minimum: <ul style="list-style-type: none"> > Paper and cardboard > Glass and plastics > Organic waste > General waste 	○	
Dedicated waste storage	All buildings must have an appropriately sized dedicated storage area for consolidating the waste streams. The storage area must be sized to accommodate all bins or containers, for all applicable waste streams, for at least 2 days' worth of waste.	○	
Access to waste storage area	Storage areas must allow for safe and easy access by collection vehicles. Collection points must be prioritised to the development borders rather than internal.	○	
Qualified waste auditor	The project must develop an Operational Waste Management Plan and the mechanisms are in place to ensure this plan is implemented during in the development's operations.	○	

4.5 Materials

4.5.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > Building **materials conservation**

4.5.2 GPT Group Requirements

GPT's materials strategies include:

- > Optimised use of recycled materials in construction and recyclability at end of lifecycle.
- > Adopt a "closed loop" and lifecycle optimisation approach to managing waste and resource use within the business operations, developments and corporate activities. This includes best practice levels of:
 - Construction materials that are easy to reuse or recycle at end of life (at least 95%).

4.5.3 Approach to materials

Table 10: Highpoint Development ESD Strategy for building materials

Criteria	Pathway	Minimum Requirement	Aspirational Target
Upfront Carbon Emissions			
Upfront Carbon Emissions	The building must be built to have emitted at least 10% lower upfront carbon (embodied) emissions than a reference building.	○	
Impacts from Resources			
Impacts from Resources	A whole-of-building, whole-of-life (cradle to grave) comparative life cycle assessment (LCA) must be conducted for the project. The project must demonstrate reductions in impacts when compared with standard practice.		○
Construction materials	Priority must be given to the optimised use of recycled materials in construction and recyclability at end of lifecycle. Adopt a "closed loop" and lifecycle optimisation approach to managing waste and resource use within the development. This includes best practice levels of: <ul style="list-style-type: none"> > Construction materials that are easy to reuse or recycle at end of life (at least 95%). 		○

4.6 Demolition and construction management

4.6.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > Sustainability options in **demolition and construction** practices

4.6.2 GPT Group Requirements

GPT's demolition and construction practices strategies include:

- > Minimisation of waste to landfill by the maximising of recycling during demolition, construction and operation
- > Optimised use of recycled materials in construction and recyclability at end of lifecycle.
- > Adopt a "closed loop" and lifecycle optimisation approach to managing waste and resource use within the development activities. This includes best practice levels of:
 - Demolition and construction waste sent to landfill (target 5%)
 - Construction materials that are easy to reuse or recycle at end of life (at least 95%).

4.6.3 Approach to demolition and construction

Table 11: Highpoint Development ESD Strategy for demolition and construction

Criteria	Pathway	Minimum Requirement	Aspirational Target
Responsible Construction			
Environmental Management Plan	The development must demonstrate that it is managing its construction impacts by developing and implementing a project specific best practice Environmental Management Plan.	○	
Environmental Management System	The Head Contractor/Developer must have a certified Environmental Management System in place for the duration of construction.	○	
Construction and Demolition Waste	The development must divert at least 90% of construction and demolition waste from landfill	○	
	The development must divert at least 95% of construction and demolition waste from landfill		○
Social Construction Practices			
Social Construction Practices	The site offices must include separate gender inclusive bathroom facilities and changing amenities with a high degree of privacy. Gender inclusive fit-for-purpose Personal Protective Equipment (PPE) must be provided.		○

Criteria	Pathway	Minimum Requirement	Aspirational Target
	Training must be provided to all contractors and subcontractors that were present for at least three days on site.		○
	Policies must also be put in place to address issues of discrimination, racism, and bullying on site. Policies must include training to all contractors.		○

4.7 Landscape and biodiversity

The Development will encourage the creation of green buildings, new natural corridors, and the restoration of the natural environment.

4.7.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > Landscaping considering the **provision of habitat, green spaces and climate control** as appropriate

4.7.2 GPT Group Requirements

GPT's landscape and biodiversity strategies include:

- > **Biodiversity:** Make a positive contribution to biodiversity, in the local environment wherever possible.

4.7.3 Approach to landscape and biodiversity

Table 12: Highpoint Development ESD Strategy for landscape and biodiversity

Criteria	Pathway	Minimum Requirement	Aspirational Target
Impacts to Nature			
Ecological Value and Assessment Report	The development must assess its ecological impacts, consider community and local stakeholder expectations, and address impacts to nature from light, noise, water, vegetation and any other relevant issues. The project must develop an Ecological Assessment Report that demonstrates that existing natural soil, hydrological flows and vegetation elements have been conserved.		○
Biodiversity Enhancement			
Landscape	The development must provide a diverse landscape and prioritises the use of climate-resilient and indigenous plants. As a minimum, external landscape in the building, whether horizontal or vertical must be provided at a ratio of 15% of the site area or at a ratio of 1:500 of GFA, whichever is larger.		○

Criteria	Pathway	Minimum Requirement	Aspirational Target
Landscape biodiversity	<p>Greater than 60% of plants must be indigenous, and the site must include at least one significant (nesting) tree or equivalent habitat provision per 500m² of landscaped area. No invasive species are allowed.</p> <p>In addition, to promote plant diversity, landscapes should plant no more than any of the following:</p> <ul style="list-style-type: none"> > 10% of any species > 20% of any genus > 30% of any family 		○
Nature Stewardship			
Biodiversity Management Plan	The project must develop a Biodiversity Management Plan. The Plan should outline key actions that need to be undertaken in order to maintain the ecological integrity of biodiversity on the site, whether this is existing or that created as part of the development.		○

4.8 Indoor Environment Quality

Research confirms the design of our built environments influences our health and wellbeing. With people spending most of their time indoors, buildings designed with natural light, fresh air and connections to nature are crucial in creating better and more enjoyable environments. At broader scale walkable streets, safe places, recognition of culture and identity, and green spaces within a precinct influence community health and wellbeing.

4.8.1 Maribyrnong City Council Requirements

Maribyrnong City Council requires an ESD Strategy to be prepared which identifies sustainability performance standards to be adopted.

The strategy must be based upon the following principles:

- > **Indoor environmental quality** and healthy internal environments

4.8.2 GPT Group Requirements

GPT's indoor environment quality strategies include:

- > Community **health and well-being** facilitated by walkable access to amenities, access to affordable fresh food, access to green spaces promoting physical exercise, biophilic design and optimal ambient conditions.
- > Consistently reliable and compliant **internal comfort conditions** whilst optimising property environmental performance

4.8.3 Approach to indoor environment quality

Table 13: Highpoint Development ESD Strategy for indoor environment quality

Criteria	Pathway	Minimum Requirement	Aspirational Target
Clean Air			
Ventilation system attributes	All new and existing ductwork that serves the buildings must be cleaned prior to occupation.	○	
Provision of outdoor air	Outdoor air must be provided at a rate 50% greater than the minimum required by AS 1668.2:2012, or CO ₂ concentrations are maintained below 800ppm.	○	
Exhaust or elimination of pollutants	Sources of pollutants, such as printing or photocopy equipment, kitchen stoves or vehicles, must be compliant with minimum emissions standards or not be present within the nominated area.	○	
Light Quality			
Lighting comfort	All lighting must be flicker-free. Light sources must have a minimum Colour Rendering Index (CRI) average R1 to R8 of 80 or higher. Light sources must also have a CRI R9 of 50 or higher.	○	

Criteria	Pathway	Minimum Requirement	Aspirational Target
	For residential spaces, the lighting design must include or permit general fixed lighting that provides good, maintained illuminance values for the entire room. Installed fittings must have a rated colour variation not exceeding 3 MacAdam Ellipses.	○	
Glare	Glare from all lamps must be minimised in accordance with AS1680.1.	○	
Daylight	At least 40% of the primary spaces per floor or tenancy (whichever is smaller) must receive high levels of daylight.	○	
	40% of the combined living and bedroom area of each apartment unit must receive high levels of daylight, or, 70% of bedroom and apartment areas must receive at least 2 hours of daylight access.	○	
Exposure to toxins			
Paints, adhesive, sealants and carpets	All internally applied paints, adhesives, sealants and carpets must meet stipulated 'Total VOC Limits'.	○	
Engineered wood products	Either no new engineered wood products are used in the building, or at least 95% of all engineered wood products meet specified formaldehyde emission limits.	○	
No lead, asbestos and PCBs	A comprehensive hazardous materials survey must be carried out on any existing buildings or structures on the project site, in accordance with the relevant Environmental and Occupational Health and Safety (OH&S) legislation.	○	
Noise Levels			
Internal noise levels	Internal ambient noise levels are suitable and relevant to the activity type in the room. Project teams demonstrate that internal ambient noise levels in the nominated area are within the range recommended in AS/NZS 2107:2016.	○	
Amenity and Comfort			
Residential buildings	For residential buildings, including hospitality buildings, thermostats that control temperature and fan speed must be provided for each unit.		○
Human Connection to Nature			

Criteria	Pathway	Minimum Requirement	Aspirational Target
Nature-inspired (biophilic) design	<p>The building's design will aim to incorporate at least five biophilic design strategies in alignment with, but not limited to, the following principles:</p> <ul style="list-style-type: none"> > Elements that provide differing natural sensory experiences > Elements that reflect natural and cultural patterns and forms > Using natural materials; and > Natural motifs and art. 		○
Human Connection to Nature	<p>The development will aim to provide occupants an opportunity to touch and directly interact with nature. Examples of active engagement opportunities include food gardens, 'Gardening Club' or other nature-oriented volunteer programs.</p> <p>At least 5% of the site area will be targeted to this opportunity.</p>		○
Access to Amenity			
Changing Facilities	Any building changing facilities must be located in a safe and protected space. The facilities must be designed to be inclusive.	○	
Showers	All showers are to be a minimum of 1.8m x 1.1m to enhance usability.	○	
Lockers	1 secure locker must be provided for every 8 regular building occupants in any changing rooms. All lockers are to be secure.	○	
Access to amenity	The building is located in a walkable area, and building occupants have access to a wide variety of amenities to take care of daily activities.	○	

5. Aspirational Targets

The following sub sections cover elements of sustainability, community resilience and prosperity which are not directly addressed in the DPO ESD requirements, however, are included as aspirational targets to demonstrate the forward thinking, world-leading targets that align with GPT’s vision for the precinct. Furthermore, the categories and targets align with the framework of the Green Star for New Buildings and Communities Tool.

5.1 Community

Encourages the delivery of services, infrastructure, and programs that promote social cohesion and equity throughout the life of the development.

5.1.1 GPT Group Requirements

GPT’s proposed strategies include:

- > A culturally vibrant community that facilitates engagement with **cultural diversity, identity, heritage** with a “sense of place”

5.1.2 Approach to Community

Table 14: Highpoint Development ESD Strategy for Community

Criteria	Pathway	Minimum Requirement	Aspirational Target
Community			
Culture, heritage and Identity	The development must celebrate and incorporate the heritage, culture and historical context of the project site. The development must also support communities and places with the development of a sense of place and identity.		○
Vibrant Community	GPT must establish mechanisms for community participation in management arrangements for facilities and programs.		○
Design for Diversity	The development must promote designs with all types of needs in mind to create a place anyone can enjoy. This includes people of different abilities, gender diversity and cultural impacts.		○
Design for Quality	The development must encourage a sense of community and increase civic pride through the creation of a high-quality precinct.		○
Privacy	The development must consider the privacy implications related to the implementation of smart technologies within the precinct.		○

5.2 Prosperous

5.2.1 Approach to Prosperous

Table 15: Highpoint Development ESD Strategy for Prosperous

Criteria	Pathway	Minimum Requirement	Aspirational Target
Prosperity			
Employment and Economic Diversity	The development must offer and incorporate local and diverse employment opportunities.		○
Education and Skills Development	The development must have access to further education and/or provide a skills and industry capacity development opportunities.		○
Community Investment	The development must drive additional investment in infrastructure for the benefit of the community.		○
Affordability	The development must deliver affordability strategies for, or as part of, housing and/or business premises.		○
Incentive Programs	The development must prioritise the provision of incentives to encourage occupants to adopt sustainable practices to reduce the cost of living and working.		○

5.3 Places

5.3.1 Approach to Places

Table 16: Highpoint Development ESD Strategy for Places

Criteria	Pathway	Minimum Requirement	Aspirational Target
People Movement			
People Prioritisation	The buildings' access must prioritise walking and cycling options. That is, they should put people first.		○
Sustainable Transport Plan	The project must prepare and implement a Sustainable Transport Plan.		○
Demonstrate an improvement over a reference building	Using the inputs from the Sustainable Transport Plan the building must show reductions over a reference building, to the following extent: <ul style="list-style-type: none"> > Emission reduction (35% - 45%) > Active mode encouragement (100%) > VKT reduction (>20%) > Walkable location (Walk Score of >70) 		○
Goods Movement			
Service Delivery Profile	The project must generate a Service Delivery Profile (SDP) for the development. The SDP must also provide approaches and identify opportunities to improve delivery needs of the buildings.		○
Enjoyable Places			
Provision of communal spaces	Communal space must be provided to the following extent: <ul style="list-style-type: none"> > For all building types except residential above 1,000 sqm floor area, provide 1.5m² communal open space per occupant or 5% of site land area, whichever is larger > For residential and mixed-use with residential, 2.5 m² communal open space or public space per dwelling (minimum 250 sqm). 		○
	The communal space must: Accommodate appropriate/nominated community-based activities; Have capacity and flexibility to operate in multiple modes of usage; and; Demonstrate relevance of the space for local people (demographics, social profile, current needs)		○



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APPENDIX H

**SERVICES & INFRASTRUCTURE
REPORT (ADP CONSULTING)**

Highpoint Development Plan

Building Services Masterplan Report

Prepared for: GPT Property Management

Project No: MEL1951
Date: 15 October 2020
Revision: 04



Project: Highpoint Development Plan
Location: 120-200 Rosamond Rd
 Maribyrnong VIC 3032
Prepared by: ADP Consulting Pty Ltd
 Level 11, 60 Albert Road
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Project No: MEL1951
Revision: 04
Date: 15 October 2020

Rev	Date	Comment	Author	Signature	Technical Review	Signature
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02	30/09/2020	For Client Review	Will Northwood Omar Liaqat Afshin Niayesh Kelvin Chieng	WN OL AN KC	Frank Cattafi	FC
03	09/10/2020	Final	Will Northwood Omar Liaqat Afshin Niayesh Kelvin Chieng	WN OL AN KC	Frank Cattafi	FC
04	15/10/2020	Final	Will Northwood Omar Liaqat Afshin Niayesh Kelvin Chieng	WN OL AN KC	Frank Cattafi	FC

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Contents

1. Introduction	4
1.1 Background.....	4
1.2 Site.....	5
1.3 Sustainability	5
2. Mechanical Services.....	6
2.1 Site Assessment	6
2.2 Inputs and Assumption	11
2.3 Thermal Plant	14
2.4 Mechanical Works Roadmap	15
2.7 Further Investigation.....	17
3. Fire Services.....	19
3.1 Existing Infrastructure	19
3.2 Proposed Infrastructure	24
4. HYDRAULIC SERVICES	28
4.1 Existing Services.....	28
4.2 Proposed Hydraulic Services.....	37
5. Electrical Services.....	53
5.1 Site Assessment	53
5.2 Substations and High Voltage Network.....	53
5.3 Easements.....	54
5.4 Setbacks	54
5.5 Switchboards (400V/230V)	54
5.6 Distribution Boards (400V/230V)	55
5.7 Alternative Electricity Supply (400V/230V).....	55
5.8 Authority Clearances	56
5.9 Carbon Neutral.....	56
5.10 Electrical Works Roadmap	56
5.11 Matrix	57
5.12 Key Staging Plan.....	58
5.13 Communications.....	61
5.14 Future Proofing and Redundancy.....	62

Appendices

Appendix A	Short Term Staging.....	64
Appendix B	Medium Term Staging.....	65
Appendix C	Long Term Staging.....	66
Appendix D	Level 1 Plant Nodes.....	67
Appendix E	Asset Register.....	68
Appendix F	Electrical Matrix.....	69

Figures

Figure 1	Highpoint Shopping Centre relative to the Melbourne CBD.....	4
Figure 2	McQuay Air Cooled Chillers serving the Southern Extension.....	6
Figure 3	Carrier Water Cooled Chiller (19-DRV) serving part of L1 NE Precinct Central Chiller Plant (Model shown similar).....	7
Figure 4	McQuay Air Cooled Chillers serving Target.....	7
Figure 5	Left: Evapco Cooling Towers serving Harris Scarfe; Right: Hoyts Cinemas Cooling Towers.....	8
Figure 6	Air Handling Units serving mall areas and tenancies located on the roof.....	9
Figure 7	Smoke Exhaust and Spill Fans on roof.....	10
Figure 8	Kitchen Exhaust Fan serving food court located on roof.....	10
Figure 9	General fans on Roof.....	11
Figure 11	North side - Fire pumps and tanks for sprinklers system.....	19
Figure 12	South side - Fire pumps and tanks for sprinklers system (water shared with hydrant system).....	19
Figure 13	North side – Fire schematics.....	20
Figure 14	South side – Fire schematics.....	20
Figure 15	South side – Booster Assembly for sprinkler + hydrant systems.....	21
Figure 16	East side – Booster Assembly for hydrant system.....	21
Figure 17	South side – Fire Control Room (with sprinkler control valves inside).....	22
Figure 18	North side – Fire Control Room (adjacent to David Jones / Loading Bay).....	22
Figure 19	Overview of existing fire services infrastructure.....	23
Figure 2	Proposed Fire Services Infrastructure.....	25

1. Introduction

1.1 Background

Highpoint Shopping Centre is located in Maribyrnong, 8km northwest of the Melbourne CBD. It is one of the largest shopping centres in Australia, with 154,000m² of floor space and over 500 stores.

The Centre is located within the Highpoint Activity Centre which is designated as a Major Activity Centre in the State Government’s Activity Centre Hierarchy and a Principal Activity Centre in the Maribyrnong Planning Scheme.

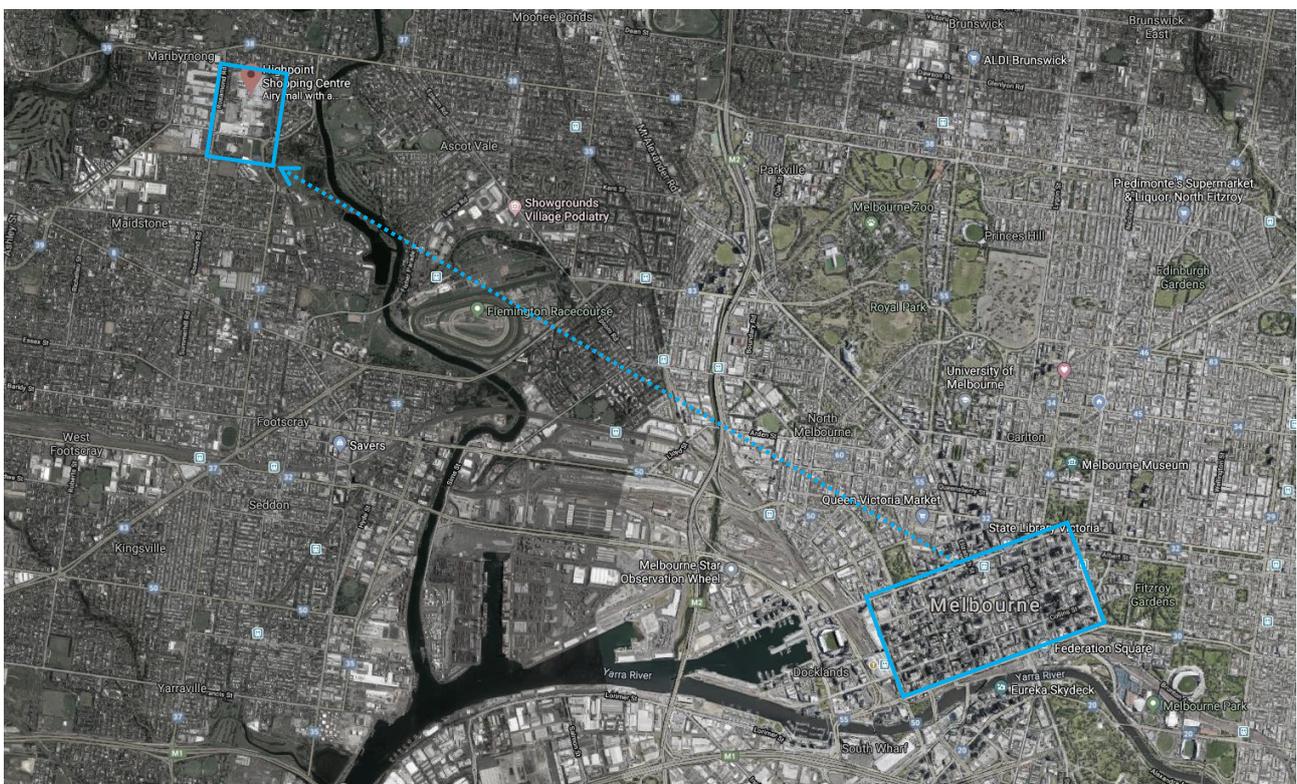


Figure 1 Highpoint Shopping Centre relative to the Melbourne CBD

The vision for the Highpoint Activity Centre as articulated in the Planning Scheme is to create a vibrant mixed-use centre that is an exciting place to live, work and visit.

Consistent with this vision, GPT is seeking to develop parts of the Highpoint Shopping Centre site to accommodate a mix of uses including residential, commercial, retail, short stay and community uses.

The Highpoint Activity Centre is split into 7 key precincts under the Local Planning Scheme, with the Shopping Centre being located within Precinct 6 – Highpoint Hub.

1.2 Site

The existing site comprises approximately 154,000m² GFA of retail space.

The planned total development will comprise approximately 550,000m² of additional GFA comprising residential, commercial office, hotel, retail, car parking, and community space in low, medium and high-rise developments to be completed in multiple stages.

1.3 Sustainability

Key priorities relating to mechanical services in regard to sustainability to align with GPT's *Environmental Sustainability Performance Brief*¹, and achieve base building carbon neutral target by 2030 include

- > Consistently reliable and compliant internal comfort conditions whilst optimising property environmental performance.
- > The infrastructure strategy will be central to achieving the objective of carbon neutrality before 2030 and selection of initial and future plant requires careful consideration of this objective.
- > Water consumption minimisation will be a focus, with alternative strategies for large consumers such as heat rejection being a key consideration under the Sustainability objectives.
- > A mixture of water cooled, and 4 pipe reverse cycle heat pump air cooled central chiller plant is proposed for the retail areas to optimise water consumption, electric energy saving and capital cost. The more energy efficient water-cooled chillers will operate as the first stage of cooling to meet the majority of cooling demand. The heat pump chillers will operate in cooling mode during times of peak load to supplement the water-cooled chillers capacity.
- > Energy efficient strategies for replacement of items of existing plant as they reach the end of their lifecycle to achieve incremental reductions in energy demand imposed by the existing Centre.
- > Replacement of base building natural gas fired heating hot water boilers and appliances with electric reverse cycle heat pumps or alternative sustainable heating solutions around 2030.
- > Indoor environment quality and healthy internal environments.

HVAC plant is the single biggest energy consumer in the built environment. Energy requirements of current buildings and current HVAC systems generally far exceed what can reasonably be offset by on site sustainable energy generation. Given the four to fivefold increase in new area proposed in the eventual site expansion, a key criteria to achieve carbon neutrality will be a massive increase in new build envelope thermal insulation to minimise the increase in energy demand.

In the proposed 327,000 m² total GFA residential developments in particular, where internal loads and ventilation rates are low compared to commercial occupancies, it is recommended that heating and cooling requirements be minimised or negligible through high thermal performance building envelope (i.e. 'passivhaus') construction. Since the residential component represents 56% of total proposed new development GFA, it would potentially comprise the single most impressive method of minimising energy demand across the proposed new development.

¹ Reference

2. Mechanical Services

2.1 Site Assessment

2.1.1 Existing Thermal Plant

The existing service infrastructure across the site was installed progressively in stages to serve the site expansion stages from the 1970's to current. Given the age and topology of site infrastructure, assessment of existing site services will be premised on;

- Infrastructure dependencies between stages and impact of proposed future development staging.
- Foreseeable condition of existing services and suitability for continuing to serve in a temporary or permanent state.
- Impact on plant associated with future demolition stages and impact of gradual replacement of gas fired boiler plant with electric heat pump chillers by 2030.

Relevant references and literature that informs the existing conditions includes:

- As-built documentation for the various construction stages.
- Design documentation for the various construction stages (of limited accuracy).
- Asset register – refer Appendix A.

The following sections illustrate the existing infrastructure condition across the site:

2.1.2 Chiller Plant

The central chilled water plant serving the site is primarily formed by

1. **4 No.** Water cooled Chillers (Nth CH-1 – 4) in Level 1 Main Chiller Plant Room
2. **3 No.** Air Cooled Chillers (SE CH1 – 3) at the South End of the site
3. **2 No.** Water Cooled Chillers (NE CH-1 & 2) in Level 1 Chiller Plant Room (North East Precinct)

Figure 2 McQuay Air Cooled Chillers serving the Southern Extension



Figure 3 Carrier Water Cooled Chiller (19-XRV) serving part of L1 NE Precinct Central Chiller Plant (Model shown similar).



Some of the major tenancies within the Shopping centre have their standalone Chilled Water System;

1. Hoyts Cinemas – **2 No.** water cooled chillers
2. Hoyts Cinemas (East) – **1 No.** air cooled chiller
3. Myer – **3 No.** water cooled chillers (45 years old and overdue for replacement)
4. Target – **2 No.** air cooled chillers

Figure 4 McQuay Air Cooled Chillers serving Target.



Three no. water cooled chillers in the L1 Main Chiller Plantroom are nearing the end of economic life (installed 1995). There is a proposal for their replacement in 2020. Refer to Appendix E for information on replacement timeframes for existing thermal plant.

2.1.3 Cooling Towers

Seven no. cooling towers located on the roof of the shopping centre provide condenser heat rejection to the central Main and NE chilled water plantrooms – total 16MW_r.

1. **2 No. Twin Cell BAC Cooling Towers** on Roof serving North East Precinct installed 2013
2. **2 No. BAC Cooling Towers** on Roof Serving North Chiller Plant installed 2001
3. **3 No. AquaCool Cooling Towers** on the Roof Serving Main System installed 2001.

Major tenancies within the Shopping centre are served by their standalone Cooling Towers;

1. Myer – **2 No.** on the Roof Myer Plantroom
2. Harris Scarfe – **2 No.** Evapco Cooling Towers on Roof – 800KW_r each – installed 2012
3. Hoyts Cinemas – **2 No.** Evapco Cooling Towers on Roof – 530 KW_r each installed 2012

Figure 5 Left: Evapco Cooling Towers serving Harris Scarfe; Right: Hoyts Cinemas Cooling Towers



The majority of the cooling towers are nearing possible replacement in the next 2-5 years based on assumed 25 year economic life.

2.1.4 Air Handling Units

Air Handling Units primarily serving Tenancies, Mall areas and Food Courts are located on the roof of the shopping centre. Most of the Air Handling units serving Stage 1 and 2 are installed between 1982 – 2005 while North and North East Precinct were installed in 2013.

It is proposed the existing 130+ air handling units replacement/upgrade would be staged to maximise their estimated life, but with consideration to the 2030 carbon neutral deadline which is likely to necessitate alternative air handling unit heating coils sizes based on the reduced water temperature of current technology reverse cycle heat pump chiller generated heating hot water.

New air handling units will have reduced carbon footprint with high efficiency variable speed fans, damper controls, improved air tightness and insulation thickness and heating coils sized for low temperature heating hot water.

Airtightness of associated roof and wall penetrations should be addressed.

Opportunities for energy recovery from existing and new amenities exhaust, general exhaust discharges etc to be considered as part of any air handling systems upgrades.

Figure 6 Air Handling Units serving mall areas and tenancies located on the roof.



2.1.5 Fans

2.1.5.1 Smoke Exhaust Fans

Smoke spill fans replacement/upgrades for essential safety systems that may be reaching end of life in accordance with manufacturers recommendations or as required to suit Masterplan changes

Figure 7 Smoke Exhaust and Spill Fans on roof



2.1.5.2 Kitchen Exhaust and Make Up Air Fans

Proposed kitchen exhaust system upgrades include individual tenancies damper controls and fans variable speed drives and provision of engineered kitchen exhaust canopies with direct outside air injection to maintain building positive pressurisation and reduce outside air infiltration, cold draughts and energy consumption.

Figure 8 Kitchen Exhaust Fan serving food court located on roof.



2.1.5.3 Toilet Exhaust and General Exhaust Air Fans

Consider variable fan speed drives and outside air energy recovery as part of exhaust fan replacements

Figure 9 General fans on Roof



2.2 Inputs and Assumption

2.2.1 Existing Thermal Plant Capacities

2.2.1.1 North East

Plant Room located on Level 1 has 2 off Water Cooled Chillers with total capacity of 5MW. The Chillers were installed in 2013. Their anticipated replacement date is circa 2033.

For Heating, 2.7MW total capacity existing gas fired boiler are located on the North roof installed in 2013.

2.2.1.2 North

Level 1 North Chiller Plant room houses 4 no. Water Cooled Chillers with total capacity of 8.9MW installed in 1995. It is understood their replacement is planned in 2020.

Two boilers installed in 2016 with a heating capacity of 2.8MW are also located on the North roof area.

2.2.1.3 South East

Three Air Cooled chillers with total capacity of 3.2MW serve the South East Extension of the shopping centre. They were installed in 2005 and are located externally on L2.

Two Boilers serving the South East Extension with a total capacity of 1.4MW were installed in 2005.

2.2.1.4 Majors' Plant

The following Major's have standalone thermal plants situated across different parts of the shopping centre as follows:

- > Hoyts Cinemas
 - Cooling – 3MW
 - > 1 off Water Cooled Chiller
 - > 1 off Air Cooled Chiller – East Level 2
 - Heating – 0.6MW
 - > 4 off Boilers -- Roof
 - 2 off Cooling Towers - Roof
- > Myer
 - Cooling – 2.4MW
 - > 3 off Water Cooled Chiller – Myer Plantroom
 - Heating – 1.2MW
 - > 2 off Boilers -- Myer Plantroom
 - 2 off Cooling Towers - Roof
- > Target
 - Cooling –1MW
 - > 2 off Air Cooled Chiller – Roof platform
 - Heating – 0.5MW
 - > 2 off Boilers – Roof Platform
- > Harris Scarfe
 - Cooling –
 - > 2 off compressors – 330kW
 - Heating – 1.05MW
 - > 7 off Boilers -- Myer Plantroom
 - 2 off Cooling Towers – Roof

It is proposed the above majors if retained, would have their central plant removed and provided with new air handling plant connected to an adjacent new chilled water/electric heat pump thermal plant node.

2.2.2 New Development Cooling and Heating Loads

It is proposed the existing retail spaces and proposed new retail areas will generally be served from existing and new central chilled water plant and reverse cycle chillers. The proposed Commercial, Hotel and Residential developments on the site will be provided with standalone plant for each building or local precinct as applicable. Approximate predicted heating and cooling loads for the new retail spaces (long term) are as follows:

2.2.2.1 River Gateway

- > Cooling – 4.5MW
- > Heating – 2.25MW

2.2.2.2 Central South

- > Cooling – 3.9MW
- > Heating – 1.4MW

2.2.2.3 Residential Edge

- > Cooling – 0.3MW
- > Heating – 0.15MW

2.2.2.4 Rosamond Rd

- > Cooling – 0.6MW
- > Heating – 0.3MW

2.2.3 Proposed Thermal Plant Node Capacities

The following plant nodes are proposed to serve the existing and proposed new retail areas:

2.2.3.1 North East plant (existing)

- > Cooling – 8.9MW existing 4 no. water cooled chillers (partial replacement in 2020 proposed under CAPex)
- > Heating – 2.7MW (new electric heat pumps to replace existing boilers)

2.2.3.2 North plant (existing)

- > Cooling – 5MW (existing 2 no. water cooled chillers to remain)
- > Heating – 2.8MW (new electric heat pump chillers to replace existing boilers)

2.2.3.3 Myer (new)

- > 2.4MW new energy recovery electric heat pump chillers to replace existing chillers and boilers

2.2.3.4 South 1

- > Cooling – 8.6MW
- > Heating – 3.6MW

2.2.3.5 South 2

- > Cooling – 5.3MW
- > Heating – 3.2MW

Refer to Appendix A-D for proposed staging information on Thermal Plant Nodes and equipment serving the nodes.

2.3 Thermal Plant

2.3.1 Proposed Thermal Energy Infrastructure

The existing retail thermal energy plant on the site encompasses the generation and reticulation of chilled and heating hot water for heating, cooling purposes from several independent plant nodes together with central heat rejection condenser water plant for the water-cooled systems.

The thermal energy scheme for the site requires development with close consideration and coordination with energy monitoring and controls scheme and associated system enhancements, as the thermal energy systems are key consumers and energy stores.

As a key consumer of energy and a critical component of shopping centre operations the thermal energy scheme will additionally be central in responding to the design objectives for sustainability, reliability and resilience.

2.3.1.1 Preliminary Design Response

In responding to the design objectives and operational requirements for the shopping Centre, the preliminary design response for retail thermal infrastructure includes:

- > Staged replacement of existing retail central chilled water plant and boiler plant as replacement intervals become due and as required by the future project stages. ADP understand a partial upgrade of the existing North main central chilled water plant on L1 is proposed during 2020.
- > Consider offsetting cooling towers water consumption as part of the site rainwater collection design response.
- > Water cooled chilled water plant with initial short term foreseeable total load of 18.8MWr existing plus 2.4MW new) expanding up to circa 30MWr for the long term retail site development.
- > Existing retail heating hot water plant capacity of 8.4MW to be replaced with heat pumps around 2030. (buildings/new air handling systems established to transition to heat pump operation on a staged basis. (circa 50/43degC heating hot water flow/return). Additional electric heat pump capacity to be added to serve new retail areas during future staging phases.
- > Reduction/removal of DX based cooling systems serving retail areas (other than for critical stand-by or 24/7 operation)
- > Consideration to linking retail plant nodes on variable speed primary pumped loops where practical to free up spare capacity, improve capacity diversity and improve system resilience, redundancy and part load performance. Exposed pipework on the roof or through car parks or underground linking plant nodes subject to structural and architectural confirmation would enhance the flexibility of the system.

The preliminary design response for commercial and residential developments is provision of standalone or local precinct thermal plant if applicable to improve flexibility in respect to separation of property titles and compliance with occupant briefs

- > Standalone chilled water and heat pump chiller plant or VRF air conditioning solutions are proposed for the new commercial developments.
- > New standalone DX or central VRF air conditioning systems as applicable to serve the new residential developments.

2.3.1.2 Energy Monitoring and Control

There are opportunities to enhance the response of central thermal energy systems to the precinct and improve the total cost of ownership of the thermal plant and infrastructure through energy and water monitoring infrastructure which would include the NABERS and Green Star energy monitoring protocols linked through a site wide energy and water monitoring system and BMS. This will have other advantages that include;

- > Providing an exemplar for provision of thermal infrastructure in a modern precinct environment.
- > Provide ongoing data for enhancing systems operation, energy and water consumption improvement and a potential data source for facility metrics and future research.

This system may be further enhanced by additional measures, each considered based on their total cost and sustainability benefit, including;

- > Possibility of solar thermal injection linked to a single condenser water or heat pump loop or to top up thermal storage in winter.
- > Chilled water storage to reduce installed chiller capacity and reduce peak electrical demands for associated infrastructure savings.
- > Connection to other site waste heat sources – i.e. cooking oil powered generators to top up thermal storage/condenser water loop heat injection

2.4 Mechanical Works Roadmap

2.4.1 Staging Plan

The proposed existing thermal plant nodes replacement and new thermal plant nodes installation to serve the short term (0-10 years), medium term (10- 20 years) and long term (20 to 30 years) retail area stages is detailed in Appendix A, B, C and D.

A precinct solution for the retail developments with central chiller and heat pump thermal nodes is proposed rather than standalone thermal plant. Advantages include:

- > Greater future flexibility to provide heating or cooling to refurbished or augmented building areas
- > Centralised maintenance, reduced equipment, staging and control enhancement advantages.
- > Diversification of load and cost benefit due to reduced installed capacity, improved efficiency through water cooled chiller plant and chiller/heat pumps staging.
- > Nodal based chilled water precinct cooling is best practice and offers significant improvements to redundancy and reliability over decentralised DX cooling.
- > Reduced waste and greater sustainability accrue from a central plant installation.

Boilers removal and decarbonisation of the existing centre will not provide a short to medium term payback, however the relative cost benefit of electric heat pump technology is predicted to improve dramatically around 2030. Upgrading existing AHU heating coils and control valves for connection to heat pumps may not be viable, since the AHUs would likely be approaching end of life at the time implementation of heat pump technology is considered appropriate.

It is proposed the residential components of the future development stages be heated and cooled from standalone DX air cooled split or variable refrigerant flow air conditioning systems. A commitment to high building envelope thermal performance (i.e. Passiv haus construction) of the residential developments is recommended to enable air conditioning systems to be minimised or very low capacity with infrequent operation. Since the residential component is approximately 56% of the overall new development GFA, this

approach would reduce demand on future sustainable energy generation and reduce maximum demand of the new developments.

2.5 Retail Thermal Plant Nodes – Staging and Asset Renewal

2.5.1 Main North East Node (Existing)

The existing 8.9MW Main North east chiller plant will remain to serve the existing centre with some chillers replacement works proposed in 2020 under CAPEX.

It is proposed the existing 2.7MW roof mounted boiler plant will be replaced by electric air source heat pumps (or reverse cycle chillers to supplement peak cooling demand if required) circa 2030.

2.5.2 North Node (Existing)

The existing 5MW North chiller plant will remain to serve the existing centre. The chiller plant and associated cooling towers were installed circa 2013, so replacement works should not be required until 2038 at the earliest

It is proposed the existing 2.8MW roof mounted boiler plant will be also replaced by electric air source heat pumps (or reverse cycle chillers to supplement peak cooling demand if required) circa 2030.

2.5.3 Myers (Proposed New)

It is proposed new air cooled reverse cycle chiller plant be installed to replace the existing Myers central boiler and chiller plant – approximately 2.4MW - to be located on the existing Myers roof plant platform which would be modified and extended as required. The Myers plant dates from the original 1970s installation and is operating well past its replacement stage.

This plant could potentially be utilised to serve the Central north sector retail component.

2.5.4 South Node (Proposed New)

It is proposed a new south chiller/heat pump chillers central plant node be established in the medium term planning stage to serve the west and south west retail components of the site with capacity to replace the existing 3 no. air cooled south extension chillers and 2 no. Hoyts water cooled chillers which will be overdue for replacement in the medium term and will be built over in the long term staging plan. 5MW water cooled chiller plant plus 3.6 MW reverse cycle air cooled chillers. It is proposed the new reverser cycle energy recovery air cooled chillers and cooling towers be located on the roof of a new development zone away from retail developments.

2.5.5 East Node (Proposed New)

It is proposed a new east chiller/heat pump central plant node be established in the long term planning stage to serve the east and south east corner of the site with additional capacity to replace the existing 1 no. Hoyts East air cooled south extension 0.51MW chiller and 0.75MW Harris Scarfe boilers. The plant would comprise 2.0 MW water cooled chiller plant plus 3 x 1.1MW reverse cycle air cooled chillers. It is proposed the new reverser cycle energy recovery air cooled chillers and cooling towers be located on the roof of a new development zone away from retail developments.

2.6 Council Development Plan Overlay– Services Replacement and Relocation

Replacement of some existing roof top and externally visible mechanical services plant is planned to suit construction of new development as well as introduction of electric heat pump chillers in lieu of gas fired boiler plant. Proposed works include:

2.6.1 Existing Main North East Roof Mounted Gas Fired Boiler Plant

It is proposed the existing 2.7MW roof mounted gas fired boiler plant will be replaced by electric air source heat pumps and reverse cycle energy recovery air cooled chillers located on new roof top plant platforms circa 2030.

2.6.2 Existing North Roof Mounted Gas Fired Boiler Plant

It is proposed the existing 2.7MW roof mounted gas fired boiler plant will be replaced by electric air source heat pumps and reverse cycle energy recovery air cooled chillers located on new roof top plant platforms circa 2030.

2.6.3 Existing Myers Roof mounted Cooling Towers and Gas Fired Boiler plant

It is proposed new air cooled reverse cycle chiller plant be installed to replace the existing 45 year old Myers central boiler and chiller plant – approximately 2.4MW - located on the existing Myers roof plant platform which would be modified and extended as required.

2.6.4 Existing South Extension Air Cooled chillers and Gas Fired Boiler Plant

The existing south extension 3 no air cooled chillers and associated gas fired boiler plant which will be built over are proposed to be replaced during the medium term planning stage with new water cooled chiller plant and reverse cycle energy recovery air cooled chiller plant located on a new roof plant area on a new section of the development. This plant would also include new plant to replace the existing Hoyts roof mounted cooling towers and boilers and east air cooled chiller.

2.6.5 Existing Roof Mounted Air Handling Plant and Packaged Air Conditioning Units

Existing roof mounted air handling units and packaged air conditioning units distributed across the roof top will be progressively replaced or supplemented with energy recovery air handling plant during future stages as they become due for replacement.. Units serving existing areas which are to be demolished will be removed or reconfigured where required as the areas served become scheduled for demolition.

2.7 Further Investigation

Further investigation works proposed as development plans progress and become further defined will include:

- > Source up to date as built CAD drawings and carry out investigations to enable accurate existing pipe and duct layouts through the centre to be established, particularly in areas of the centre which are to be retained or modified to interface with new construction

- > Investigate mechanical switchboards details and associated plant served to inform electrical infrastructure for the new developments.
- > Endeavour to verify the asset register against the latest plant status – i.e. air handling units and packaged air conditioning systems and ventilation systems, particularly in existing areas which are to be retained.
- > Obtain zoning plans, verify smoke control zones and smoke control capacities and verify smoke control sequences
- > Obtain registered building surveyor and fire engineering input regarding requirements for new fire and smoke control systems and interface with existing systems.

It is likely the above will require some input from the mechanical and fire contractors

3. Fire Services

3.1 Existing Infrastructure

3.1.1 FIRE SPRINKLER

The existing sprinklers system are fed from 2x main fire infrastructures located at North and South side of the precinct. The North side consists of 2x fire pumps and 1x 170kL fire tank for sprinklers system only, and the South side consists of 2x fire pumps and 2x 500kL fire tanks (water shared with hydrant system).

Figure 10 North side - Fire pumps and tanks for sprinklers system



Figure 11 South side - Fire pumps and tanks for sprinklers system (water shared with hydrant system)



3.1.2 FIRE HYDRANT

The existing hydrant system is pumped through 2x pumps located on the South side, and the water is supplied through the 2x 500kL fire water tanks (shared water with the sprinkler system). The existing pipe run or ring main (if available) for the hydrant system is to be confirmed with as-built documents.

Figure 12 North side – Fire schematics

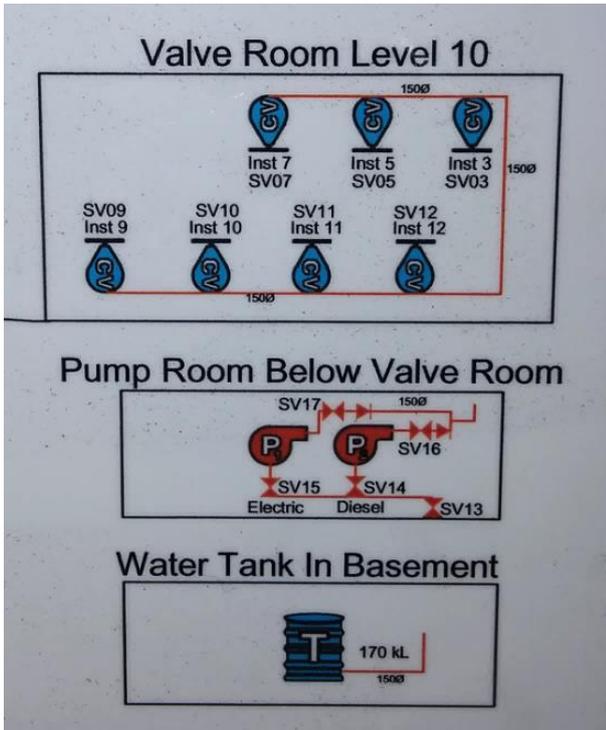
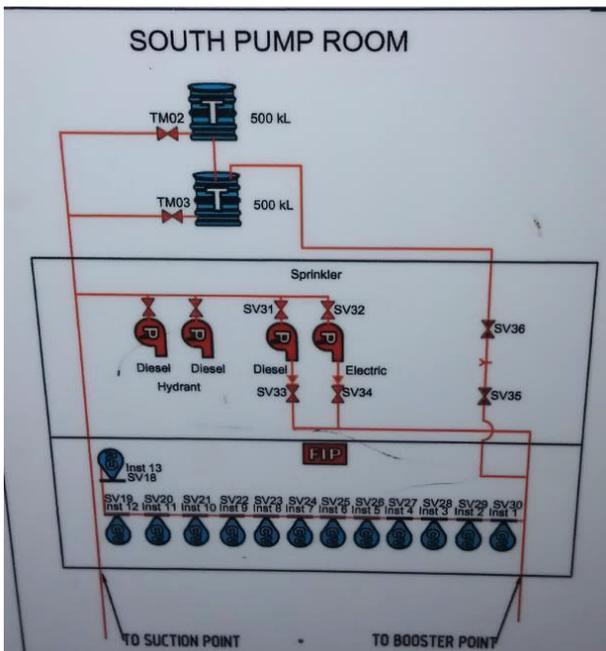


Figure 13 South side – Fire schematics



Following this, there are 2x Booster Assemblies at this precinct - the South side consists of boosting points for Sprinkler and Hydrant systems; and the East side consists of boosting points for Hydrant system only.

Figure 14 South side – Booster Assembly for sprinkler + hydrant systems



Figure 15 East side – Booster Assembly for hydrant system



3.1.3 FIRE CONTROL ROOM

There are 2x Fire Control Rooms on site – 1x on South side and 1x on North side (adjacent to David Jones / Loading Bay).

It is worth noting sprinkler control valves are in the South side Fire Control room.

Figure 16 South side – Fire Control Room (with sprinkler control valves inside)

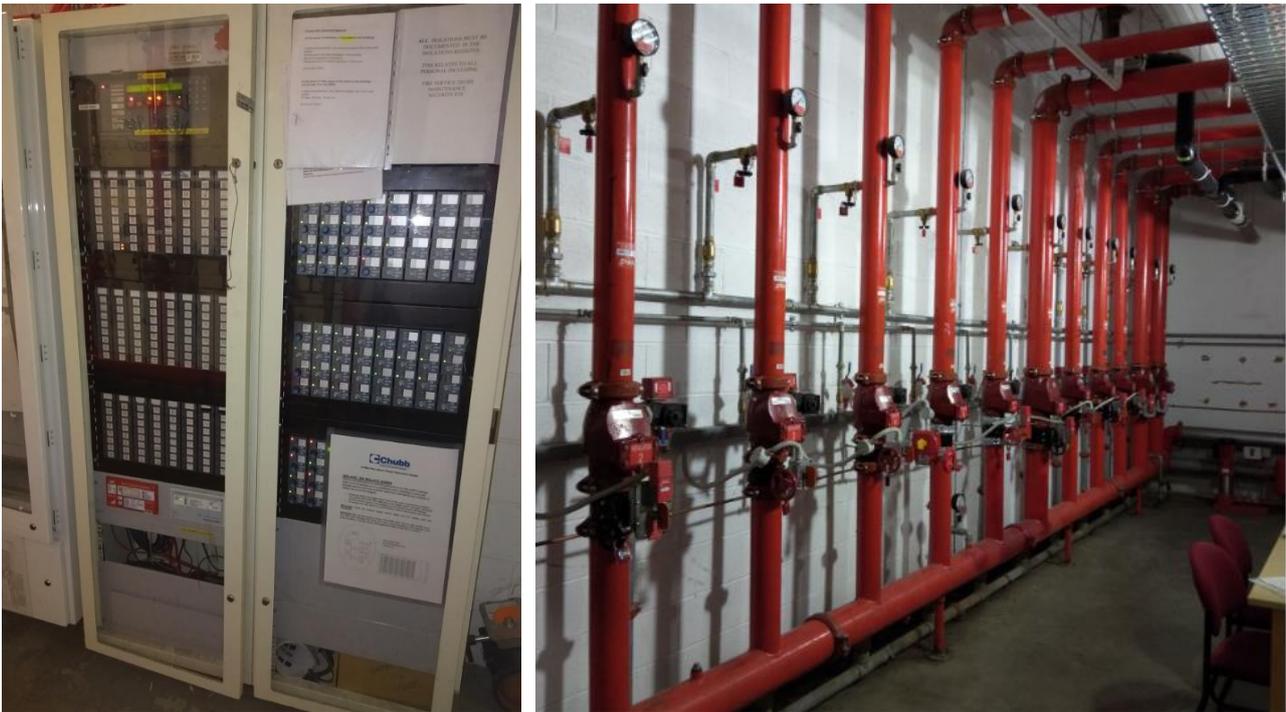


Figure 17 North side – Fire Control Room (adjacent to David Jones / Loading Bay)



Figure 18 Overview of existing fire services infrastructure



3.2 Proposed Infrastructure

3.2.1 FIRE SERVICES

Meeting has been held between ADP (fire services team) and LCI (fire safety engineers) to discuss on the overall fire strategies to accommodate the Masterplan.

While most of the strategies are subject to meeting with MFB, the key design strategies noted in this meeting are as below:

3.2.1.1 Water supply

- > 2x water supplies shall be provided to serve the whole site to suit the proposed Masterplan. 1 set of tapings off the towns main on Rosamond Rd is existing. This shall be upgraded to dual tapings if currently not. Another set of dual tapings shall be provided from Warrs Rd.
- > This is to ensure redundancy system where 1x water supply is down, there is another water supply from another street supporting the fire water system
- > A new ring main with 200mm pipe shall be provided to serve the whole site. To future proof this it is recommended to run this pipework at the title boundaries. Also the site geography is complex and difficult to work around.

3.2.1.2 Sprinkler system

- > All buildings shall be sprinkler protected with Part 1 system or Part 6 combined system.
- > The existing Centre SCVs shall be relocated to perimeter access to allow ease of access by the fire brigade.
- > New 2x dual fire pumpsets (4 total) (to Part 6 system) shall be provided to serve the new development. One at the northern side and another at the southern side.
- > Fire sprinkler water can be taken from the existing 2x 500kL fire tanks on site to feed one dual fire pumpsets. The other dual pumpsets will require 2x 200 kL tanks.
- > The existing 2x 500 kL fire tanks shall be provided with "Automatic infill" from the water main on the street.

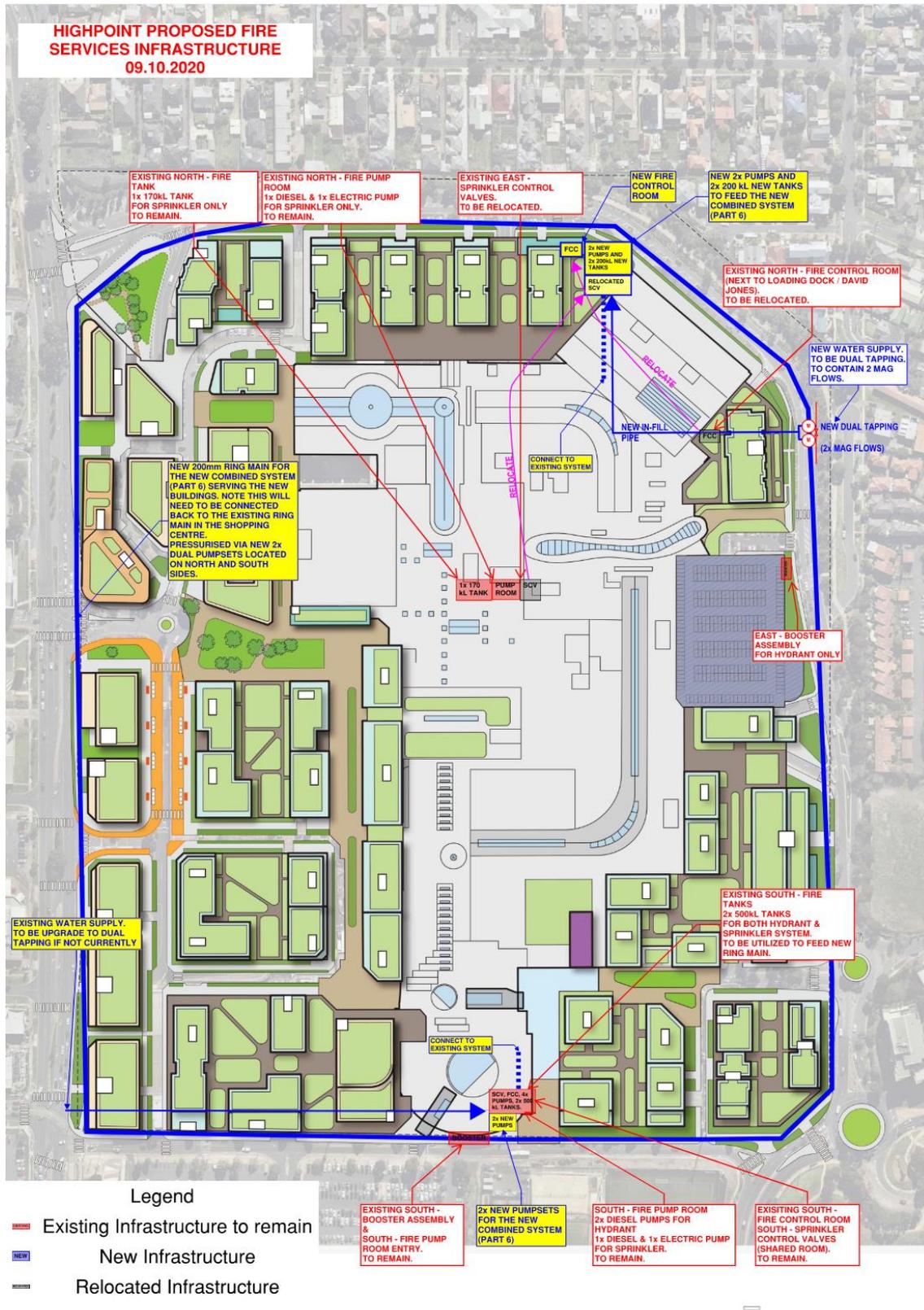
3.2.1.3 Hydrant system

- > A new 200mm fire ring main shall be provided around the perimeter of the site to allow ease of branching to serve the new buildings
- > As specified in above section, 2x new dual fire pumpsets (4 total) (to Part 6 system) shall be provided.
- > Booster Assemblies shall be provided at key site perimeter locations but not to individual building

3.2.1.4 Fire Control Rooms

- > The South side Fire Control Room shall be remained as it has good access to the main street
- > The North side Fire Control Room is proposed to be relocated away from existing David Jones. This is proposed to be on the north side of the building where the existing car park is located

Figure 19 Proposed Fire Services Infrastructure



3.2.2 Staging Plan

- > Staging shall be undertaken by installing the long term ring main in 200mm pipe and temporarily closing the 'loop' to create a temporary ring via a smaller pipe size (150mm). It is important that the correct isolation valve arrangement is provided to allow for future extension.

3.2.3 Separate Title Planning

- > Separate titling will create some complexities. It will be heavily dependent on the final arrangement. New developments over the existing shopping centre will not create major problems since the development will be over a common property. However, if the new development is separate from the existing shopping centre it may require its own separate fire services. It can be fed from the main ring main as shown in the sketches, however, it will require common property, easements, and signed agreements in place for maintenance, servicing, inspection, etc... However, this is not ideal.
- > This applies to the ring main route. There is a potential for it to cross the title boundary and into the main roads but it is not ideal.
- > ADP have been involved in projects where services cross title boundaries but in the case of this development plan, advice from a registered building surveyor shall be obtained.

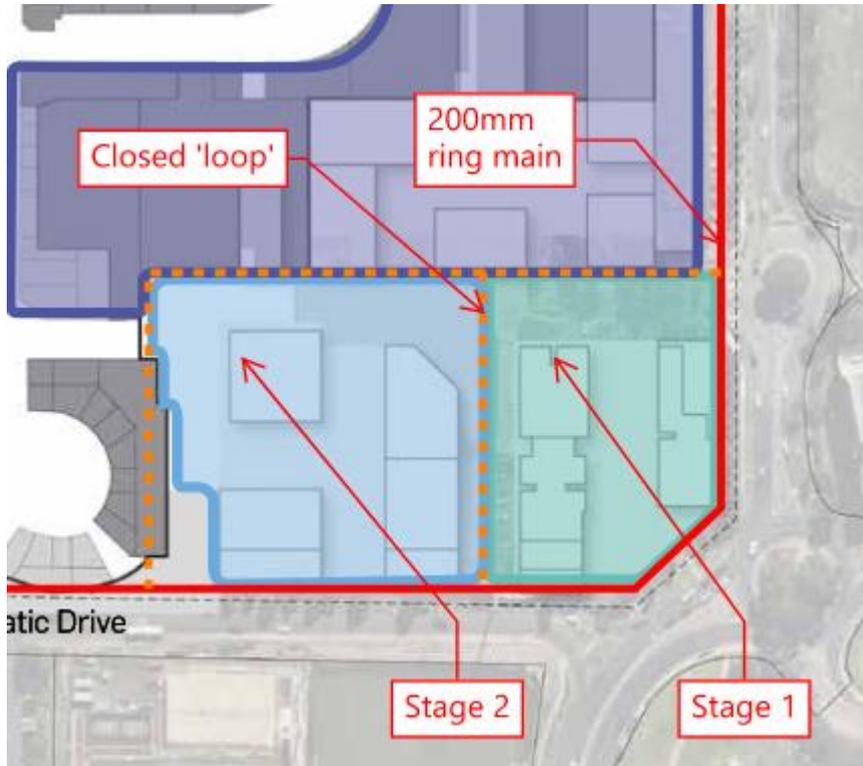
3.2.4 Fire Brigade Access

- > Like any new developments, fire brigade access to the development will need to be accommodated. The fire engineer shall assess fire brigade access for this project as has been agreed.

3.2.5 Connection to Existing Systems

- > To future proof the existing system we recommend that the new ring main be connected to the existing systems. It is important during the redevelopment works, all efforts be made to keep the existing system live. Although some downtime may need to be accounted for.

Figure 20 Staging ringmain works



4. HYDRAULIC SERVICES

4.1 Existing Services

4.1.1 Existing Domestic Cold-Water

4.1.1.1 Existing domestic Cold-Water Infrastructure

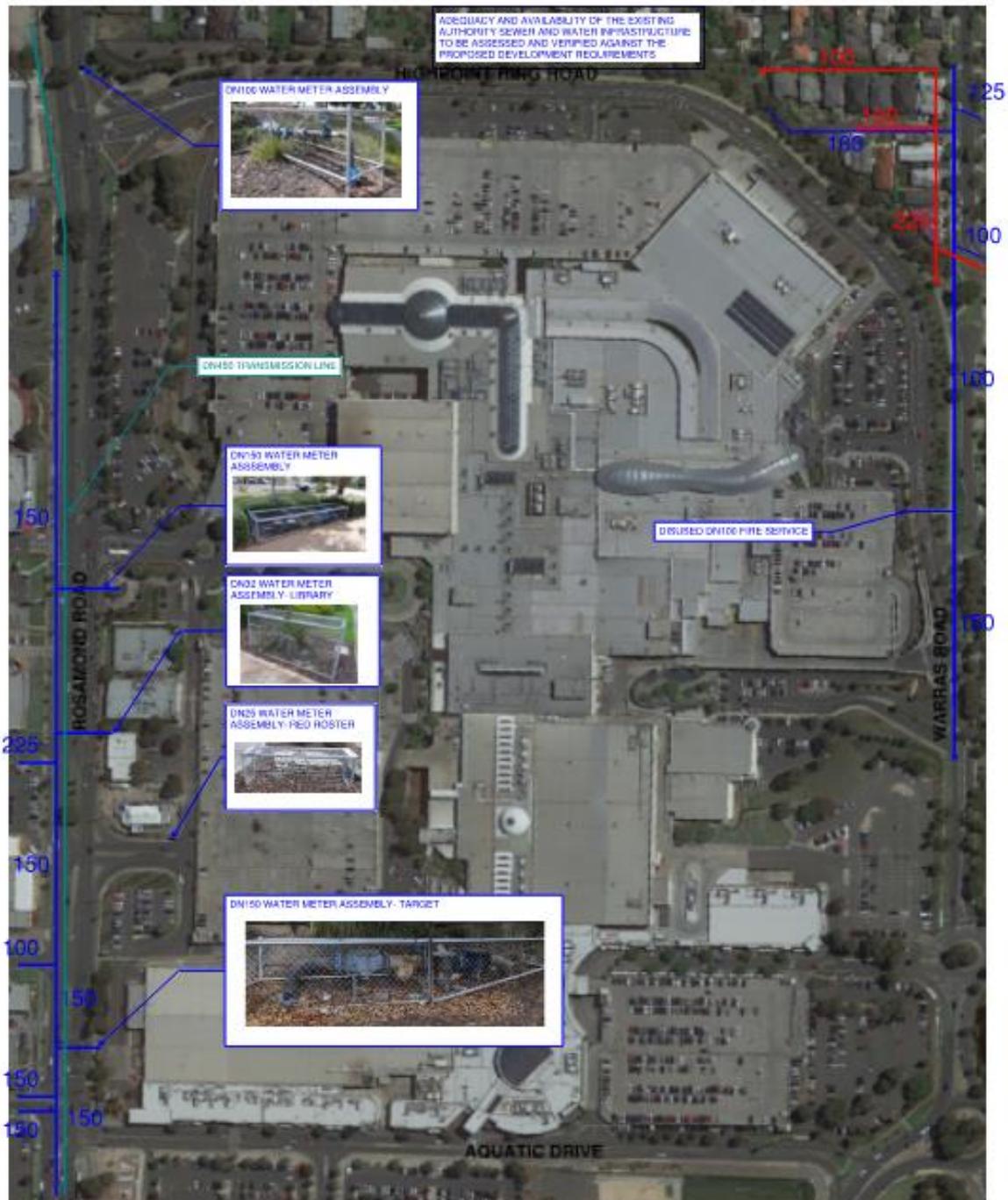
Following Sketch demonstrates the extent of the existing water infrastructure around High Point Shopping Centre including:

- Existing DN150 and DN100 authority water main in Warrs Road
- Existing DN150 authority water main in Rosamond Road
- Existing DN45 authority transmission line in Rosamond Road
- Existing DN150 Water Meter assembly off Rosamond Road – Target
- Existing DN25 Water Meter assembly off Rosamond Road – Red Roster
- Existing DN32 Water Meter assembly off Rosamond Road – Library
- Existing DN150 Water Meter assembly off Rosamond Road – Shopping Centre
- Existing DN100 Water Meter assembly off Rosamond Road – Shopping Centre (TBC)

Current authority maps do not indicate any Easement in favour of the existing authority water infrastructure within the area of the proposed development.

4.1.1.2 Existing domestic Cold-Water Service

- ADP investigation indicates Domestic Cold Water is currently being supplied via piping reticulation to the existing tenancies and amenities of the shopping centre.
- ADP investigation indicates there are no separate authority check meters for the tenancies, amenities& services across the existing Shopping Centre



- LEGEND**
- Additional retail in Highpoint Shopping Centre
 - Existing car park (back to retail)
 - Proposed car park
 - Loading zone
 - Shopping mall entry

- HIGHPOINT SHOPPING CENTRE DEVELOPMENT- EXISING WATER & SEWER INFRASTRUCTURE- REV02**
- AUTHORITY WATER MAIN
 - AUTHORITY SEWER MAIN

WIP

URBIS HIGHPOINT DEVELOPMENT PLAN LEVEL 1 PLAN

DATE: 20/10/20
DRAWN: ADEKAW
CHECKED: J...
REV: A

4.1.2 Existing Recycled Water

4.1.2.1 Existing Recycled Cold-Water Infrastructure

- DBYD maps does not demonstrate any recycled water infrastructure around the shopping centre

4.1.2.2 Existing Recycled Cold-Water Service

- As mentioned, there is no Recycled Water Infrastructure around Shopping Centre, therefore there is no existing recycled water service in Shopping Centre

4.1.2.3 Existing Rainwater Reuse Service/System

- Refer to ADP Sustainability Management Report (SMP) for the detail information.

4.1.3 Existing Sewer

4.1.3.1 Existing Sewer Infrastructure

Above mentioned Sketch also demonstrates the extent of the existing sewer infrastructure around High Point Shopping Centre. As shown on the Sketch existing sewer infrastructure is limited only to sewer main in North East corner of the Shopping Centre- close to Highpoint Ring Road and Warrs Road.

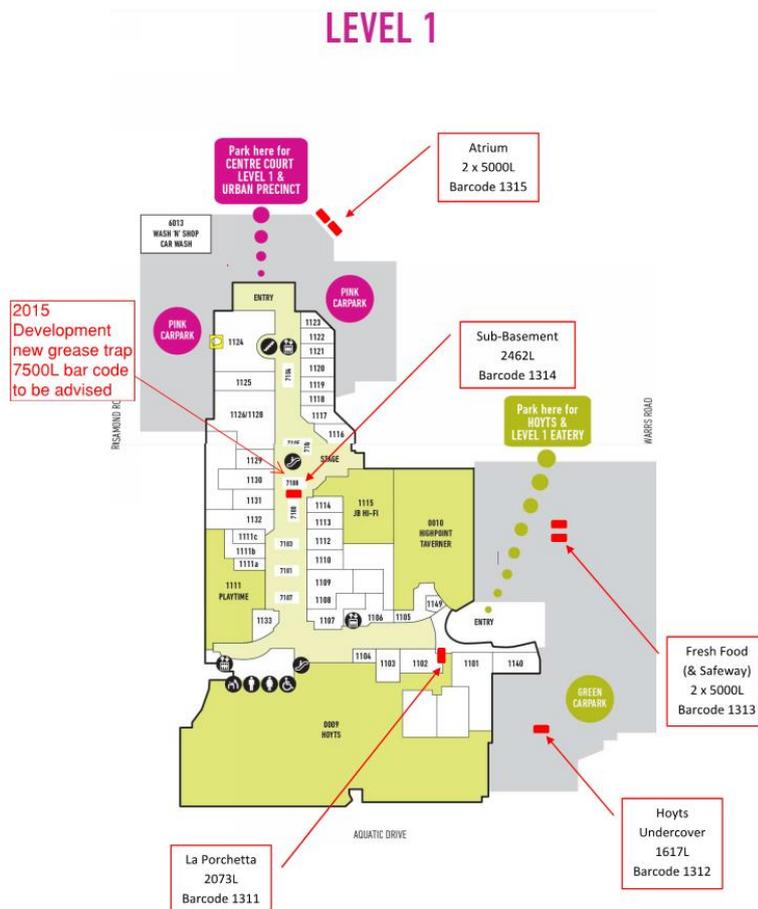
4.1.3.2 Existing Sewer Service

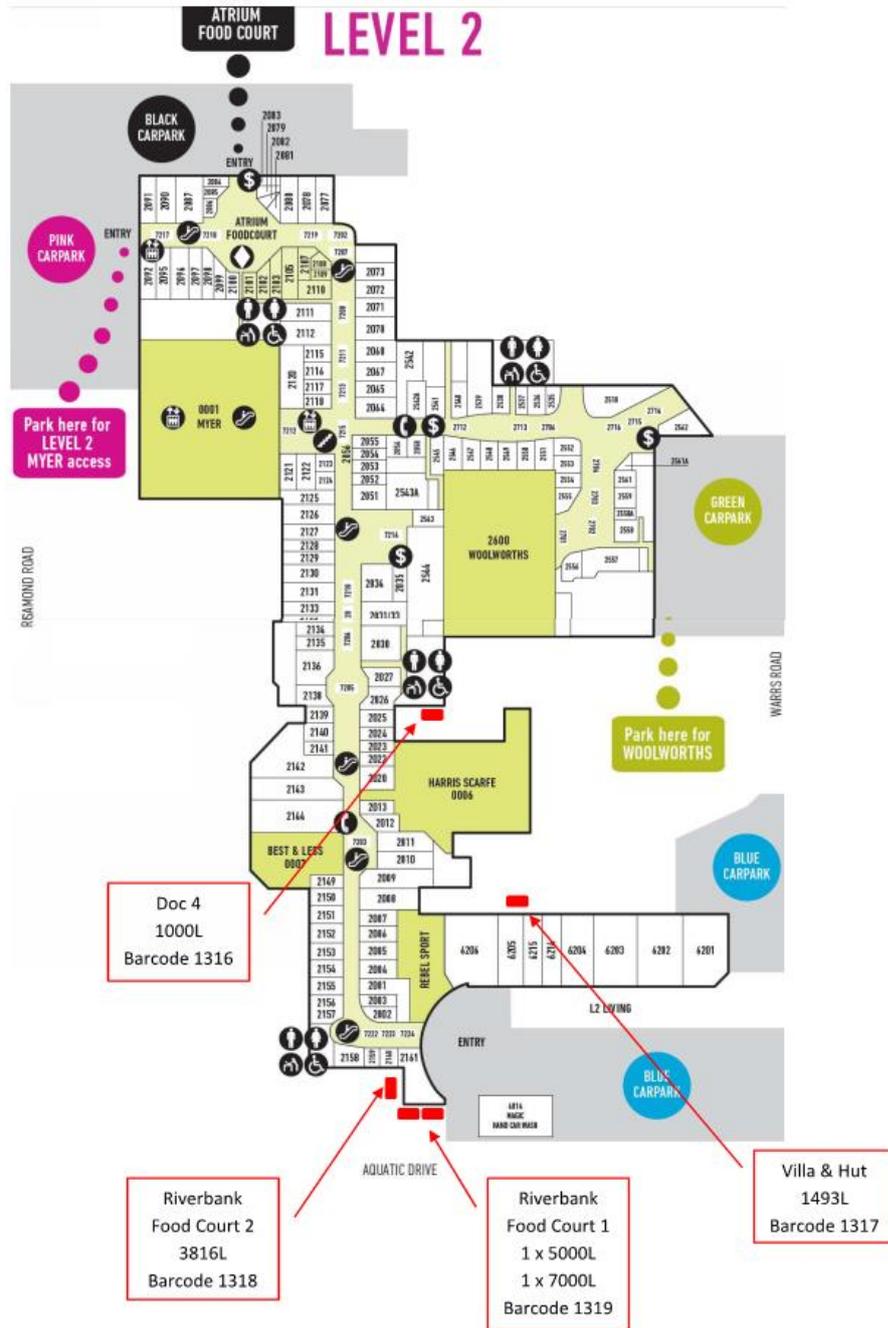
- ADP formally requested City West Water (CWW) for Property Service Plan (PSP) of the shopping centre. CWW submitted to ADP existing available sewer drawings of the Shopping Centre. However:
 - Existing drawings which submitted by CWW are not a complete set of drawings
 - Some of the Existing drawings are very old and are not in good condition to be reviewed.
 - The existing drawings related to different stages of development during the past 40 years
 - A complete survey of the existing inground sewer required for design of Hydraulic services for the proposed development
 - Current authority maps do not indicate any Easement in favour of the existing authority sewer infrastructure within the area of the proposed development.

4.1.4 Existing Trade Waste Service

Following Sketches demonstrate the extent of the existing Grease Interceptor Traps (GIT's) within the shopping centre area. As shown on the sketches, total capacity of existing GIT's is 56000 Lit (approx.) across three levels.

- A condition assessment for the existing Grease Traps to be undertaken to evaluate their suitability/available capacity for the proposed development
- The relation between each tenancy and its relevant GIT is unknown at this stage and to be identified to enable further capacity assessment of each GIT during design stage.
- It is expected that relocation/abolishment of some existing GIT's required to suit the layout of the proposed development during different construction stages.

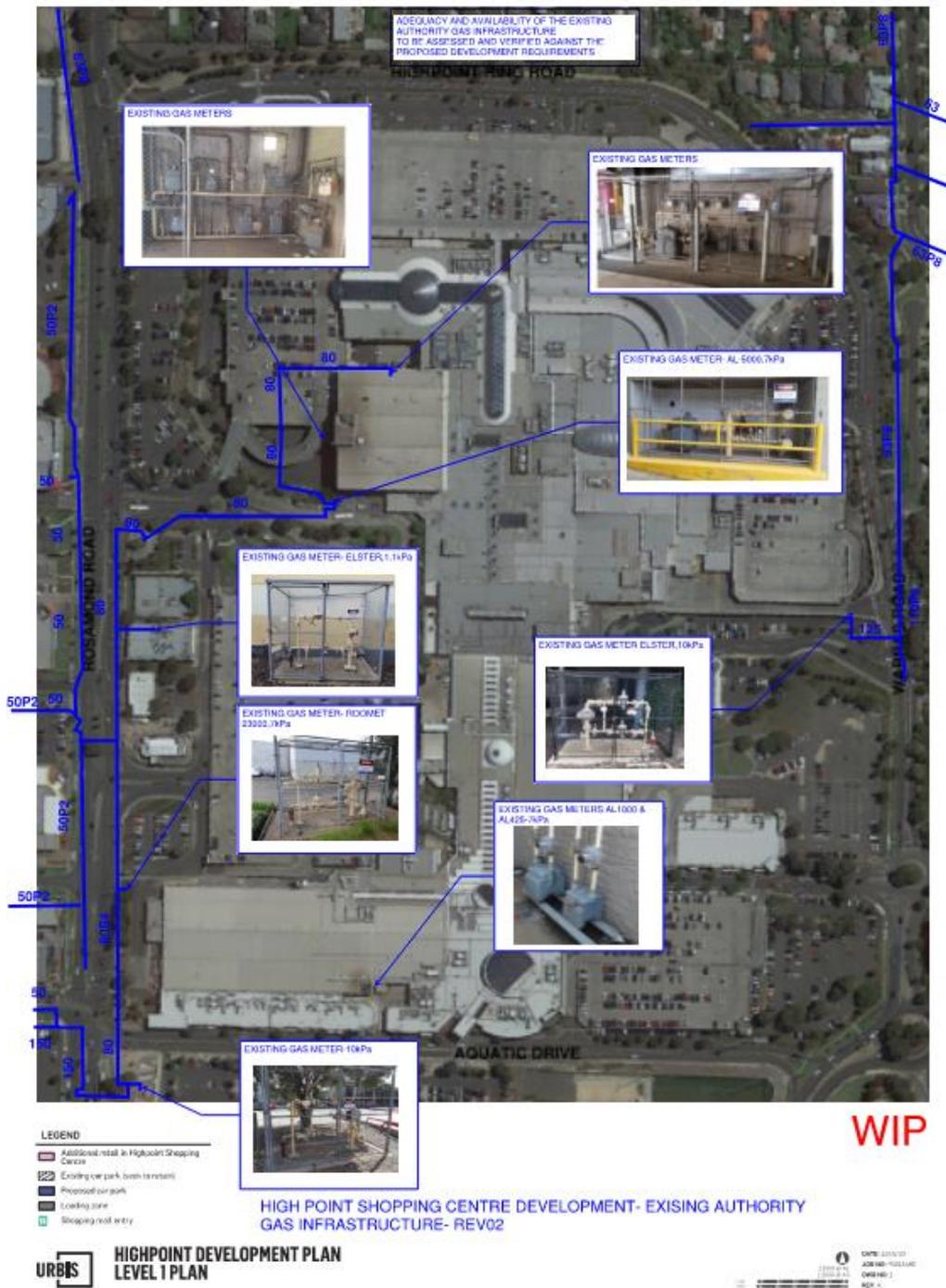




4.1.5 Existing Gas

4.1.5.1 Existing Gas Infrastructure

Following Sketch demonstrates the extent of the existing gas infrastructure around High Point Shopping Centre including:



- Existing High-pressure gas main in Warrs Road
- Existing High-pressure gas mains in Rosamond Road
- Existing High-pressure gas main within the shopping centre and the proposed development area. No works within 3m of the gas main allowed without Gas Authority permission. Relocation of the existing gas main required to suit the proposed development layout **PRIOR** to the commencement of the works. Gas supply to the tenancies which currently serviced via this service line to be maintained.

4.1.6 Existing Gas Service

- ADP investigations indicates that Gas Service currently being supplied by via separate authority check meters across tenancies in the Shopping Centre.

4.2 Proposed Hydraulic Services

4.2.1 Proposed Domestic Cold-Water- Overall development

4.2.1.1 Domestic Cold-Water Demand

Following table provides a high-level estimation of the water demand for the proposed development based on:

- Overall – Long term development (20+ years)
- WSA Peak Hour Demand (PHD) Rates (where available)
- Estimated PHD Rate based on areas with similar nature (where WSA Rates are not available).
- Overall Yield Data

Domestic Cold-Water Demand Estimation				
Land Use	Total GFA	Total No. of dwellings	Rate	Estimated Demand
Residential	338404	3221	3L/s per 100 units	96.63 L/s
Hotel	8476	147	3L/s per 100 units	4.23 L/s
Commercial	129375	-----	0.6L/s/ha	7.76 L/s
Retail	79470	-----	0.6L/s/ha	4.77 L/s
Community	10345	-----	0.2L/s/ha	0.21 L/s
Existing Retail to be retained	126990		0.6L/s/ha	7.62 L/s
Total	-----	-----	-----	121.22 L/s

Water for communal open space and open space to be provided by rainwater re-use. Refer to ESD report for more information.

4.2.1.2 Domestic Cold-Water Infrastructure- Upgrade

Based on Estimated water Demand for the overall development as mentioned above and considering the extent of existing water infrastructure, it is expected that existing infrastructure upgrade/extension will be required to provide supply for the proposed development.

ADP has formally issued a Preliminary Service Advice (PSA) to obtain water authority advice in this regard.

Following up, ADP has a phone conversation with Senior Land Development Officer in City West Water on 15th May 2020.

Senior Land Development Officer mentioned that Domestic Cold-Water Infrastructure Upgrade required, however; a full assessment to be undertaken to provide advice in relation to the extent of the required upgrade.

4.2.1.3 Proposed Domestic Cold-Water Service

Domestic cold water to be supplied to the buildings of the proposed development via individual connection point to authority main water main(s) subject to approval of the water authority including meter assembly and associated piping.

Separate Sub meters (Check meters) will be provided in accordance with water authority requirements.

Domestic water will be connected to all plumbing fixtures and tapware in accordance with the requirements of the Building Code of Australia and AS/NZS 3500.

Operating domestic cold water pressure shall be within the following:

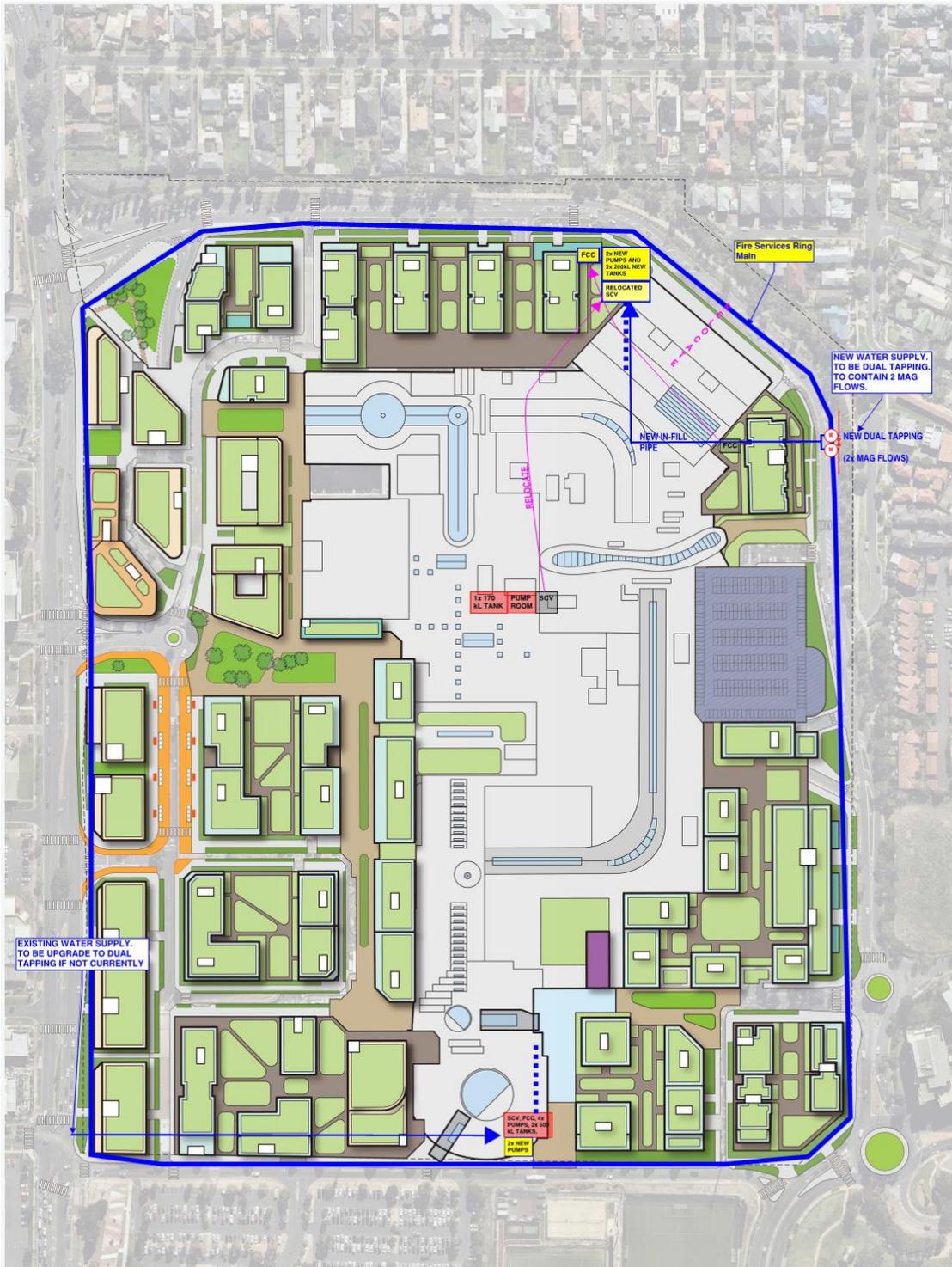
- a) 500 Kpa Maximum
- a) 250 Kpa Minimum

Design of cold water system will be in accordance with AS/NZS 3500 Part 1 and will comprise the following:

- Engineering calculation of cold water demand.
- Specifying the required flowrate and pressure of cold water supply .
- Design and sizing of cold water pipework reticulation to all fixtures.

4.2.1.4 Proposed Fire-Water Service

Following Sketch (extracted from Fire documents) demonstrates required supply and connection points to the proposed Fire Ring Main:



- A dual DN150 Tapping off Rosamond Road water main required. Existing water main size is DN150 so Water Authority to confirm supply availability at the nominated location.
- A dual DN150 Tapping off Warrs Road water main required. Existing water main size is DN100 and therefore infrastructure upgrade required.
- Refer to fire section for further detail.

4.2.2 Proposed Domestic Cold-Water- Short, Medium & Long Term

4.2.2.1 Proposed Domestic Cold-Water Demand- Short, Medium & Long Term

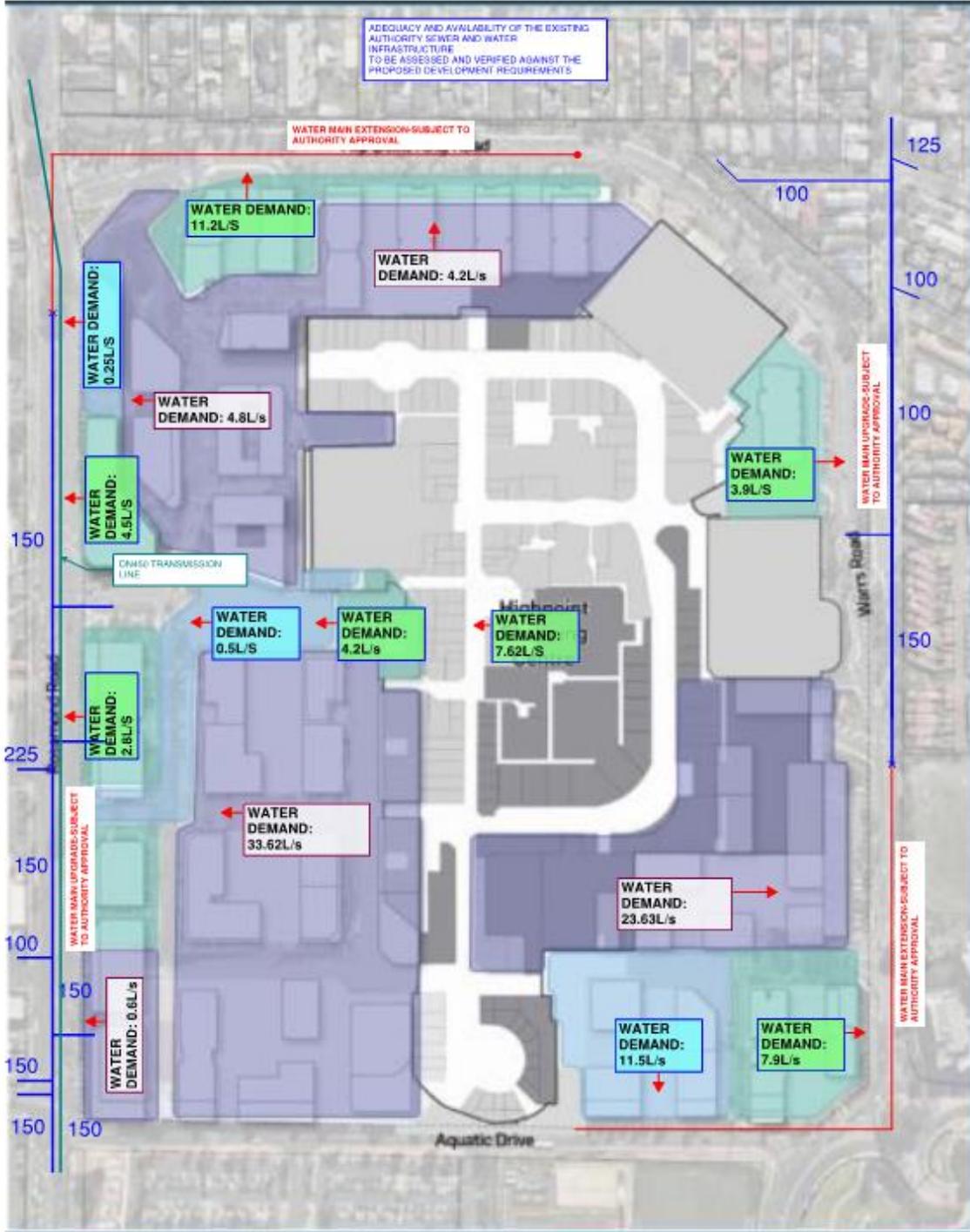
Following table provides a high-level estimation of water demand for short, medium- and long-term development:

Domestic Cold-Water Demand Estimation	
Stage	Estimated Demand
Short Term	42.12 L/s
Medium Term	12.25 L/s
Long term	66.85 L/s
Total	121.22 L/s
<i>Water for communal open space and open space to be provided by rainwater re-use. Refer to ESD report for more information.</i>	

4.2.2.2 Water Infrastructure Assessment/Upgrade

Considering the extent of the existing water infrastructure against estimated water demand for short-terms, medium-term and long-term development as shown on the following sketch, the proposed strategy for provision of Domestic Cold Water supply during different stages of development can be outlined as per below:

Domestic Cold-Water Supply Strategy					
Location	Short-Term Demand	Medium-Term Demand	Long-Term Demand	Total	Opinion
Rosamond Road	19.12 L/s	0.75 L/s	39.02 L/s	58.89 L/s	Water Main Upgrade during <u>Long-Term</u> development required.
Warrs Road	11.8 L/s	0	23.63 L/s	35.43 L/s	Water Main Upgrade during <u>Short-Term</u> development required.
Ring Road	11.2 L/s	0	4.2 L/s	15.4 L/s	Water Main Upgrade during <u>Short-Term</u> development required.
Aquatic Drive	0	11.5L/s	0	11.5 L/s	Water Main Upgrade during <u>Short-Term</u> development required.
Total	42.12	12.25 L/s	66.85 L/s	121.22 L/s	-----
<i>Water for communal open space and open space to be provided by rainwater re-use. Refer to ESD report for more information.</i>					



Estimated Water Demand Short-Term, Medium-Term, Long-Term

4.2.3 Proposed Recycled Water

4.2.3.1 Proposed Recycled Cold-Water Infrastructure

Current DBYD maps and does not show any Recycled Water Infrastructure around the proposed development.

ADP has formally requested for advice in relation to any authority recycled water development plan in the proximity of shopping centre and its potential impact on the proposed development

4.2.3.2 Proposed Recycled Cold-Water Service

Subject to Water Authority Advice.

4.2.3.3 Proposed Stormwater/Rainwater Re-use Service

Refer to SED report for detail information.

4.2.4 Proposed Sewer / Trade Waste- Overall development

4.2.4.1 Sewer Discharge Rate

Following table provides a high-level estimation of sewer discharge rate for the proposed development based on:

- Overall – Long term development (20+ years)
- AS/NZS 3500.2 Sanitary Plumbing and Drainage
- Overall Yield Data

Sewer Drainage Discharge Estimation				
Land Use	Total GFA	Total No. of dwellings	Rate (Fixture Unit)	Estimated Demand (Fixture Unit)
Residential	338404	3221	20	64420
Hotel	8476	147	8 + 150 for general areas	1326
Commercial	129375	Eight Buildings	500 per Building	4000
Retail	79470	57 Retail space	30	1710
Community	10345	-----	300	300
Existing Retail to be retained	126990	-----	In proportion to the proposed Retail area	2732
Total	-----	-----	-----	74,488

Based on AS/NZS 3500.2

4.2.4.2 Sewer Infrastructure- Upgrade

Based on Estimated Sewer Drainage Discharge for the overall development as mentioned above and considering the extent of existing sewer infrastructure, it is expected that existing infrastructure upgrade/extension will be required to provide service for the proposed development.

ADP has formally issued a Preliminary Service Advice (PSA) to obtain water authority advice in this regard.

Following up, ADP has a phone conversation with Senior Land Development Officer in City West Water on 15th May 2020.

Senior Land Development Officer mentioned that Sewer Infrastructure Upgrade required, however; a full assessment to be undertaken to provide advice in relation to the extent of the probable upgrade.

ADP and CWW agreed to arrange a meeting to discuss the matter in further detail.

4.2.4.3 Proposed Sewer Service

The sanitary plumbing arrangement will be a fully vented modified system, connecting to the sewer drainage system and discharging to the sewer connection point of the development (to be provided) in accordance with the requirements of AS/NZS 3500.2.

Venting shall be provided in accordance with the relevant requirements and Standards. To increase flexibility and minimise coordination in service zones air admittance valves (AAV) will be utilised where possible.

Design of sewer system will be in accordance with AS/NZS 3500 Part 2 and will comprise the following:

- Engineering calculation of fixture unit loading for sanitary fixtures in the proposed development
- Specifying the required size and location of the sewer branch to service the proposed development
- Design and sizing of drainage pipework reticulation to all fixtures.
- Specifying required acoustic lagging where required.

4.2.4.4 Proposed Trade Waste Service

Trade waste will need to be provided (but not limited to) any areas utilising:

- Commercial food preparation
- Commercial laundries
- Film processors/printers
- Medical centres
- Childcare

Type and capacity of each trade waste appliance to be proposed during design stage based on tenancy information (tenancy matrix) and to be confirmed by the local water authority.

Type of each tenancy has not been determined at this stage and therefore it is not possible to determine the overall required Grease Trap Capacity accordingly; however, as an initial estimation it is expected that additional 35,000L Grease Trap Capacity for the overall development, mainly for the proposed retail, required.

Additional capacity to be provided progressively based on requirements of each stage.

4.2.5 Proposed Sewer- Short, Medium & Long Term

4.2.5.1 Proposed Development Sewer Discharge- Short, Medium & Long Term

Estimated Sewer Discharge Rate during different development stages will be:

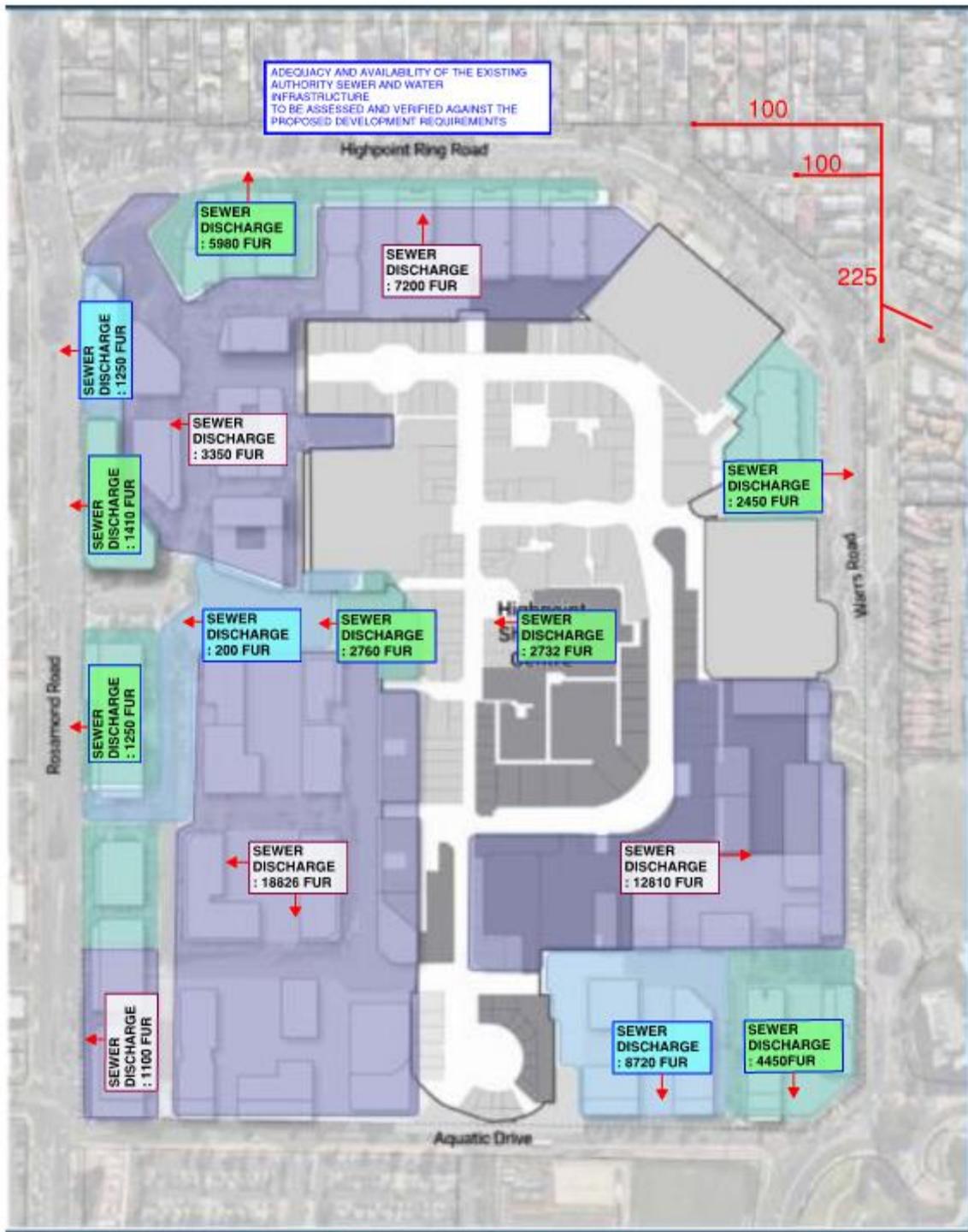
Sewer- Discharge Rate Estimation	
Stage	Sewer Discharge Rate-FUR
Short Term	21032 FUR
Medium Term	10170 FUR
Long term	43286 FUR
Total	74488 FUR
<i>FUR: Fixture Unit Rate</i>	

4.2.5.2 Sewer Infrastructure Assessment/Upgrade

Considering the extent of the existing sewer infrastructure against estimated Sewer Discharge Rate for short-terms, medium-term and long-term development as shown on the following sketch, the proposed strategy for provision of Sewer Servicing during different stages of development can be outlined as per below:

Sewer Servicing Strategy					
Location	Short-Term Demand	Medium-Term Demand	Long-Term Demand	Total FUR	Opinion
Rosamond Road	8152	1450	13863	22465	Sewer Main Upgrade during <u>Short-Term</u> development required.
Warrs Road	2450	0	12810	15260	Sewer Main Upgrade during <u>Short-Term</u> development required.
Ring Road	5980	0	7200	13180	Sewer Main Upgrade during <u>Short-Term</u> development required.
Aquatic Drive	4450	8720	9413	22583	Sewer Main Upgrade during <u>Short-Term</u> development required.
Total	21032	10170	43286	74488	-----

FUR: Fixture Unit Rate



Estimated Sewer Discharge Rate Short-Term, Medium-Term, Long-Term

4.2.6 Proposed Gas Service- Overall development

4.2.6.1 Proposed Gas Infrastructure & Service

As confirmed by the client, Gas Supply to be provided to the proposed residential building for the following purposes:

- Provision of Domestic Hot Water Supply
- Provision of gas for Cooktops

Following table provides a high-level estimation of Gas Demand for the proposed development (Residential) based on:

- Overall – Long term development (20+ years)
- AS/NZS 5601.1 Gas Installations
- Overall Yield Data

Residential Gas Demand Estimation					
Land Use	Total GFA	Total No. of dwellings	Rate (MJ/h)	Total- undiversified	Total- diversified
Residential- Gas Cooktops	338404	3221	40MJ/h for each dwelling	128,840 MJ/h	25,768 MJ/h
Residential- Gas Hot water storage equipment	338404	3221	1600 MJ/h per 100 dwellings	51,536 MJ/h	41,228 MJ/h
Total	-----	-----	-----		66,996 MJ/h
<i>As an initial estimation following diversification applied:</i>					
<ul style="list-style-type: none"> • 0.20 for Apartment cooktops • 0.8 for Domestic Hot Water equipment 					
<i>Diversity factors and overall annual demand to be calculated and confirmed by Gas Authority</i>					

Availability of gas supply to be determined and assessed by Gas Authority via network modelling.

4.2.7 Proposed Gas- Short, Medium & Long Term

4.2.7.1 Proposed Development Gas Demand- Short, Medium & Long Term

Following table provides a high-level estimation of gas demand for short, medium- and long-term development:

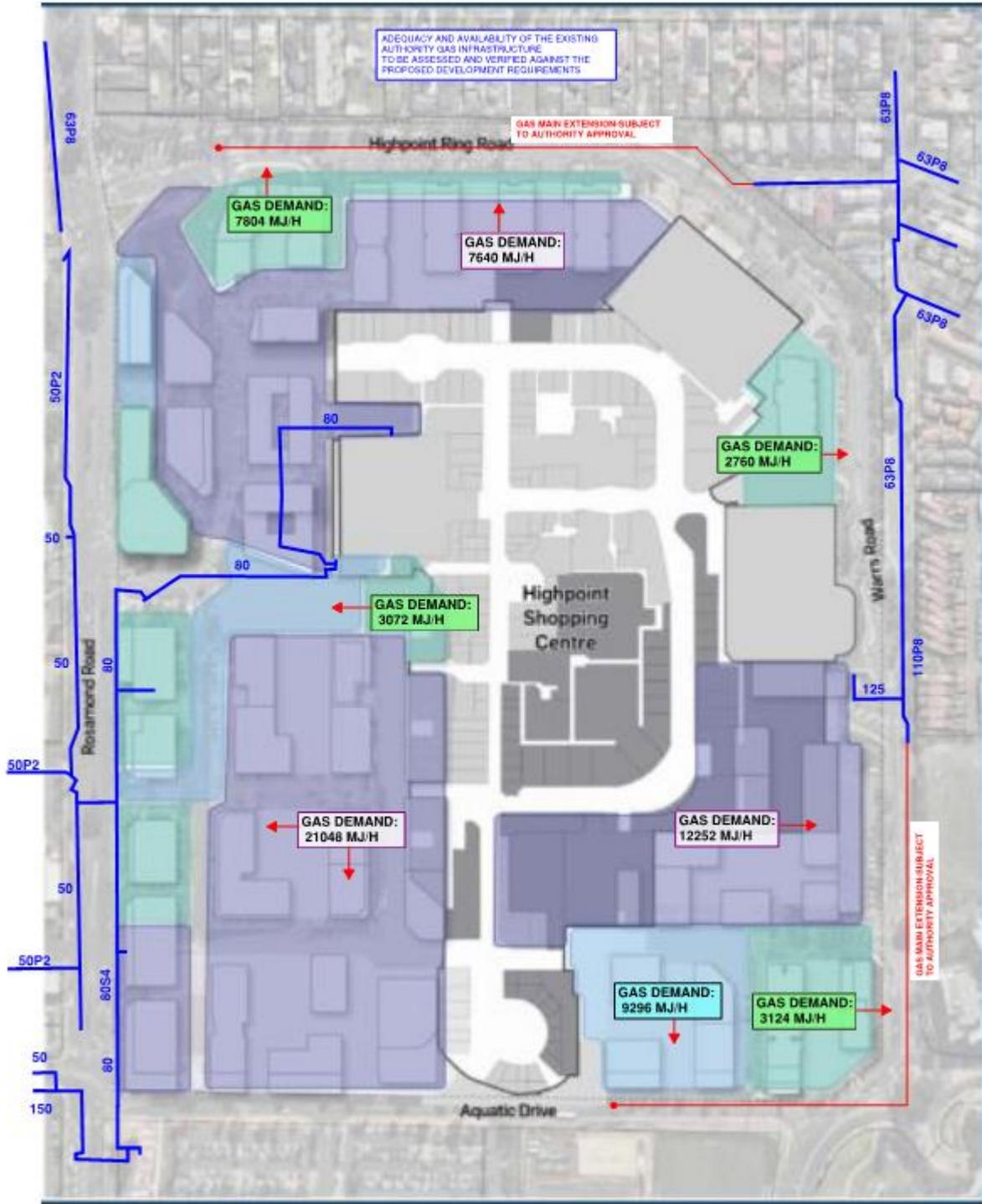
Residential Gas Demand Estimation	
Stage	Estimated Demand- Diversified
Short Term	16760 MJ/h
Medium Term	9296 MJ/h
Long term	40940 MJ/h
Total	66996 MJ/h
<i>Gas Supply <u>in addition</u> to the existing building demand</i>	

4.2.7.2 Gas Infrastructure Assessment/Upgrade

Considering the extent of the existing gas infrastructure against estimated Sewer Discharge Rate for short-terms, medium-term and long-term development as shown on the following sketch, the proposed strategy for provision of Gas Supply during different stages of development can be outlined as per below:

Gas Supply Strategy					
Location	Short-Term Demand	Medium-Term Demand	Long-Term Demand	Total	Opinion
Rosamond Road	3072	0	10524	13596MJ/h	It is expected that no major upgrade required.
Warrs Road	5884	0	12252	18136MJ/h	Gas Main Upgrade during <u>Short-Term</u> development required.
Ring Road	7804	0	7640	15444 MJ/h	Gas Main Upgrade during <u>Short-Term</u> development required.
Aquatic Drive	0	9296	10524	19820 MJ/h	Gas Main Upgrade during <u>Short-Term</u> development required.
Total	16760	9296	40940	66996	-----
<i>Gas Supply <u>in addition</u> to the existing building demand</i>					

As shown on the following sketch, part of existing High-pressure gas main is within the shopping centre and the proposed development area. No works within 3m of the gas main allowed without Gas Authority permission; however, considering the extent of Short-Term development it is expected that relocation of the gas main during Short- Term development not required (To be confirmed by Gas Authority).



Estimated Gas Demand Short-Term, Medium-Term, Long-Term

5. Electrical Services

5.1 Site Assessment

The existing service infrastructure across the site was installed progressively in stages to serve the site expansion stages from the 1970s to current. Given the age and topology of site infrastructure, assessment of existing site services will be premised on:

- > Infrastructure dependencies between stages and impact of proposed future development staging.
- > Foreseeable condition of existing services and suitability for continuing to serve in a temporary or permanent state.
- > Impact on plant associated with future demolition stages and impact of elimination of gas fired boiler plant by 2030.

Relevant references and literature that informs the existing conditions include:

- > As-built documentation for the various construction stages.
- > Design documentation for the various construction stages (of limited accuracy).

For this report there have been no formal applications to authorities to expand, upgrade or modify the existing power or telecom network. These applications shall be made for each development phase. The following sections illustrate the existing infrastructure condition across the site:

5.2 Substations and High Voltage Network

The substations (SS) in general are owned and maintained by the local electrical authority – AGL. At present the following substations are strategically located around the site:

- > **SS 1.** Rosamond-Highpoint No.1 is assumed to contain 5no. of 2MVA transformers serving majority of house services, mini-majors, smaller retailers, and car parks.
- > **SS 2.** Rosamond-Highpoint No.2 is assumed to contain 1no. 2MVA transformer dedicated to Myers.
- > **SS 3.** Rosamond-Highpoint No.3 is a kiosk containing 1no. 2MVA transformer dedicated to David Jones
- > **SS 4.** Rosamond-Target Co
- > **SS 5.** Rosamond-Red Rooster
- > **SS 6.** Warrs-Highpoint No.1
- > **SS 7.** Warrs-Highpoint No.2
- > **SS 8.** Warrs-Highpoint No.3
- > **SS 9.** Warrs-Highpoint No.4

The site is supplied by a 22KV high voltage power supply which is reduced to 400V/230V 50hertz at each of the substation for use within the site. The substation consists of switchgear and transformers which if maintained have a life of 25-40 years. The technology advancement in this space has been a reduction in the overall physical size and protection against faults however the principals have remained the same. Adequate ventilation and fire protection of each substation is necessary for efficiency and safety.

Improvement in the efficiency of a transformer and the high voltage switchgear is considered to be outside of the facility owner's control as power authorities across the state and nationwide need to assess their infrastructure and ensure sufficient stock of high resilience, quality products are readily available.

As the site has grown over the past 50 years, so has the demand for electricity and new high voltage supplies have been provided to different areas of the site. There is aerial wiring along Rosamond Road and partially along Warrs Road. Moving forward with the rise of smart grids, micro grids and on-site generation, there is opportunity to invest in a privatised high voltage electrical network that can improve the purchase price of electricity, increase resilience of the network, provide an alternative network for delivering sustainable generation and reduce reliance upon fossil fuels.

It is essential for the planners to understand the criticality of the existing high voltage network, substations and main switchroom. Attached electrical site plan shows the location of all of these with images.

5.3 Easements

The electrical networks have easements from the street through the entire route and including the termination point such as substations. Authority consultation is necessary to amend, modify or build under/over these assets. Please refer to appendix for electrical plans indicating easement overlay.

The application process to amend/modify an existing easement requires 3 to 5 months of discussion followed by 3 – 6 months of detailed design by the authority and then 12 – 18 months for a change to be implemented on site to the existing or new infrastructure. This includes, but is not limited to aerial cabling relocation, pole relocations, trenching, road closures, traffic management, abolishment design and construction, new asset design and construction and any high voltage feeder capacity upgrades plus project management of each of these projects.

Existing substations access is required to be maintained. The new buildings proposed adjacent an existing substation will require laneway access to the doors of the substation. The authority consultation and design process also attract a significant capital investment. Depending on the title and development framework, the developer or GPT will be required to contribute the full cost of works. As a guide, to demolish an existing 500kVA substation, relocate HV cabling 20m and provide a new 500kVA substation incurred an approximately cost of \$2M in 2020.

The location of a substation is determined by the Power Authority. The common basic requirement is that it must not be located below the site flood level. The topology of the site survey would need to be referenced against the flood level and new substations proposed to be located to comply with the authority requirements.

5.4 Setbacks

The electrical networks have guidance for no-go zones in proximity to infrastructure including but not limited to poles, substations, transformers/kiosks, aerial wiring, underground ducts, and the like. Guidance of the Victorian Supply Installation Rules shall be followed to ensure any aerial wiring in proximity of proposed residential areas is maintained, or wiring is undergrounded. Similarly, telecom operators have antenna towers that have very high Electrical Magnetic Interference radiation and guidance must be followed to provide safe residential and commercially habitable spaces.

5.5 Switchboards (400V/230V)

All mains voltage (400V/230V) switchboards are owned by the customer, in this case the asset owner and any dedicated major retailer such as Myers and David Jones.

The switchboards and switchgear have a life of 25 years and can continue to serve its purpose if maintenance is kept up and periodic upgrade for code compliance is given priority. The earliest instalment on this site is from the 1970s and as the site has grown, newer switchboards have been added periodically. Although

maintenance has been undertaken, there is a variety of switchgear across the site and opportunity to reduce maintenance cost by aligning switchgear models at end of life or for code compliance upgrade does exist.

The shopping centre has the following switchboards connected to respective substations: -

- > SS Rosamond-1 supplies MSB-1, MSB-2, MSB-L2, MSB-3 and MSB-4
- > SS Rosamond Target Co supplies MSB-11 (approx. 2MVA)
- > SS Rosamond-3 supplies 10MP/2.1
- > SS Warrs-2 supplies MSB-5, MSB-6, MSB-7, MSB-13,
- > SS Warrs-1 supplies MSB-8
- > SS Warrs-3 supplies MSB-9., MSB-10,
- > SS Warrs-4 supplies MSB-14

A matrix tree is provided in the appendix to elaborate the above.

5.6 Distribution Boards (400V/230V)

All mains voltage (400V/230V) distribution boards are owned by the customer, in this case the asset owner and any dedicated major retailer such as Myers and David Jones.

The distribution boards have a life of 25 years and can continue to serve its purpose if maintenance is kept up and periodic upgrade for code compliance is given priority. The latest change to code requirements for distribution boards were to include residual current devices (RCD) and arc fault detection (AFD) for high risk areas.

5.7 Alternative Electricity Supply (400V/230V)

There are instances where back up power supplies for resilience are necessary, fire and life safety systems for example. However large scale customers also require secondary/backup power supplies to maintain their essential business activity, for example, a major food store may have generator power for freezers to keep stock frozen during normal power outage or a banking institute may require a generator for its Data/IT network in addition to uninterrupted power supply (UPS).

The global initiative to offset carbon footprint combined with government subsidies have paved the way for large scale photovoltaic (PV) installations. These provide a sustainable form of electricity. In some instances, this is backed up with battery storage as well which can be used to shave peak energy demands thereby lowering grid connection peak energy volume. Similarly, cogeneration plants have also been widely employed where the biproduct is used for heating and generating electricity using predominantly natural gas as the fuel source. This has been effective at reducing peak time reliance on grid electricity however the carbon offset is insufficient. Developers are turning towards solar, on-site storage, micro-grids, wind and purchasing green power from the grid.

The rise of grid connected alternative power supplies have presented complexities for the power grid owners and operators. Customers tend to export power to the grid at times when it cannot be fully utilised. The grid infrastructure i.e. transformers and cables, were not selected for back feeding power when designed in the mid-20th century. The rise in voltage and quality of power being transmitted over the grid can add signal noise which impacts the energy retailer's ability to accurately send commands over the power network to smart meters used in residential applications. It also adds complexity when there is excess energy and production must be slowed. Production plants are not intended to be modulated.

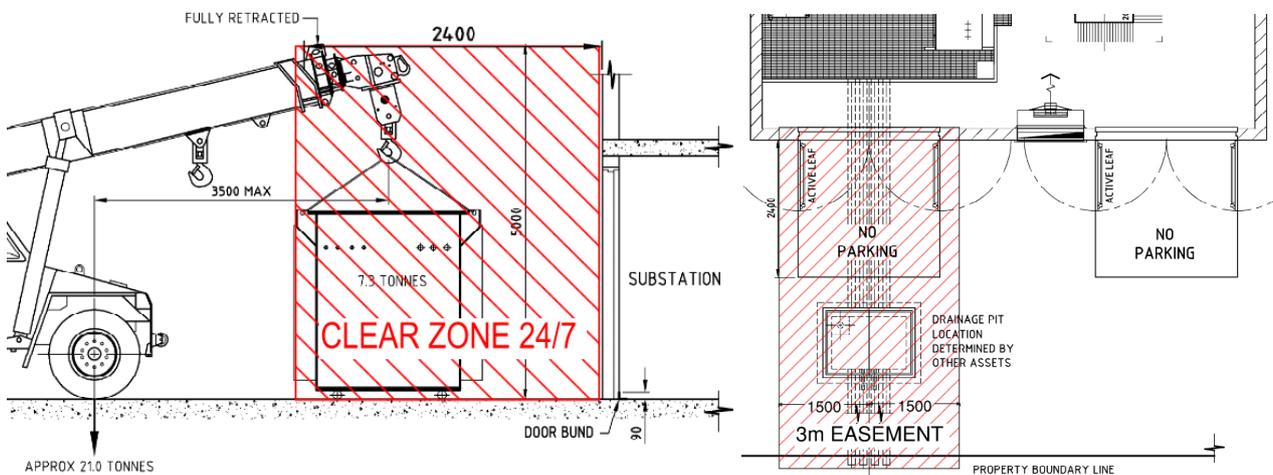
To protect the integrity of the existing grid connected assets, new requirements within electrical wiring rules have been included such as conditions for isolation of alternative electricity supplies where a backup

generator system is connected. This is especially important for a site that has both generators and a photovoltaic or wind power as well. There are plans for the installation of PV in the existing system as part of other projects and it should be carefully designed to avoid a non-compliance with the latest code requirements.

To implement solar PV, large roof areas are necessary or expensive and less efficient PV facades need to be implemented. Kinetic footpaths also offer a form of energy generation that is useful in high foot traffic areas and this power can be stored to services common amenities such as open space lighting, carparking and public charging stations for mobile devices.

5.8 Authority Clearances

Authorities require clearances around their assets and easements over the entire route of their network. An Electrical substation must be located above the local area flood level.



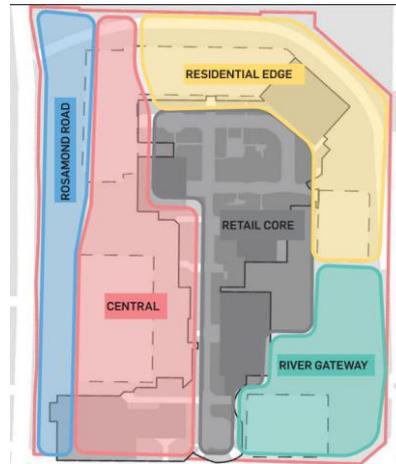
5.9 Carbon Neutral

There are several initiatives to create a carbon neutral environment. The engineer marvel has enabled conversion of energy however it has a coefficient of performance/energy. One unit of energy output requires more than one unit of energy input to overcome the losses during distribution and conversion in energy. For example, a 3KW of cooling machine consumes 1KW of electrical energy thereby providing 2KW of cooling and achieving a COP of 3. Every machine has a COE/P and to achieve a carbon neutral environment, the on-site generation must overcome the COE/P. In practise with today's technology, this cannot be implemented, particularly as the economy is built on a consumption-based model. But through framework tools such as energy credits, sustainability focused clients can overcome much of this gap and enable a site to become carbon neutral. From an electrical power perspective, energy demand will continue to increase.

5.10 Electrical Works Roadmap

5.10.1 Zones

The masterplan of this site has been divided into the phases as shown in the figure below. Each area and sub-zone located within each area will be referenced back to this figure within this report discussion.



5.11 Matrix

We have developed a matrix that includes all the zones and type of developments to make estimates of the required energy and assigned them stages to build up a plan towards the final development. Please refer to appendix F. Anomalies had arisen between the different revisions of architectural master planning information such as building, retails, carparks that no longer exist and these are highlighted.

5.11.1 Load Assumptions

To determine the electrical load for the different stage, the following demand assumptions have been considered.

- > Residential area loads are based on gas cooking, gas central water heating plant with storage, a dedicated condenser unit per apartment with COP of 3 i.e. for every 3 units of heat required, 1 unit of energy is consumed, 1 lift per 4 levels of rise above ground with a maximum of 4 lifts for more than 16 levels, electrical lighting and power as per table C1 of As3000:2018.
- > Open space and landscape areas have been allowed to be provided with way finding lighting and power for irrigations systems at a rate of 15VA/m².
- > Community facilities can vary in activity and subsequent demand, often these areas can be used for events which can demand a higher electrical load, an allowance of 10VA/m² for lighting and 50VA/m² for power has been included to allow flexibility (total 60VA/m²)
- > Hotel can vary in activity and occupancy, an allowance of 10VA/m² for lighting and 40VA/m² for power and 50VA/m² for HVAC has been included (total 100VA/m²)
- > Non-residential area loads are based on table C3 of As3000:2018 as following

Table 1 Non-Residential AS3000:2018 table C3

Occupancy Type	Energy Allowance VA/m ² Combined
Offices/Commercial	100
Carparks (including electric charging)	25
Retail Shops	100
Theatres	100

Electric car charging is based on the below types of chargers that are currently market standard. Over time these will be developed, and it is expected that the global demand will start to increase exponentially from year 2040 to remain on global energy targets and manufacturing capabilities.

Table 2 Electric Car Charging Allowances

	Residential car parks with 230V 7kW charger (40km/hr of charge)	Commercial car parks with 400V 22kW chargers (120km/hr of charge)	Visitor car parks with 400V 22kW chargers (120km/hr of charge)
Short term	5% of carparks	2% of carparks	1% of carparks
Medium term	7% of carparks	2% of carparks	1% of carparks
Long term	10% of carparks	5% of carparks	2% of carparks

The demand is based on the increase in lettable area, public space, car parking. The move from gas energy to electricity for services after year 2030 is included but allows the use of gas for retailers where the flame is necessary for the business/product. Simultaneously during this period there is an understanding of HVAC and plant increase in efficiency and dampening the full impact of a gas to electric changeover.

The total site demand is expected to increase by 20MW by 2030. An additional 5MW will be added up to 2040 and 35.5MW by 2050. The largest component is applied in the long-term stage. In the previous report a significant portion (20%) was not assignment to a stage based on the staging information, however there are no unknown in the Urbis Yield proposed masterplan 17/09/2020 schedule.

5.12 Key Staging Plan

The masterplan has been split into the following stages: -

- > Short term: 0 – 10 years (< year 2030)
- > Medium term: 11 – 20 years (year 2031 – 2040)
- > Long term: 21 – 30 years (year 2041 – 2050)

To having an oversight of the final development it is important to identify the expected total electrical demand for the site.

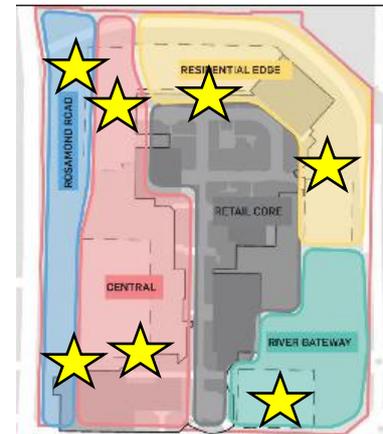
TERM	Energy (MVA)
SHORT TERM	20
MEDIUM TERM	5
LONG TERM	35.5
Grand Total	60.5MVA

5.12.1 Load Estimates

We can break down the individual stage and cross reference these with the sub-zone to correlate developments to each stage. Note that each stage is responded to individually i.e. assuming future stage does not proceed. The image adjacent each table illustrates infrastructure upgrade.

5.12.1.1 Short Term

Sub Zone	SHORT TERM
Central – North	5,600
Central – South	1,700
Residential Edge – North	400
Residential Edge – NE Entry	1,100
River Gateway - North	0
River Gateway – South	2,800
Rosamond Road – North	2,700
Rosamond Road – South	4,300
Grand Total	19MVA



The data illustrates that there is a short-term increase of 18.3MVA in electricity demand.

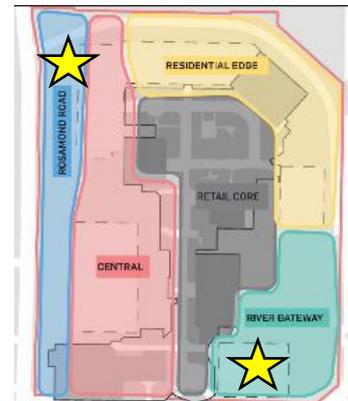
Power infrastructure required at for the short-term sub-zones:

Sub Zone	SUBSTATION	SPATIAL (LxWxH) (m)	CLEARANCE
Central – North	1x 1.5MVA+ 2x 2MVA	15 x 12 x 3.2	2.4m clear zone in front of doors, 5m clear height in clear zone, 3m wide easement over route of HV cable to substation
Central – South	1x 1.5MVA	8.7 x 5 x 3.2	
Residential Edge – North	1x 0.5MVA	8.7 x 5 x 3.2	
Residential Edge – NE Entry	1x 1MVA	8.7 x 5 x 3.2	
River Gateway - North	0	0	
River Gateway – South	2x 1.5MVA	15 x 6 x 3.2	
Rosamond Road – North	2x 1.5MVA	15 x 6 x 3.2	
Rosamond Road – South	3x 1.5MVA	15 x 12 x 3.2	

For the Residential Edge North, there is a load increase of 400kVA, this may be able to be accommodated via increase of an existing substation. Further load reviews and authority discussion is necessary.

5.12.1.2 Medium Term

Sub Zone	MEDIUM TERM
Central – North	52
Central – South	0
Residential Edge – North	0
Residential Edge – NE Entry	0
River Gateway - North	0
River Gateway – South	3,200
Rosamond Road – North	1,400
Rosamond Road – South	0
Grand Total	4.5MVA

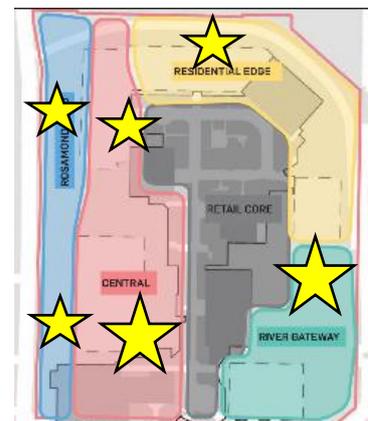


Power infrastructure required at for the medium-term sub-zones:

Sub Zone	SUBSTATION	SPATIAL (LxWxH) (m)	CLEARANCE
River Gateway – South	1x 1.5MVA + 1x 1MVA	15 x 6 x 3.2	2.4m clear zone in front of doors, 5m clear height in clear zone, 3m wide easement over route of HV cable to substation
Rosamond Road – North	1 x 1.5MVA	8.7 x 6 x 3.2	

5.12.1.3 Long Term

Sub Zone	LONG TERM
Central – North	4,600
Central – South	12,300
Residential Edge – North	3,300
Residential Edge – NE Entry	0
River Gateway - North	12,300
River Gateway – South	0
Rosamond Road – North	1,800
Rosamond Road – South	1,400
Grand Total	35.5MVA



The largest energy consumption for the expansion is in the long-term stage.

Power infrastructure required at for the short-term sub-zones:

Sub Zone	SUBSTATION	SPATIAL (LxWxH) (m)	CLEARANCE
Central – North	3x 1.5MVA	15 x 12 x 3.2	2.4m clear zone in front of doors, 5m clear height in clear zone, 3m wide
Central – South	6x 2MVA	2 no. 15 x 12 x 3.2	
Residential Edge – North	1x 1.5MVA + 1x 2MVA	15 x 6 x 3.2	

Residential Edge – NE Entry	0	0	easement over route of HV cable to substation
River Gateway - North	6x 2MVA	2 no. 15 x 12 x 3.2	
River Gateway – South	0	0	
Rosamond Road – North	1x 2MVA	9 x 6 x 3.2	
Rosamond Road – South	1x 1.5MVA	8.7 x 6 x 3.2	

5.13 Communications

The communication network would require new infrastructure from the street pits to new areas and underground connection from new sites to the existing site. The proposed network is fibre optic (GPON) with redundant topology connected back into the existing site network.

For all residential and town houses there shall be street ducts to offer fibre to the premises (FTTP) for NBNC. For the commercial and hotel buildings each site will be provided with dedicated fibre optic from multiple diverse pits and exchanges to ensure higher reliability FTTP. The car parks will be connected over a common network that is serviced by GPT's preferred network manager such as Optus or Telstra and will be connected to the existing site for building management services. Additionally, as newer wireless satellite technology enters and becomes mainstream in the market, this will need to be implemented in different stages/phases.

For each FTTP, there also must be a Node and larger buildings will also host a FTTB. The approximate areas required for these as following:

- > Node termination: 50sqm every 5000sqm of GFA
- > FTTB for maximum 200 residential customers: 8m x 8m x 3.2m
- > FTTB for each commercial building: 8m x 8m x 3.2m
- > FTTB for each hotel building: 8m x 8m x 3.2m
- > FTTP will reticulate via building risers and terminate in a 1sqm space inside each tenancy

There has not been a formal application made to the communications retailer/authority for expansion of exchanges or the network at this stage, these will be undertaken during each phase. Ideally there should be FTTP to every premises including all residential and hotels. It is expected that alternatives to NBNC such as Lightning Co and use of dark fibre would also be favourable.

Full 4G telecommunication coverage will be required throughout the site. As the number of occupants and users increase, additional telecommunication towers complimented with digital antenna systems will be populated and staged.

- > Roof Antenna termination: 100sqm space each corner of whole site
- > DAS rooms are an alternative to roof top antenna: 40sqm per carrier in every building. Allowance for a minimum of 2 carriers should be the minimum i.e. 80sqm.

Newer 5G technology is expected to become market mainstream by the end of stage 1 (short-term). This technology is more heavily reliant on clear line of sight and operates on shorter distances at higher speeds. To enable the full potential of this technology the number of towers will need to increase. It is expected that at the end of stage 2 (medium term) the use of Li-Fi will be available in high end developments. This technology will utilise streetlights, car park lights and use the LED technology to beam wireless data. This technology is extremely reliant on clear line of sight and is currently under testing at various site across the world. Fibre optic connection to outdoor light poles and roof tops of car parks should be considered.

5.14 Future Proofing and Redundancy

To future proof the site it is essential to have a consolidated approach to the utility services. Based on the final scheme, each block may be required to include an Energy Centres (EC). The EC would provide a block of buildings the electrical infrastructure for power and telecommunications. It could also host equipment for temporary connections of generators in the event of a blackout. The level of future proofing and redundancy required for the site and for each category of sub-site/building would need to be developed further. For example, the commercial building would be more inclined towards higher reliability and greater future capacity compared to the residential and carparks. However recent events in the world such as Covid-19 would also trigger the requirement for higher resilient, higher speed, higher bandwidth telecommunication to all residential areas. The following considerations should be made by the client: -

- > Electricity
 - Embedded network could be implemented site wide. The rise of build to rent premises make a business case for all-inclusive lease agreement for residential properties.
 - Electricity metering coupled with onsite generation using renewables such as solar photovoltaics would allow the owner/operator to meter and on-sell generated electricity to commercial and retail customers. This provide a very good return on investment and diversifies the risk from a single source of electricity.
 - Car chargers for residential and commercial properties will increase and are expected to be common by the long-term stage. A significant increase in electrical power will be required as the overnight charging for large residential developments such will demand a higher investment. However, during peak day time periods the charging can be reversed to support the local network and reduce some of the peak loads.
 - GPT should have a technical meeting with the planning engineers at local power authority Jemena to understand the capital and possibility of the street infrastructure being capable of supporting the full long-term energy demand of the site.
- > Communication
 - Roll out of technology, the appropriate time to test and implement the right technology can attract new businesses and promote the expansion of the site. Speed and reliability are the two key factors in this field. 4G and fibre optic are sufficient at present however as devices get smarter, they enable users to demand more bandwidth (4K HD content streaming). 5G but also Li-Fi and other protocols such as highspeed Wi-Fi should be incorporated into the design.
 - Each user also has multiple smart devices including phones, tablets, watches, laptops, virtual reality and augmented reality gear. Other appliances are also connected such as smart measurement tools, smart homes, smart cars and smart appliances. This demand is further exacerbated by smart business technologies such as electronic money, driver-less cars/taxis, buses with on-board internet, smart delivery robots and vehicles as well as drones.
- > Security
 - With any technology and electrical installation, the end user will be connecting with the client's asset as some point. The risk of an infiltration from unwanted electronic medium is a concern and challenge for every business. Any aspect of the system left open or unsecure can lead to damages that can put the entire infrastructure and its users at risk from various attacks. The client should consider the level of interface it is intended user to have with its own network and create a security strategy that is rolled out over each stage. The highest level of safety from electronic violations is to keep the asset disconnected from access to internet. However, this is not possible as a lot of useful

data is transmitted and communicated to ensure the infrastructure is operating optimally. Layers of internet security is the next line of defence including soft firewalls followed by hard firewalls and each is encrypted to suit the nature of the asset. Although electronic security is a specialist trade, it should be considered early in the planning to ensure systems deployed are capable of being managed by the client's security strategy.

Appendix A Short Term Staging

Appendix B Medium Term Staging

Appendix C Long Term Staging

Appendix D Level 1 Plant Nodes

Appendix E Asset Register

Appendix F Electrical Matrix



Creating great environments with great people

Melbourne
Level 11, 60 Albert Road
South Melbourne VIC 3205
t. 03 9521 1195

Sydney
Level 3, 8 Spring Street
Sydney NSW 2000
t. 02 8203 5447

Brisbane
Ground Floor, 102 Adelaide Street
Brisbane QLD 4000
t. 07 3088 4022

adpconsulting.com.au

**HIGHPOINT DRAFT STAGING PLAN
MECHANICAL SERVICES - SHORT TERM**

Passivhaus Resi
Split AC Units +
ERVs

New Reverse Cycle Energy
Recovery Heat Pump Chillers
2 x 1.2MW on extended Myer
Plant Platform to serve Myer

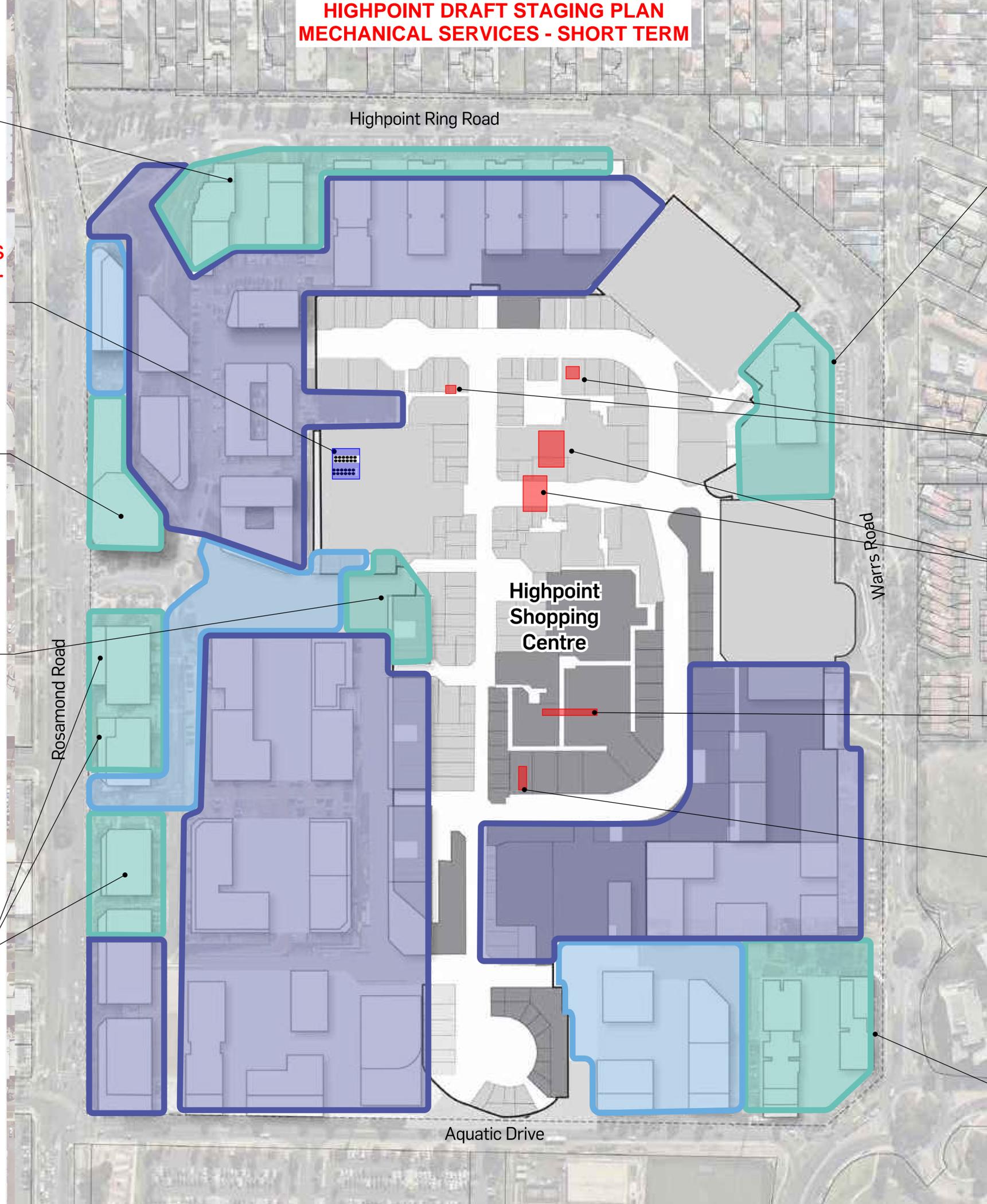
Hotel + Commercial + Retail
Stand Alone Plant to be
provided

Residential
Passivhaus Resi
Split AC Units + ERVs

Retail
Connected to central plant
C = 1MW
H = 0.42MW

Commercial
Stand Alone Plant to
be provided

- LEGEND**
- █ Short term (0-10 years)
 - █ Medium term (10-20 years)
 - █ Long term (20-30 years)



Passivhaus Resi
Split AC Units + ERVs

Existing Main Central
Boiler Plants

Existing Main Central
Cooling Towers

Existing Central Cooling
Tower and Boiler Plants
for Harris Scarfe

Existing Central Cooling
Tower and Boiler Plants
for Hoyts

Passivhaus Resi
Split AC Units + ERVs
Retail
Stand Alone Plant to be
provided.
C=0.65MW
H=0.3MW

**HIGHPOINT DRAFT STAGING PLAN
MECHANICAL SERVICES - MEDIUM TERM**

Commercial Stand Alone Plant to be provided

Commercial Stand Alone Plant to be provided

New South Chiller Node - 2030

Cooling 4.7MW
2 MW WC Chiller below + 3 off 0.9 MW Heat Pump Chillers on roof)

Heating 2.15MW
1.4MW South East Ext Boilers + 0.6MW Hoyts Boiler + 0.15MW River Gateway South

Serves:
River Gateway South -0.3MW

Replaces:
-Hoyts WC chillers - 1.2MW
-South Extension AC Chillers - 3.2MW
-Hoyts Boilers 0.6MW
-SE Ext Boilers 1.4MW

Existing North and North East Boiler Plant to be replaced with new Energy Recovery Heat Pump Chillers 6 x 0.9MW

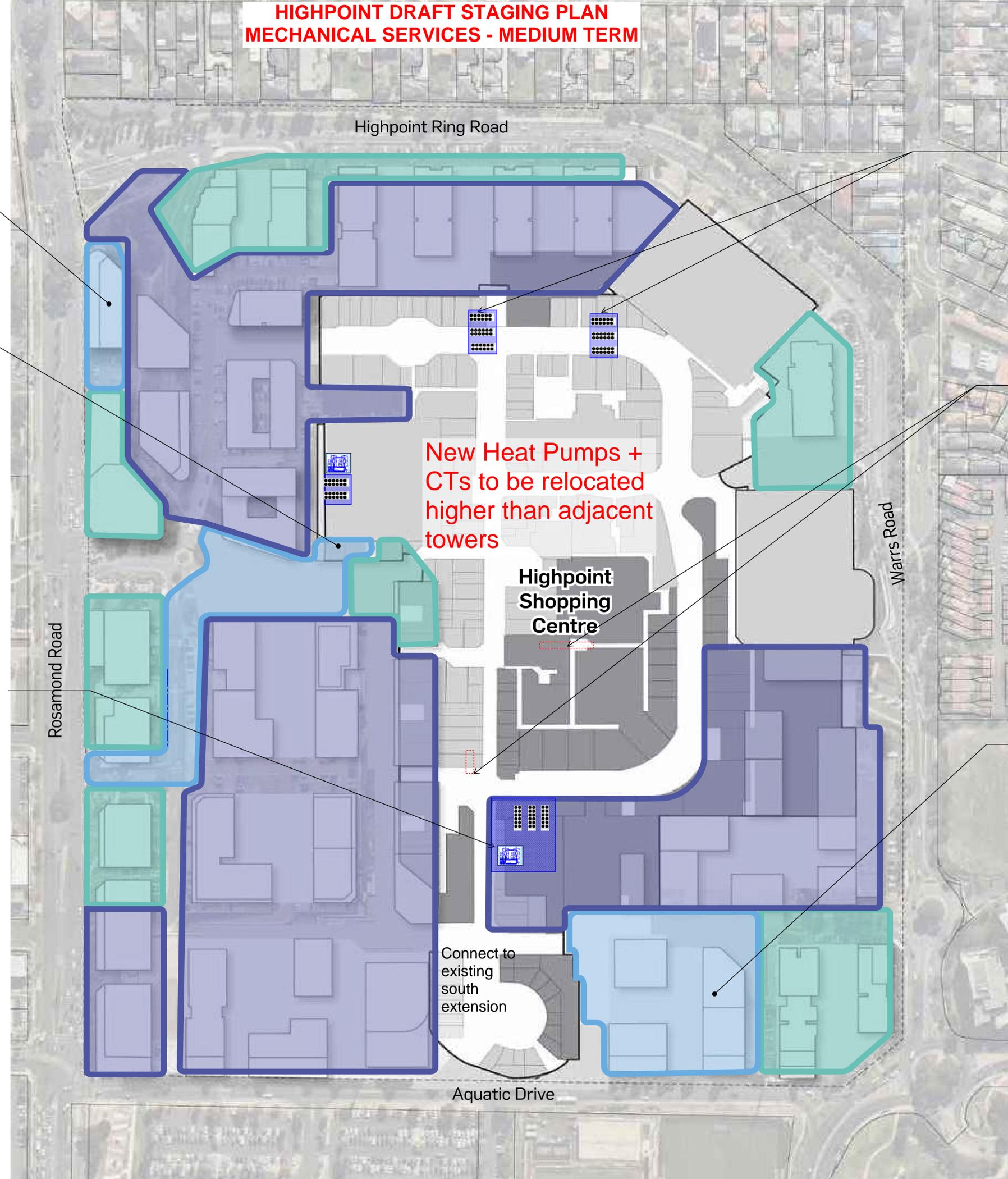
Remove Existing Harris Scarfe and Hoyts Boiler Plants

Passivhaus Resi Split AC Units + ERVs

Retail From the Central Plant C=0.3MW H=0.15MW

LEGEND

- Short term (0-10 years)
- Medium term (10-20 years)
- Long term (20-30 years)



New Heat Pumps + CTs to be relocated higher than adjacent towers

Highpoint Shopping Centre

Connect to existing south extension

**HIGHPOINT DRAFT STAGING PLAN
MECHANICAL SERVICES - LONG TERM**

Retail/ Anchor Store from the
Central CHW/HHW Plant
C = 0.6MW
H = 0.3MW
Commercial
Stand Alone Plant to be
provided

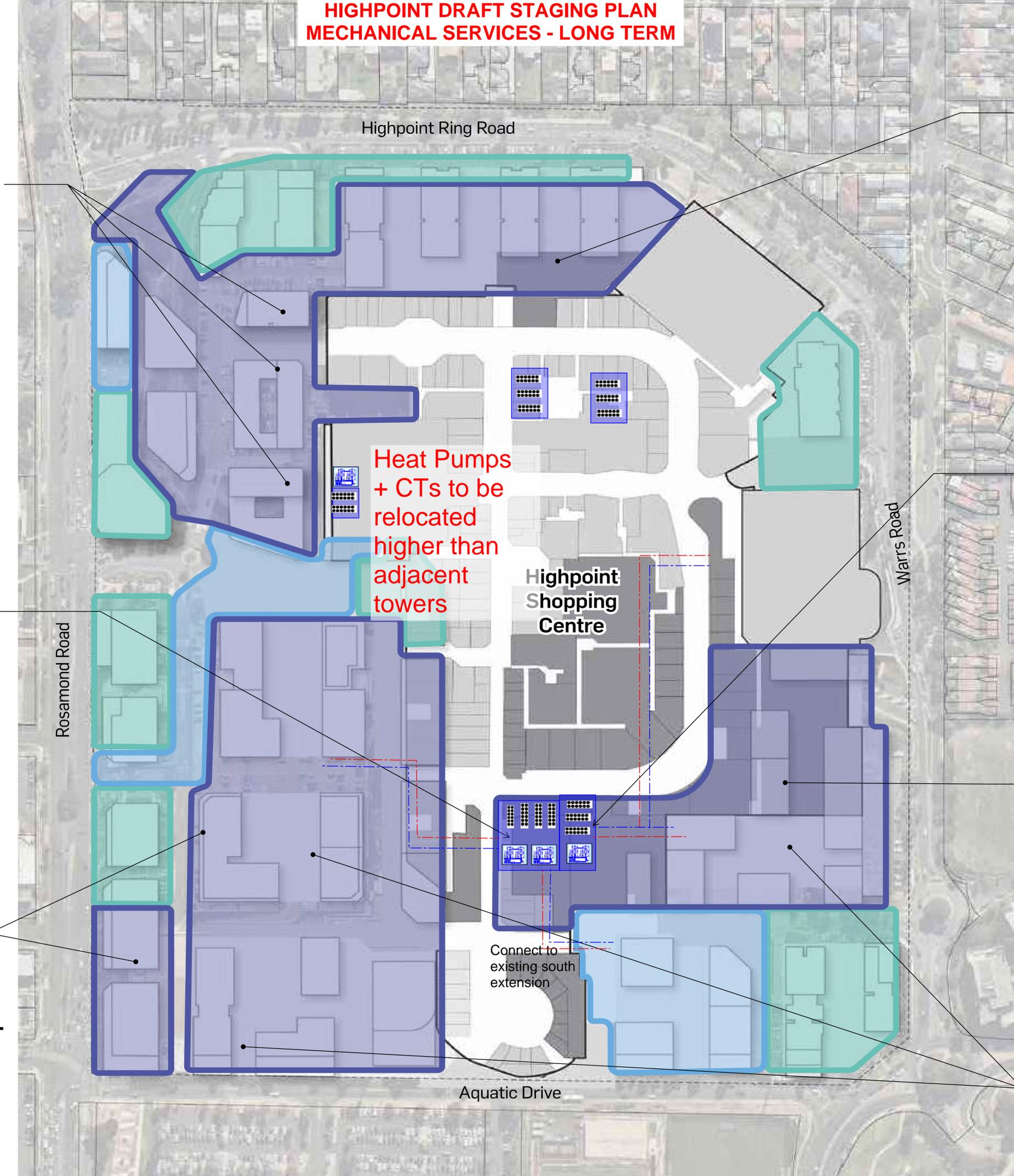
Year 2040
Cooling:
South Chiller Node - 8.6MW
Medium term C= 4.7MW
Central South C= 3.9MW

Heating:
South Heating Node -
3.55MW
Medium term H=2.15MW
Central South H=1.4MW

(3MW + 2MW WC Chillers
+ 4 off 0.9MW Heat Pump
Chillers on roof)

Commercial
Stand Alone Plant to
be provided

- LEGEND**
- █ Short term (0-10 years)
 - █ Medium term (10-20 years)
 - █ Long term (20-30 years)



Passivhaus Resi
Split AC Units + ERVs
Retail
From the Central Plant
C=0.3MW
H=0.15MW

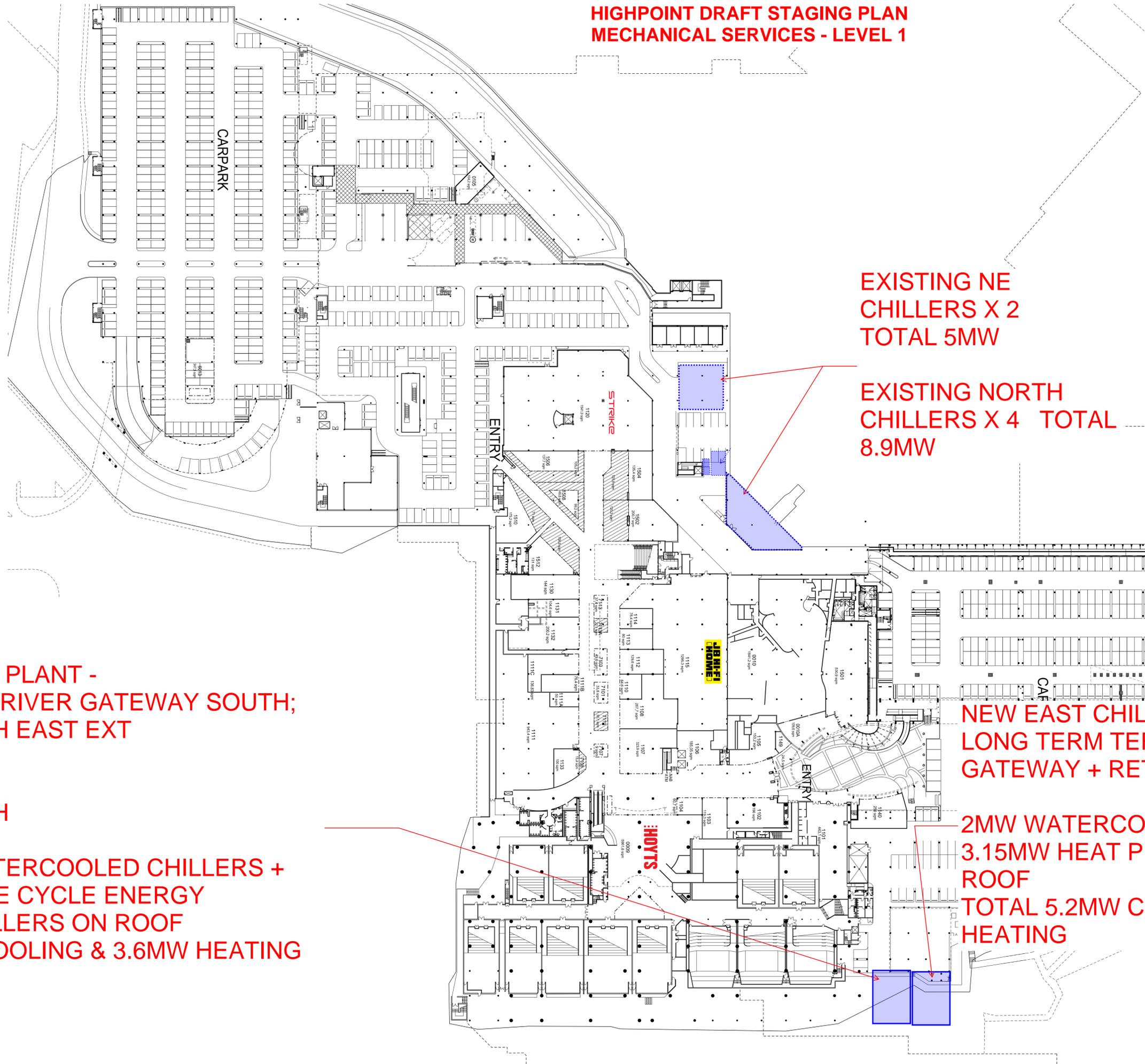
New East Chiller Node -
2040
Cooling 5.3MW
Heating 3.2MW
(2MW WC Chillers on L1
+ 3 off 1.05MW Heat
Pump Chillers on roof)

River Gateway North
Retail / Anchors +
Supermarket
C=4.2MW+0.5MW
Hoyts East air cooled
chiller+0.5MW Harris
Scarfe

H=2.1MW +1.05MW
Harris Scarfe Boilers

Passivhaus Resi
2.0kW Split ACs +
ERVs

**HIGHPOINT DRAFT STAGING PLAN
MECHANICAL SERVICES - LEVEL 1**



**EXISTING NE
CHILLERS X 2
TOTAL 5MW**

**EXISTING NORTH
CHILLERS X 4 TOTAL
8.9MW**

**NEW EAST CHILLER PLANT -
LONG TERM TERM - NORTH RIVER
GATEWAY + RETAIL / ANCHOR**

**2MW WATERCOOLED CHILLERS +
3.15MW HEAT PUMP CHILLERS ON
ROOF
TOTAL 5.2MW COOLING & 3.15MW
HEATING**

**SOUTH CHILLER PLANT -
MEDIUM TERM - RIVER GATEWAY SOUTH;
EXISTING SOUTH EAST EXT**

**LONG TERM:
CENTRAL SOUTH**

**3MW + 2MW WATERCOOLED CHILLERS +
3.6 MW REVERSE CYCLE ENERGY
RECOVERY CHILLERS ON ROOF
TOTAL 8.6MW COOLING & 3.6MW HEATING**

Ref	Element / Description	Equipment Type	Location	Manufacturer	Model Number	Rating / Duty	Year	Economic Life	Anticipated Replacement Year	Comments	Short Term Year 2025	Medium Term Year 2026-2035	Long Term Year 2036+
BUILDING SERVICES ENGINEERING													
MECHANICAL SERVICES													
CHILLERS													
1	Nth CH-1	Chiller	Chiller Plant Rm	McQuay	PEH 100	2500 kW	1995	20 Years	2015	Proposed 2020 replacement			
2	Nth CH-2	Chiller	Chiller Plant Rm	McQuay	PEH 100	2500 kW	1995	20 Years	2015				
3	Nth CH-3	Chiller	Chiller Plant Rm	McQuay	PEH 100	2500 kW	1995	20 Years	2015				
4	Nth CH-4	Chiller	Chiller Plant Rm	McQuay	CEO63	1400 kW	2001	20 Years	2021				
5	SE CH1	Chiller	Sth End	McQuay	ALSEXE-ST296.3	1069	2005	15 Years	2020				
6	SE CH2	Chiller	Sth End	McQuay	ALSEXE-ST296.3	1069	2005	15 Years	2020				
7	SE CH3	Chiller	Sth End	McQuay	ALSEXE-ST296.3	1069	2005	15 Years	2020				
8	NE C-1	Chiller	Level 1 Plant Room - NE precinct	Carrier	19XRV5556	2500	2013	20 Years	2033				
9	NE C-2	Chiller	Level 1 Plant Room - NE precinct	Carrier	19XRV5556	2500	2013	20 Years	2033				
10	Hoyts	Chiller	South Hoyts Chiller Plant	Carrier	30XW-V-160	567kW	2015	15 Years	2035				
11	Hoyts	Chiller	South Hoyts Chiller Plant	Trane	C9WB120DAA	NA	1988	15 Years	2008				
12	Hoyts East	Chiller	East Hoyts Chiller Plant	York	YVAA0152BNM50	510kW	2013	15 Years	2033				
13	Myer	Chiller	Myer Plantroom - Roof	Carrier (York retrofit)	Water Cooled R123 Centrifugal	?	1970	25 Years	1995				
14	Myer	Chiller	Myer Plantroom - Roof	Carrier (York retrofit)	Water Cooled R123 Centrifugal	?	1970	25 Years	1995				
15	Myer	Chiller	Myer Plantroom - Roof	Carrier	Water Cooled R22 Reciprocating	?	1970	25 Years	1995				
16	Target	Chiller	Target Roof	McQuay	ENP 142.2 SE LN	500	2000	25 Years	2025				
17	Target	Chiller	Target Roof	McQuay	ENP 142.2 SE LN	500	2000	25 Years	2025				
COOLING TOWERS													
18	Nth BAC-CTWR-1	COOLING TOWER	Roof SG2	BAC	A3658-2	2485kW	2001	25 Years	2026				
19	Nth CTWR 3	COOLING TOWER	Roof SG2	AQUA	MSS165A	2095kW	2001	25 Years	2026				
20	Nth CTWR 4	COOLING TOWER	Roof SG2	AQUA	MSS165A	2095kW	2001	25 Years	2026				
21	Nth CTWR 5	COOLING TOWER	Roof SG2	AQUA	MSS131A	1668kW	2001	25 Years	2026				
22	Harris Scarfe CTWR	COOLING TOWER	Sth Roof	EvapCo	MSS066A	800kW	2012	25 Years	2037				
23	Harris Scarfe CTWR	COOLING TOWER	Sth Roof	Evapco	MSS066A	800kW	2012	25 Years	2037				
24	NE CT-1	COOLING TOWER	Roof Plantroom	BAC	RCT-2522	3000Kw	2013	25 Years	2038				
25	NE CT-2	COOLING TOWER	Roof Plantroom	BAC	RCT-2522	3000Kw	2013	25 Years	2038				
26	Myers	COOLING TOWER	Myer Plantroom - Roof	AQUA	Water Cooled R123 Centrifugal	?	1970	25 Years	1995				
27	Myers	COOLING TOWER	Myer Plantroom - Roof	Carrier	Water Cooled R22 Reciprocating	?	1970	25 Years	1995				
28	Nth BAC-CTWR-2	COOLING TOWER	Roof SG2	BAC	A3658-2	2485kW	2001	25 Years	2026				
BOILERS													
29	BEST & LESS BOILER	Heating Systems	Plantroom Rear of Best & Less	CFS		150kW	2018	15 Years	2033				
30	NTH BLR 1	Heating Systems	Roof	RENDAMAX	R3408	1420kW	2016	15 Years	2031				
31	NTH BLR 2	Heating Systems	Roof	RENDAMAX	R3408	1420 Kw	2016	15 Years	2031				
32	SE BR1	Southern Extension	South Boiler Plant	Hunt Boilers	TN-AR697	700kW	2005	20 Years	2025				
33	SE BR2	Southern Extension	South Boiler Plant	Hunt Boilers	TN-AR697	700kW	2005	20 Years	2025				
34	NE B-1	Heating Systems	NE Roof	AIRA	FTA 1400	1350Kw	2013	20 Years	2033				
35	NE B-2	Heating Systems	NE Roof	AIRA	FTA 1400	1350KW	2013	20 Years	2033				
36	L1 BOILER- B1.1	Heating Systems	Level 3 caged area adjacent BIG W Rear.	Baxi	HT1-1500	150kW	2012	15 Years	2027				
37	L1 BOILER- B1.2	Heating Systems	Level 3 caged area adjacent BIG W Rear.	Baxi	HT1-1500	150kW	2012	15 Years	2027				
38	L1 BOILER- B1.3	Heating Systems	Level 3 caged area adjacent BIG W Rear.	Baxi	HT1-1500	150kW	2012	15 Years	2027				
39	L1 BOILER- B1.4	Heating Systems	Level 3 caged area adjacent BIG W Rear.	Baxi	HT1-1500	150kW	2012	15 Years	2027				
40	L1 BOILER- B1.5	Heating Systems	Level 3 caged area adjacent BIG W Rear.	Baxi	HT1-1500	150kW	2012		2027				
41	L1 BOILER- B1.6	Heating Systems	Level 3 caged area adjacent BIG W Rear.	Baxi	HT1-1500	150kW	2012		2027				

42	L1 BOILER- B1.7	Heating Systems	Level 3 caged area adjacent BIG W Rear.	Baxi	HT1-1500	150kW	2012	15 Years	2027				
43	Myer Boiler No.1	Heating Systems	Myer Plantroom - Roof	Raypak		600kW (Estimated)	1975	20Years	1995				
44	Myer Boiler No.2	Heating Systems	Myer Plantroom - Roof	Raypak		600kW (Estimated)	1975	20Years	1995				
45	Target Boiler No.1	Heating Systems	Target Plantroom	Raypak		170kW	2000	20Years	2020				
46	Target Boiler No.1	Heating Systems	Target Plantroom	Raypak		345kW	2000	20Years	2020				

EXISTING O/H POWER LINES



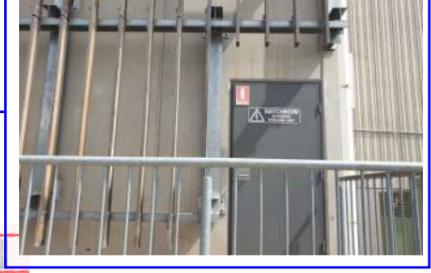
AGL SUBSTATION 'S/S ROSAMOND - HIGHPOINT No. 2'



SWITCHROOM



SWITCHROOM



NOTES:

1. THE SITE INSPECTION WAS CONDUCTED TO IDENTIFY THE EXISTING ELECTRICAL & COMMS INSTALLATION. FURTHER VERIFICATION IS REQUIRED TO DETERMINE THE ACTUAL CAPACITY OF THE INSTALLATION.

2. SUBSTATION ROOMS AND MAIN SWITCHROOMS WERE NOT ACCESSED AS THESE ROOMS ARE RESTRICTED BY SUPPLY AUTHORITY.

SPECULATION ON-SITE:

- 1. ROSAMOND S/S No. 1 CONTAINS FIVE 2.0MVA TRANSFORMERS. THIS IS THE CENTRAL SUB SERVING THE EXISTING NORTH, CENTRAL, AND SOUTH ZONE.
- 2. ROSAMOND S/S No. 2 IS 2.0MVA DEDICATED TO RETAIL 'MYERS'.
- 3. KIOSK SUBSTATION S/S No. 4 IS 2.0MVA DEDICATED TO RETAIL 'DAVID JONES'.

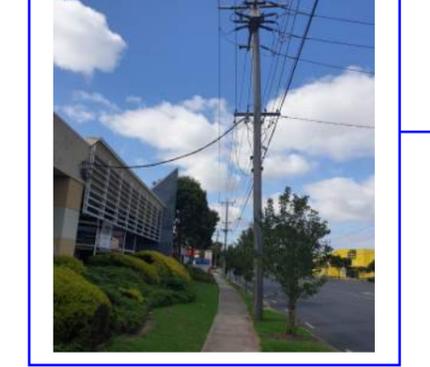
AGL 22KV ELECTRICAL FACILITY



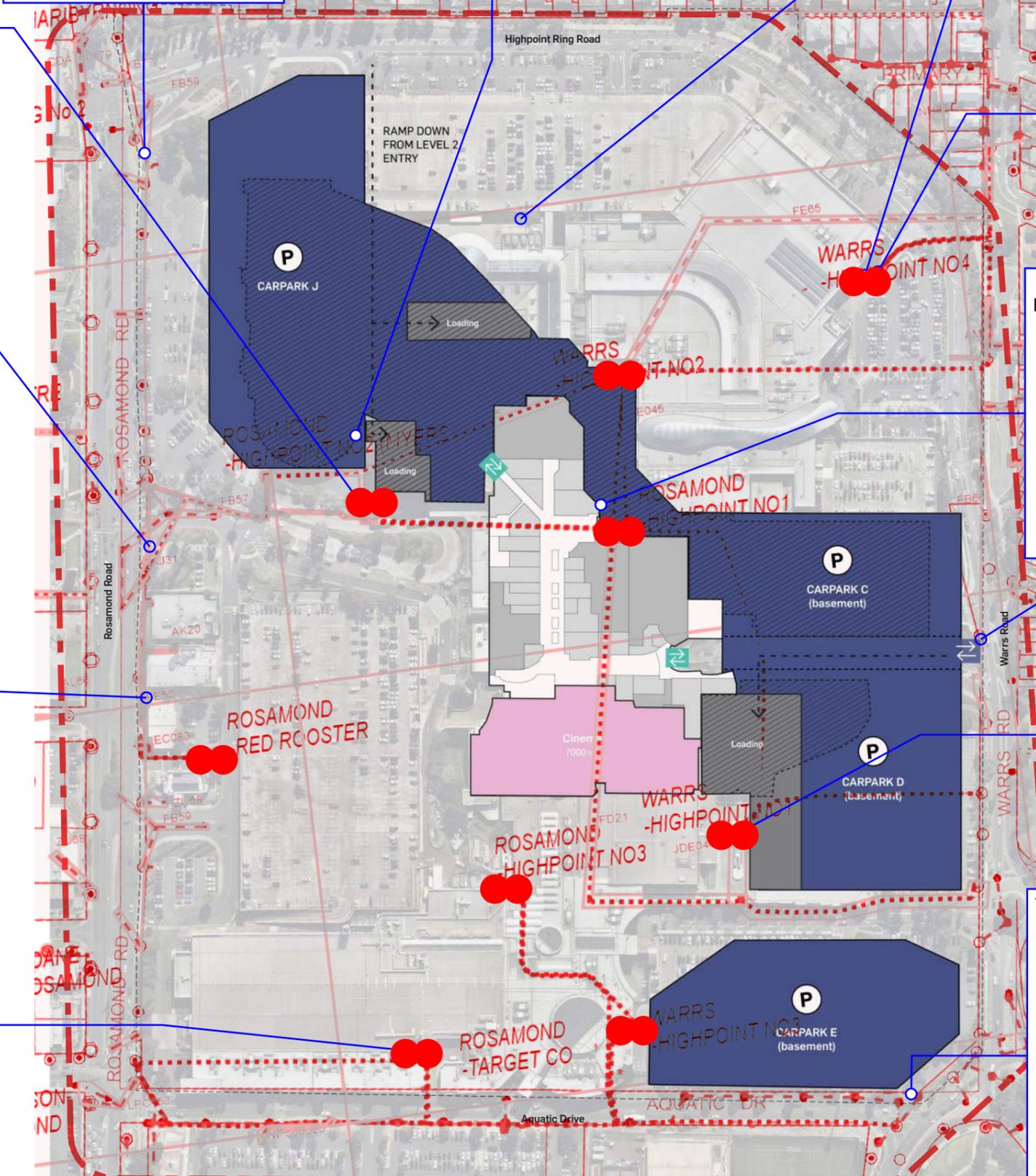
EXISTING OVERHEAD POWER LINES



EXISTING OVERHEAD POWER LINES SUPPLYING SMALL RETAIL SPACE



22KV AUTHORITY SUBSTATION (AGL)



AGL KIOSK SUBSTATION 'WARRS - HIGHPOINT No. 4'



22KV SUBSTATION 'S/S ROSAMOND HIGHPOINT No. 1'



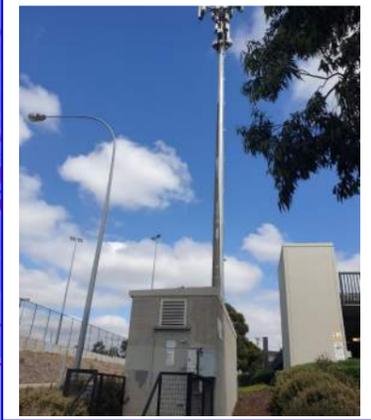
AGL SUBSTATION



AERIAL WIRING



TELSTRA TELCOM FACILITY

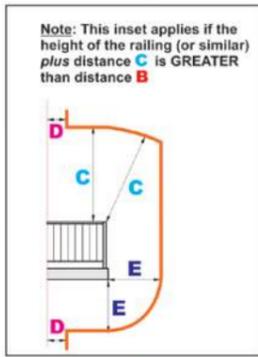
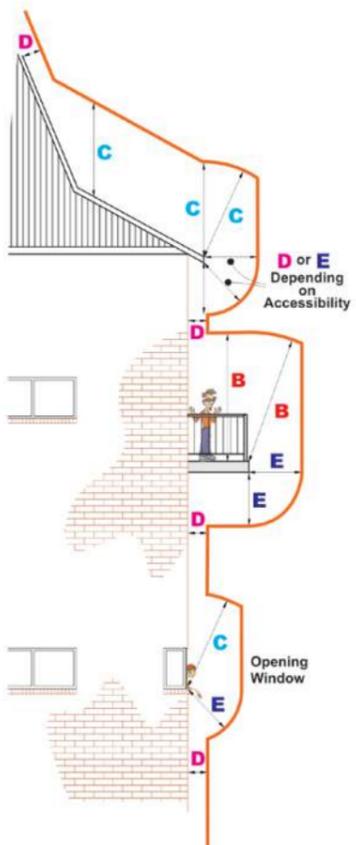
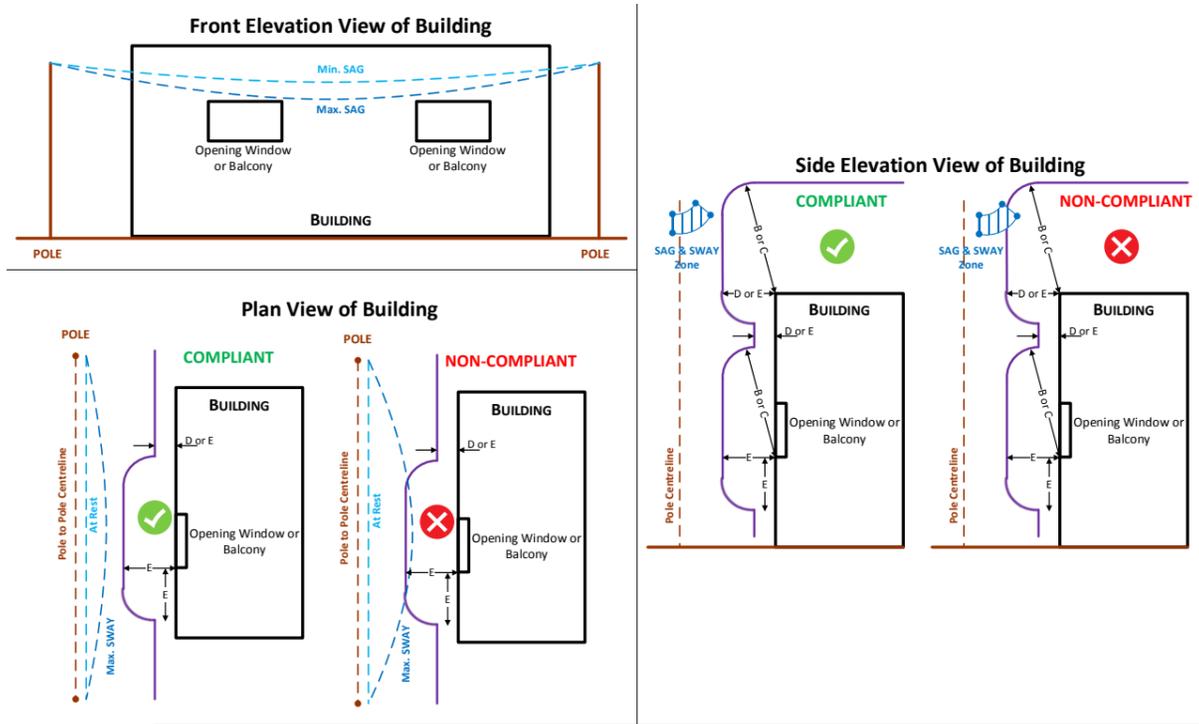


Date	2020.02.07	Drawn by	AS
Scale		Checked by	
Sheet Size		Approved by	

Project Name: HIGHPOINT DEVELOPMENT		Title: SITE INSPECTION - ELECTRICAL SERVICES	
Client: GPT	Job No. MEL1951	Drawing / Sketch No. SK-E001	Rev. R1

ELECTRICAL SETBACKS

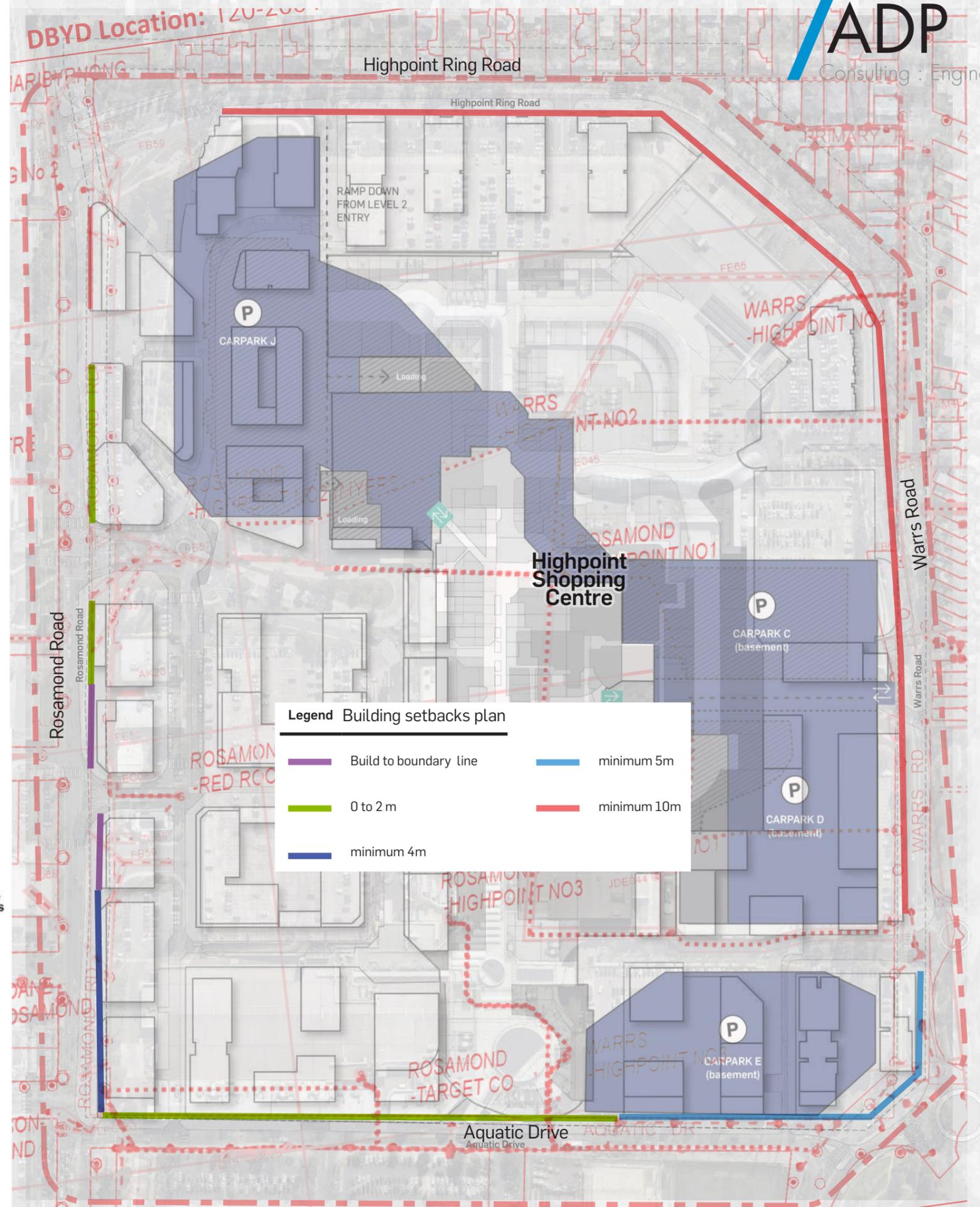
MINIMUM CLEARANCES SHALL BE MAINTAINED AS REQUIRED BY ELECTRICAL SAFETY REGULATION



Minimum distances from parts of buildings, structures, scaffolds or posts to aerial lines of relevant installations

ROW A	Alternating current aerial lines Up to 1000V	>1000V up to 33 000V	>33 000V up to 132 000V	>132 000V up to 275 000V
B Vertically above those parts of a building, structure, scaffolding or post normally accessible to persons	3700mm	4600mm	5000mm	6800mm
C Vertically above those parts of a building, structure, scaffolding or post not normally accessible but on which a person can stand	2700mm	3700mm	4600mm	6000mm
D In any direction from those parts of a building, structure, scaffolding or post NOT normally accessible to persons	600mm	2700mm	3000mm	3700mm
E In any direction from windows, openings and balconies and those parts of a building structure, scaffolding or post NORMALLY accessible to persons	1500mm	2700mm	3000mm	4600mm
F In any direction from a footbridge	4600mm	4600mm	4600mm	6800mm

The above information is derived from Electricity Safety (Installations) Regulations 2009 S.R. Number 164/2009 PART 3 - Electrical Safety Duties, Division 2 Duties of the Public (Table 213 - Minimum distances from parts of buildings, structures, scaffolds or posts to aerial lines of relevant installations)



Legend Building setbacks plan

- Build to boundary line
- 0 to 2 m
- minimum 4m
- minimum 5m
- minimum 10m

Yield Schedule - Proposed Masterplan - 17/09/2020

ELECTRICAL LOADS

Staging	Revised Masterplan	Proposed FA of leaseable areas (m ²)	No. of storeys	Proposed GFA of leaseable areas (m ²)	No. of dwellings	No. of car parks recommended (middle of range by GTA)	Est. area for parking (m ²)	Kva	TOTAL	SHORT Pre - 2030	MED Post 2030	LONG Post 2040
Residential Edge - North										<10Y	11 - 20Y	20Y +
Long term	Residential Tower 1 (Short term)		16	38,250	360	391	9775	3113				3113
				0	0	0	0	0				
				0	0	0	0	0				
				0	0	0	0	0				
				0	0	0	0	0				
Short term	Residential 1 (Short term)			4,994	47	0	0	375		375		
				0	0	0	0	0				
				0	0	0	0	0				
				0	0	0	0	0				
	Retail 1 (A,L3)			0	-	0	0	0				
					-	0	0	0				
Long term	podium garden (less pvt courts)			7,865	-	0	0	118				118
Land use												
	Residential			38,250	407	391	9775	3113				
	Retail			0	-	0	0	0				
	Open space (softscape ground)			7,865	-	0	0	118				
	SUBTOTAL			38,250	407	391	9,775	3,606		375	0	3,231

Residential Edge - NE Entry												
Short term	Residential Tower 1 (Short term)		13	12,080	104	115	4025	0				
Short term	Residential 1 (Short term)				11		0	0				
			6	0	0	0	0	0				
			6	0	0	0	0	0				
			2	0	0	0	0	0				
			2	0	0	0	0	0				
Short term	Retail 1 (L2)	561	1	561		20	491	0				
				0		0	0	0				
Short term	podium garden (less pvt courts)	2,097										
Short term	NE Plaza open space (Ground)	1,390	1	1,390								
Land use												
	Residential			12,080	115	115	4025	1007		1007		
	Retail			561		20	491	68		68		
	Open space (softscape ground)			1,390								
	SUBTOTAL			12,641	115	135	4516	1,075		1,075		

River Gateway - North												
Long Term	Residential Tower 1	1,480	3	4,440	44	22	11					
Long Term	Residential Tower 2	1670	4	6,680	67	33	17					
Long Term	Residential Tower 3	530	6	3,180	32	16	398					
Long Term	Residential Tower 4	660	6	3,960	40	20	495					
Long Term	Residential Tower 5	805	8	6,440	64	32	805					
Long Term	Residential Tower 6	880	4	3,520	35	18	440					
Long Term	Residential Tower 7	770	8	6,160	62	31	770					
Long Term	Residential Tower 8	660	4	2,640	26	13	330					
Long Term	Residential 1	1,300	6	7,800	78	39	975					
Long Term	Residential 2	990	6	5,940	59	30	743					
Long Term	Residential 1	1,410	3	4,230	28	14	353					
Long Term	Residential 2	1,110	5	5,550	37	19	463					
Long Term	Retail 1 (L2)	330	1	330		12	289					
Long Term	Supermarket (N, L2)	3,660	1	3,660		128	3203					
Long Term	Retail 1 (R, L2)	590	1	590		21	516					
Long Term	Retail 2 (R, L2)	480	1	480		17	420					
Long Term	Retail 3 (R, L2)	56	1	56		2	49					
Long Term	Retail 4 (R, L2)	270	1	270		9	236					
Long Term	Retail 5 (R, L2)	935	1	935		33	818					
Long Term	Retail 6 (R, L2)	670	1	670		23	586					
Long Term	Retail 7 (R, L2)	1,130	1	1,130		40	989					
Long Term	Retail 8 (R, L2)	815	1	815		29	713					
Long Term	Retail 1 (A, L2)	1,810	1	1,810		63	1584					
Long Term	Retail 2 (A, L2)	1,975	1	1,975		69	1728					
Long Term	Retail 3 (A, L2)	690	1	690		24	604					
Long Term	Retail 4 (A, L2)	1,420	1	1,420		50	1243					
Long Term	Retail 5 (A, L2)	2,805	1	2,805		98	2454					
Long Term	Retail 6 (A, L2)	250	1	250		9	219					
Long Term	Retail 7 (A, L2)	430	1	430		15	376					
Long Term	Mini Major (A, L2)	2880	1	2880		273	6825					
Long Term	Anchor Store (A, L2)	7,800	1	7,800		97	2419					
Long Term	Retail 1 (R, L3)	2,765	1	2,765		97	2419					
Long Term	Retail 2 (R, L3)	1,890	1	1,890		66	1654					
Long Term	Retail 3 (R, L3)	705	1	705		25	617					
Long Term	Retail 4 (R, L3)	1,890	1	1,890		66	1654					
Long Term	Retail 5 (R, L3)	1,970	1	1,970		69	1724					
Long Term	Retail 1 (A, L3)	3,370	1	3,370		118	2949					
Long Term	Retail 2 (A, L3)	1,640	1	1,640		57	1435					
Long Term	Retail 3 (A, L3)	705	1	705		25	617					
Long Term	Retail 4 (A, L3)	1,890	1	1,890		66	1654					
Long Term	Retail 5 (A, L3)	1,970	1	1,970		69	1724					
Long Term	Anchor Store (A, L3)	6,565	1	6,565		230	5744					
Long Term	Retail 6 (A, L3)	880	1	880		31	770					
Long Term	Retail 7 (A, L3)	1,185	1	1,185		41	1037					
Long Term	Retail 8 (A, L3)	2,270	1	2,270		79	1986					
Long Term	Retail 9 (A, L3)	1,700	1	1,700		60	1488					
Long Term	Retail 10 (A, L3)	780	1	780		27	683					
Long Term	Childcare	490	2	980								
Long Term	podium garden (less pvt courts)	7,666						115				115
Land use												
	Residential			60,540	573	286	5798	4685				4685

Retail	61,171	-	2,137	53,424	7453	7453
Community	980				59	59
SUBTOTAL	122,691	573	2423	59222	12312	12312

River Gateway - South									
Short Term	Residential Tower (Short term)			26,978	214	265	9275	2255	2255
				0	0	0	0		
				0	0	0	0		
				0	0	0	0		
Med Term	Residential Tower 5	795	10	7,950	80	40	1391	631	631
Med Term	Residential Tower 6	900	12	10,800	123	62	2160	864	864
Med Term	Residential Tower 7	1,000	4	4,000	40	20	700	318	318
Med Term		670	5	3,350	34	17	586	266	266
Med Term	Residential Tower 8	960	4	3,840	38	19	672	305	305
Med Term		720	5	3,600	36	18	630	286	286
Short Term	Residential (Short term)		2	5,700	57			428	428
			3	0				0	0
Med Term	Residential 3	230	3	690	5	2	81	54	54
Med Term	Residential 4	790	3	2,370	16	8	277	185	185
Short Term	Retail 1 (L2)	495	1	495		17	433	48	48
Med Term	Retail 2 (L2)	365	1	365		13	319	35	35
Med Term	Retail 3 (L2)	1,150	1	1,150		40	1006	111	111
Med Term	Retail 3 (L2)	190	1	190		7	166	18	18
Med Term	Podium Green Space(Lot 1+ 2) less pvt courts	6,645	1	6,645				100	100
Med Term	Open space (softscape ground)	1,809	1	1,809				27	27
Land use									
	Residential			69,278	642	451	15772	5590	
	Retail			2,200		77	1,925	268	
				6,645				399	
	Open space (softscape ground)			1,809					
	SUBTOTAL			79,932	642	528	17697	6384	2731 3199 0

Revised Masterplan	Proposed FA of leaseable areas (m ²)	No. of storeys	Proposed GFA of leaseable areas (m ²)	No. of dwellings	No. of car parks recommended (middle of range by GTA)	Est. area for parking (m ²)			
Central - South									
Long Term	Residential Tower 1	985	2	1,970	20	10	345	156	156
		850	4	3,400	34	17	595	270	270
Long Term	Residential Tower2	1,275	2	2,550	26	13	446	202	202
		1,100	6	6,600	66	33	1155	524	524
Long Term	Residential Tower 3	950	2	1,900	19	10	333	151	151
		850	8	6,800	68	34	1190	540	540
Long Term	Residential Tower 4	1,030	2	2,060	21	10	361	164	164
		880	6	5,280	53	26	924	419	419
Long Term	Residential Tower 5	825	4	3,300	33	17	578	262	262
		680	2	1,360	14	7	238	108	108
Long Term	Residential Tower 6	2,130	4	8,520	85	43	1491	676	676
		1,830	4	7,320	73	37	1281	581	581
Long Term	Residential Tower 7	820	4	3,280	33	16	574	260	260
		690	4	2,760	28	14	483	219	219
Long Term	Commercial Tower 8	565	5	2,825		28	706	300	300
		875	5	4,375		44	1094	465	465
Long Term	Residential Tower 9	565	1	565	6	0	0	42	42
		875	5	4,375	44			328	328
Long Term	Residential Tower 10	265	1	265	3	0	0	20	20
		1,440	5	7,200	72	0	0	540	540
Long Term	Residential Tower 11	790	5	3,950	40	0	0	296	296
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
			0	0	0	0	0	0	0
Short Term	Residential Tower 12	1,025	5	5,125	51	26	897	407	407
Short Term		1,920	4	7,680	77	38	1344	610	610
Long Term	Residential Tower 13	1,635	4	6,540	65	33	1145	519	519
		1,455	4	5,820	58	29	1019	462	462
Long Term	Residential Tower 14	990	4	3,960	40	20	693	314	314
		880	2	1,760	18	9	308	140	140
Long Term	Residential 1	560	5	2,800	19	9	327	218	218
Long Term	Residential 2	208	3	624	4	2	73	49	49
Long Term	Residential 3	609	3	1,827	12	6	213	142	142
Long Term	Residential 4	434	5	2,170	22	11	380	172	172
Long Term	Residential 5	545	2	1,090	7	4	127	85	85
Long Term	Residential 6	679	2	1,358	9	5	158	106	106
				0	0	0	0	0	0
Long Term	Retail 1 (L3)	540	1	540		19	473	66	66
Long Term	Retail 2 (L3)	360	1	360		13	315	44	44
Long Term	Retail 3 (L3)	245	1	245		9	214	30	30
Long Term	Retail 4 (L3)	1,000	1	1,000		35	875	122	122
Long Term	Retail 5 Super market (N, L3)	5,265	1	5,265		184	4607	642	642
Long Term	Retail 6 Mini Major (L3)	2,633	1	2,633		92	2304	321	321
Long Term	Retail 7 (L3)	100	1	100		4	88	12	12
Long Term	Retail 8 (L3)	340	1	340		12	298	41	41
Long Term	Commercial 1 (L2-5)	2,482	4	9,928		347	8687	1210	1210
Long Term	Commercial 2 (L2-5)	1,450	4	5,800		203	5075	707	707
						0	0	0	0
Short/Long	Retail 1 (R, L3)	4,690	1	4,690		164	4104	572	572
Long Term	Library & Community Centre	2,550	1	2,550				38	38
Long Term	(Retail) Liesure and Entertainment	5,150	1	5,900				89	89
Short/ Mid	Town plaza	4,566	1	4,566				68	68
Long Term	Linear Link	3,068	1	3,068				46	46
Long Term	Entry Plaza South	894	1	894				13	13
Long Term	podium green (plot 1, 2,3,4)	11,287						0	0
								0	0
Land use									
	Residential			114209	1116	476	16675	8983	
	Retail			15,173		531	13,276	1849	

Commercial	22,928	-	622	15,562	2682			
Community	8,450				507			
Open space (softscape)	8,528				128			
	0							
SUBTOTAL	169288	1116	1630	45514	14149	1656	0	12112

Rosamond Road - South									
Short Term	Commercial Tower 1	1,550	6	8,045	-	80	2011	855	855
		1220	2	2,440		24	610	259	259
Short Term	Commercial Tower 2	1,258	6	7,548		75	1887	802	802
		1,000	2	2,000		20	500	213	213
Short Term	Commercial Tower 3	1,170	6	7,020		70	1755	746	746
		1,060	2	2,120		21	530	225	225
Short Term	Commercial Tower 4	1,775	6	10,650		107	2663	1132	1132
Long Term	Commercial Tower 4	1,510	2	3,020		30	755	321	321
Long Term	Commercial Tower 5	1,800	4	7,200		72	1800	765	765
		1,500	2	3,000		30	750	319	319
Short Term	Threatre	1,255	1	1,255				75	75
Short Term	Pocket park 1 (softscape)	343	1	343				5	5
Short Term	Pocket park 2 (softscape)	300	1	300				5	5
Land use									
Commercial		53,043				530	13261	5636	
Community		1,255						75	
Open space (softscape)		643						10	
SUBTOTAL		54,941	-			530	13,261	5,721	4316

Revised Masterplan	Proposed FA of leaseable areas (m ²)	No. of storeys	Proposed GFA of leaseable areas (m ²)	No. of dwellings/rooms	No. of car parks recommended (middle of range by GTA)	Est. area for parking (m ²)			
Central - North									
Short Term	Residential Tower (Short Term)		28,887	185	262	9170	2396	2396	
						0	0		
						0	0		
Short Term	Residential (Short term)			15		0	0		
Long term	Residential Tower		9,467	99		0	710		710
							0	0	
Long term	Commercial Tower 5	820	6,055	-	61	1514	643		643
		1,035	5,625		56	1406	598		598
Long term	Commercial Tower 6	1,200	5,140		51	1285	546		546
		745	6,705		67	1676	712		712
Long term	Commercial Tower 7	600	600		6	150	64		64
Long term	Commercial Tower 8	1,200	3,600		36	900	383		383
Mid Term	Retail 1 (L3)	150	150		5	131	18	18	
Mid Term	Retail 2 (L3)	275	275		10	241	34	34	
Long term	Retail 3 (L3)	860	860		30	753	105		105
Long term	Retail 4 (L3)	505	505		18	442	62		62
Long term	Retail 5 (L3)	585	585		20	512	71		71
Long term	Retail 6 (L3)	422	422		15	369	51		51
Short Term	Retail 7 (L3)	248	248		9	217	30	30	
Long term	Retail 8 (L3)						0	0	
Long term	Refurbished Park (softscape)	321	321		11	281	39		39
Long term	Entry Plaza North	2,000	2,000				200		200
Long term	Linear Lane	1,275	1,275				128		128
Long term	Linear Lane	1,400	1,400				140		140
Long term	Other open space (softscape)	1,638	1,638				164		164
Long term	podium green (residential)	1,450	0				0		0
Land use									
Commercial		27,725				277	6,931	2946	
Residential		38,354		299		262	9,170	3106	3106
Retail		3,366				118	2,945	410	
Open space (softscape)		6,313						379	
		0							
SUBTOTAL		75,758		299		657	19047	6841	5532

Rosamond Road - North									
Short Term	Hotel Tower 1 (Rooms)	859	8	6872	147	44	1104	715	715
Short Term	Hotel Tower 2 (Amenity)	1604	1	1604				160	160
Short Term	Retail (Hotel)	538	1	538		5	135	57	57
Short Term	Commercial (Hotel Tower 2)	1604	10	16040		160	4010	1704	1704
Long Term	Commercial Tower 2	1,370	6	8,220		82	2055	873	873
Long Term	Commercial Tower 3	1,070	8	8,340		83	2085	886	886
Med Term	Commercial Tower 4	1,125	6	6,750		68	1688	717	717
		723	8	5,784		58	1446	615	615
Long Term	Retail 1 (L3) (Tower 3)	220	1	220		8	193	27	27
Long Term	Open Space at Ground Level	1,285	1	1,285				0	0
Long Term	Open Space at Ground Level		1	0				19	19
Long Term	Open Space at Ground Level							0	0
Land use									
Commercial		45,134				451	11,284	4795	
Hotel		8476		147		44	1104	875	
Retail		758				13	327	84	
Open Space at Ground Level								19	
Pocket park (hardscape)		0							
SUBTOTAL		55,653		147		509	12,715	5,774	2637

55,860

1332 1806

APPENDIX I

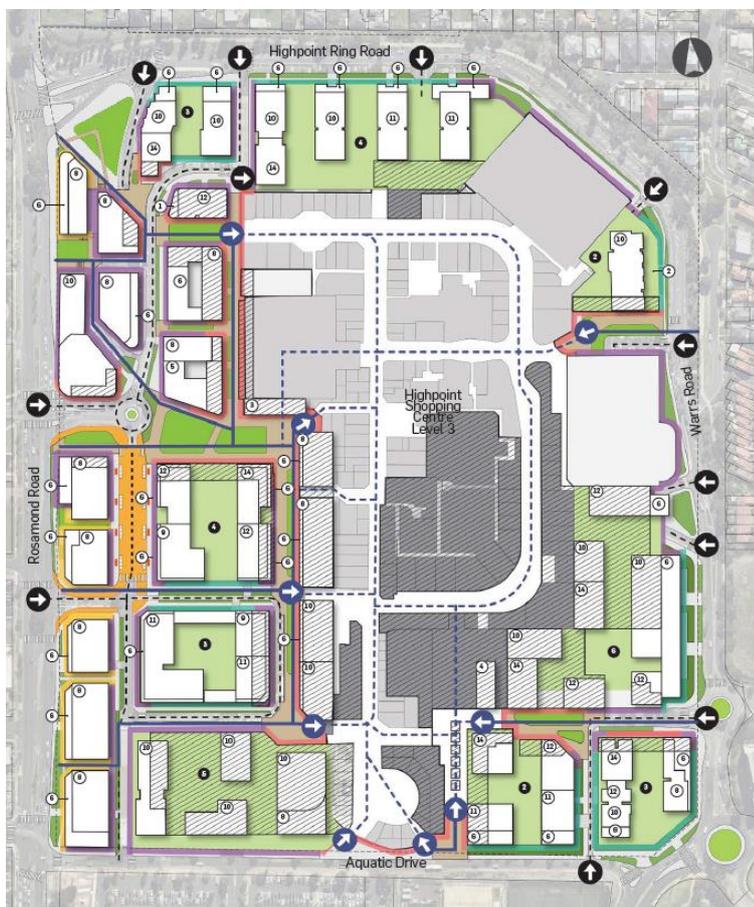
PRELIMINARY SITE ASSESSMENT & REMEDIATION STRATEGY (GOLDER ASSOCIATES)

APPENDIX J

STORMWATER DRAINAGE STRATEGY

Report Name: Stormwater Management Plan

Project Title: HIGHPOINT MIXED USE URBAN VILLAGE
Development Plan
Highpoint Shopping Centre, Maribyrnong, Victoria



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Revision	Description	Author	Checked	Approved	Date
A	Issued for Review	EBF	OO	EBF	19 October 2020
B	Updated Report	EBF	OO	EBF	02 November 2020

CONTENTS

1. INTRODUCTION4

 1.1 Site Location4

 1.2 Development Plan.....5

 1.2.1 Site Development..... 5

 1.3 Design Objectives6

2. EXISTING SITE ENVIRONMENT.....7

 2.1 Site Condition and Topography.....7

 2.2 Existing Site Operation8

 2.3 Sensitive Environments & Buffers.....8

 2.4 Geotechnical Conditions9

 2.5 Groundwater10

 2.6 Surface Water Management10

 2.7 Flood Protection.....10

3. STORMWATER MANAGEMENT STRATEGY11

 3.1 Existing Overall Stormwater and Management System11

 3.2 Stormwater Quality Management.....14

 3.2.1 Retarding (Detention) Basins 14

 3.2.2 Bioretention Basin & WSUD considerations..... 14

 3.3 Detention Basins.....15

 3.4 Surface Water Monitoring15

4. CONCLUSION.....16

5. REFERENCES16

TABLE OF TABLES

Table 1-1 Key design objectives 6

Table 3-1 Catchment Data – Retarding Bains and Bioretention Areas (Existing and to be provided)..... 14

Table 3-2 Typical Bioretention planting species 15

TABLE OF FIGURES

Figure 1-1 Site Location Plan (site shown in red border) – SOURCE NEARMAPS 4

Figure 1-2 Precinct Plan (HSC Facility) 5

Figure 2-1 – Site Contour Plan – From Planning Report (Source : VicPlan 2020) 7

Figure 2-2 - Topography (From Planning Report) 8

Figure 3-1 Pre-Development Topography of the HSC site 11

Figure 3-2 Overall Existing Stormwater – Perimeter Drainage System (Large arrows are major site outfall locations & blue circles are existing Retarding Basins) 12

Figure 3-3 Overall Existing Stormwater – Proposed and existing Green space & Catchment outfalls 13

Figure 3-4 Overall Existing Stormwater – Catchments 13

TABLE OF APPENDICES

Appendix 1 Overall Site – Existing Stormwater Catchment Plan

Appendix 2 Development Site Plan

1. INTRODUCTION

Peritas Consulting Pty Ltd (“Peritas”) has been commissioned by NS Projects Melbourne on behalf of the GPT Group (“GPT”) to prepare a Stormwater Management Plan (“SMP”) that will inform the preparation of the Development Plan for the proposed redevelopment of the Highpoint Shopping centre site at No 120-200 Rosamond Road, Maribyrnong, Victoria.

The intent of this document is to highlight the measures already in place and to be extended or added to address the stormwater management requirements of the site as part of the new Development Application.

1.1 Site Location

The Highpoint Shopping Centre (“HSC”) is located approximately seven (7) kilometres from the Melbourne Central Business District (CBD). It is sited just south of Raleigh Road, between Rosamond Road and Warrs Road, and occupies an area of approximately 28.6 hectares. The centre is located within the City of Maribyrnong and forms the largest landholding within the Highpoint Activity Centre.

The site is irregular in shape, bounded by Rosamond Road to the west, Aquatic Drive to the south, Warrs Road to the east (in part) and residential neighbourhoods to the north and east. The site features a privately owned ring road with associated landscaping along the northern and eastern (in part) site boundaries, which separates the site from residentially zoned land to the north and east.

See **Figure 1-1** below showing the site location

Figure 1-1 Site Location Plan (site shown in red border) – SOURCE NEARMAPS



1.2 Development Plan

1.2.1 Site Development

The site has been described in the planning reports in terms of development precincts as shown in **Figure 1-2** below. Each of these areas has a distinct drainage pattern and catchment with a predetermined outfall to the perimeter road network and associated stormwater systems that surround the site.

The proposed re-development of the site will generally not alter the stormwater outfalls and hence any strategic plan for stormwater collection and disposal should consider the requirement to maintain the status quo of the current system and ensure that pre-development (current) flows and outfall locations are maintained for each of the catchments.

Figure 1-2 Precinct Plan (HSC Facility)



1.3 Design Objectives

The design objectives for the stormwater management of the site are summarised in the below table and further discussed in the report.

Table 1-1 Key design objectives

Key Design Criteria	Proposed management	Section
General Stormwater System		
Existing drainage	The integrity of the existing stormwater system will not be compromised by the proposed work. The new facilities are either a replacement of existing amenities or where relocated are replacing areas already serviced with stormwater collection and discharging to existing outfalls to the perimeter of the site.	3.1
Stormwater infrastructure	Proposed Stormwater Drainage is to be designed to accommodate current and proposed flows. As the general footprint of the site is not being enlarged but rather building zones being rearranged with additional greenspaces added, the stormwater characters of the site will generally not be altered and the quality of the stormwater improved due to the additional opportunities to incorporate bioretention areas within the greenspaces provided.	3.1 & 3.2
Water Quality		
Bioretention areas	Where feasible the existing bio-retention areas are to be retained and enhanced to be utilised to treat surface waters collected prior to discharging into internal conveyance systems and outfalls from the site.	3.2.2
Surface Water Quality monitoring	No Water Quality monitoring is proposed as existing systems have provided adequate serviceability to the site since the original development established the overall stormwater collection and disposal strategies.	3.4
Flood Protection		
100 year ARI storm event	There are no habitable or permanent infrastructure requiring protection from flood. The lowest levels of the site are currently designed via deep gravity outfalls from the site with appropriate retarding basins to mitigate flooding and allow controlled outfalls from the site discharge downstream without overwhelming the downstream network. Protection to any basement areas for the redevelopment of the site should be considered when designing new precincts within the existing site footprint.	2.7

2. EXISTING SITE ENVIRONMENT

This section highlights the site condition as it currently stands.

2.1 Site Condition and Topography

The aerial image of the site provided at Figure 1-1, shows the main built form elements of the shopping centre which are central to the site, with at grade and multi-level car parking areas predominantly located at the perimeter of the site at the site boundaries.

The former use of the site as a quarry is still evident today and has been the principal physical determinant of the design and layout of the centre over the past 50 years. The centre extends over four levels and, due to the landform, Level 3 of the centre is generally at grade with Rosamond Road. The topography of the site varies extensively, as depicted in Figure 2-1.

The centre is typical of many enclosed shopping centres and is based on a north-south mall layout. The mall forms the spine of the centre, with major nodes (or anchor tenants) located at intervals along the mall. Myer and David Jones are located towards the northern end of the mall and extends over Levels 2 and 3.

Woolworths and Big W are located midway along the mall on Levels 2 and 3 respectively, while Harris Scarfe, Target and Target Home are located towards the southern end of the centre.

The North East expansion was completed in 2013 and includes a small plaza and outdoor play area.

Figure 2-1 – Site Contour Plan – From Planning Report (Source : VicPlan 2020)

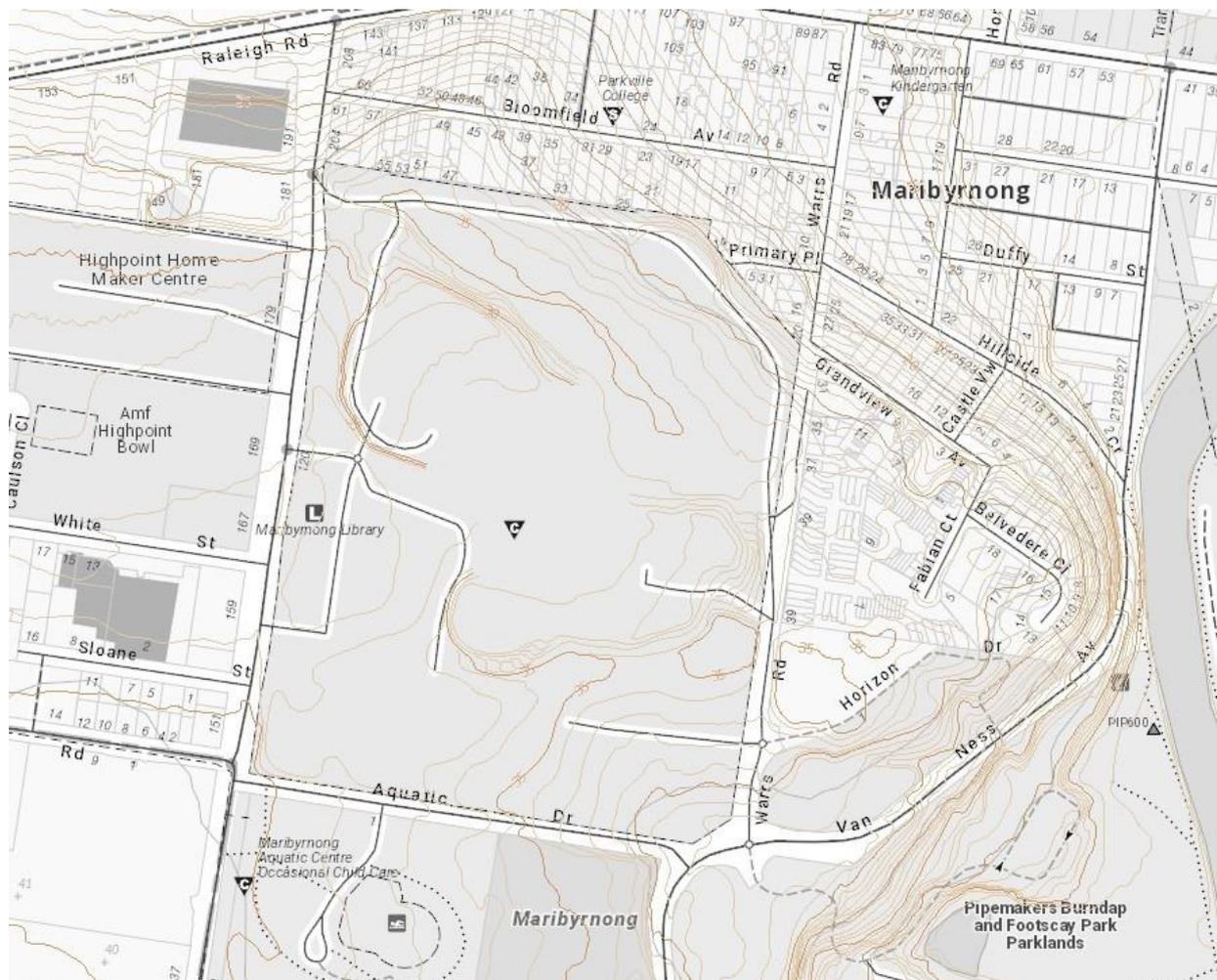
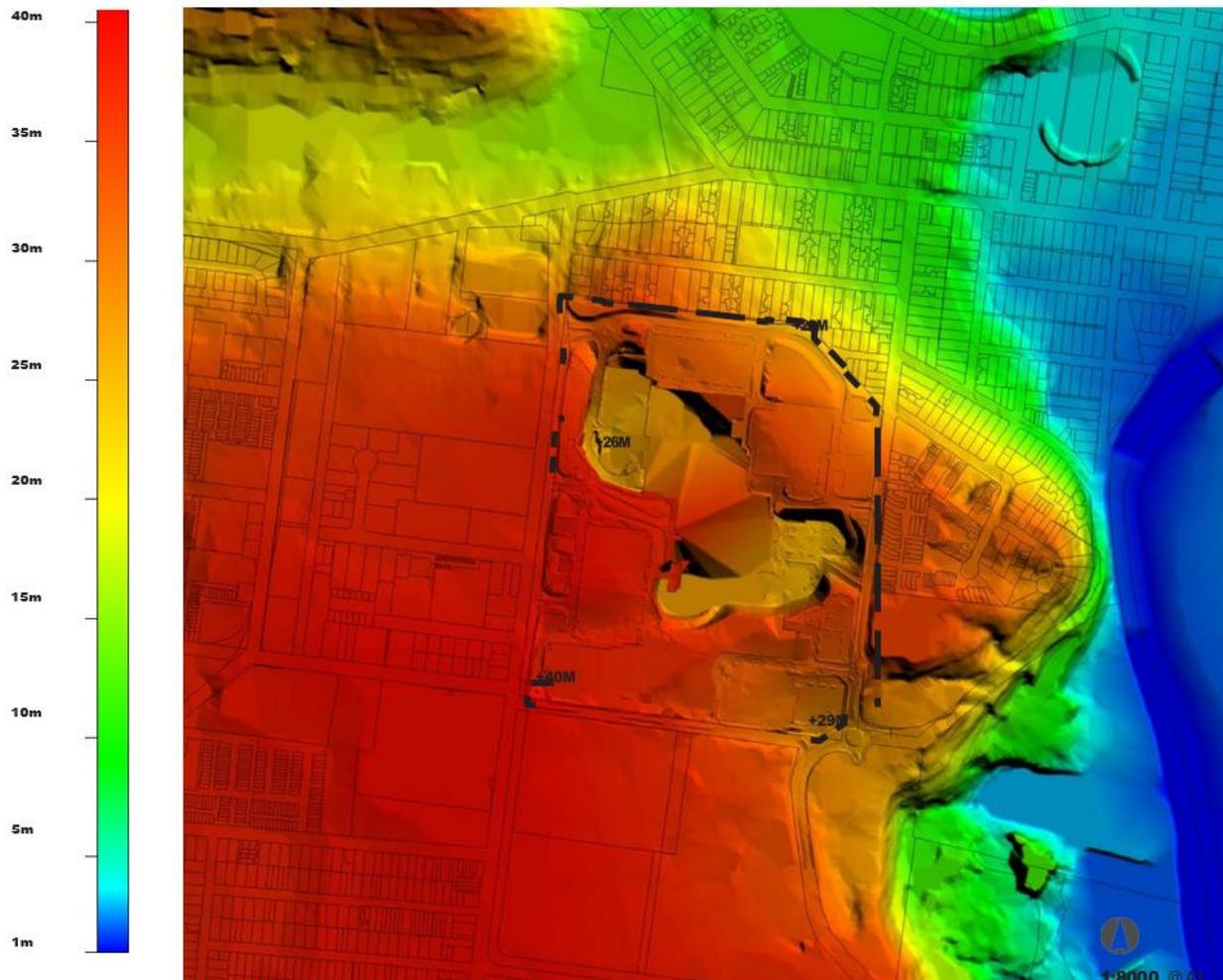


Figure 2-2 - Topography (From Planning Report)



2.2 Existing Site Operation

The former use of the site as a quarry is apparent in the Topography plan shown in **Figure 2-2** above. This has been the principal determinant of the design and layouts of the centre as it has developed over the years into the major retail hub that exists on the site today.

The centre extends over four levels and due to landform, Level 3 of the centre is generally at grade with Rosamond Road.

The Centre is typical of many generic enclosed shopping centres and is based on a north-south mall layout. The mall forms the spine of the centre with major nodes located at intervals along the mall.

At grade car parking is generally located on the perimeter of the site, with a range of multi-storey car parks dispersed around the site.

The Highpoint Shopping Centre Complex comprises more than 400 speciality stores and a combined leasable floor area of approximately 155,319 m².

2.3 Sensitive Environments & Buffers

The nearest sensitive environment is the Maribyrnong River some 400m east of the site. The existing outfall drainage connection points at the perimeter of the HSC precincts that are being re-developed will not be altered and incorporate existing treatment areas that include a combination of bioretention swales and rain garden style bioretention zones, that already have capacity to cater for the areas to be re-developed.

2.4 Geotechnical Conditions

Based on a broad desktop assessment of the site, the underlying soil profile can be described as silty clays and dark clays derived from Basalt. As the HSC site was a former Quarry site, the base of the majority of the site where deep excavations occurred (see terrain 3D model in Figure 2-2), has exposed the base rock. Development has utilised the base with strategic filling to prepare the building pads for previous development.



Soil Type	Dark clay soils derived from basalt c	Clay soils derived from basalt over fine material $\frac{c}{fm}$	Clay soils derived from basalt over coarse material $\frac{c}{cm}$	Loamy alluvium la	Duplex soils d	Sandy soils s
S2 Slopes steep >25%	S2c E: class 3	S2$\frac{c}{fm}$ E: class 3/4	S2$\frac{c}{cm}$ E: class 3/4	S2la E: class 4		S2s E: class 5
S1 Moderate slopes 10-25%	S1c E: class 2	S1$\frac{c}{fm}$ E: class 2/3		S1la E: class 3	S1d E: class 4	S1s E: class 4
U Undulating mostly <10%	Uc E: class 1	U$\frac{c}{fm}$ E: class 1/2		Ula E: class 1/2		
F Flat terrain Slopes <6%	Fc E: class 1			Fla E: class 1	Fd E: class 1	

EROSION RISK CLASSES

E: class 1 - nil to slight
E: class 2 - slight
E: class 3 - moderate
E: class 4 - high
E: class 5 - severe

DISTURBED SITES Erosion risk site specific for all units

DC Construction	DD Deposited material	DE Extraction sites	DM Managed
	DDV Dep. material now vegetated	DEV Extraction sites now vegetated	

Saline areas
SW Swamps

2.5 Groundwater

Refer to Golder Report – A Preliminary Environmental Site (Phase 1) Assessment for details of the preliminary findings.

For the purposes of this assessment, groundwater has been assumed to not be encountered on the site for the stormwater facilities described. The site has a well-defined drainage network internally with subsoil systems in place that control groundwater influences.

Groundwater flows at depth are generally in an easterly direction across the site towards the Maribyrnong River. General gradients are estimated to be in the order of 1 in 100.

2.6 Surface Water Management

The current site drainage management is shown below. There has been no deviation from the strategy adopted for previous development and the new facilities will not be altering the catchments, the treatment zones or the original outfall locations for stormwater from the site.

The proposed redevelopment comprises new buildings that will collect roof water that is clean and discharge this to outfalls that are already stable and part of the well-established treatment train and associated outfalls from the site.

Post development flows will not increase and the nutrient loads will generally be decreasing overall will have adequate bioretention zones distributed within each of the new development precincts to ensure adequate provision for WSUD outcomes.

2.7 Flood Protection

The proposed development sites are not influenced by any regional flood risk.

There are no habitable or permanent infrastructure requiring protection from flood. The lowest levels of the site are currently designed via deep gravity outfalls from the site with appropriate retarding basins to mitigate flooding and allow controlled outfalls from the site discharge downstream without overwhelming the downstream network. Protection to any basement areas for the redevelopment of the site should be considered when designing new precincts within the existing site footprint.

3. STORMWATER MANAGEMENT STRATEGY

As previously noted, whilst redevelopment of the various precincts involves the conversion of carparking to building zones and re-arrangement of access and circulation, the impermeable areas will not increase but be redistributed.

Accordingly, there is no requirement for HSC to deviate from current stormwater management strategies that have been implemented and maintained over the years and as the HSC has developed.

3.1 Existing Overall Stormwater and Management System

The natural topography and drainage patterns of the original area prior to the development of the HSC facility are shown in **Figures 2-1 and 3-1** below.

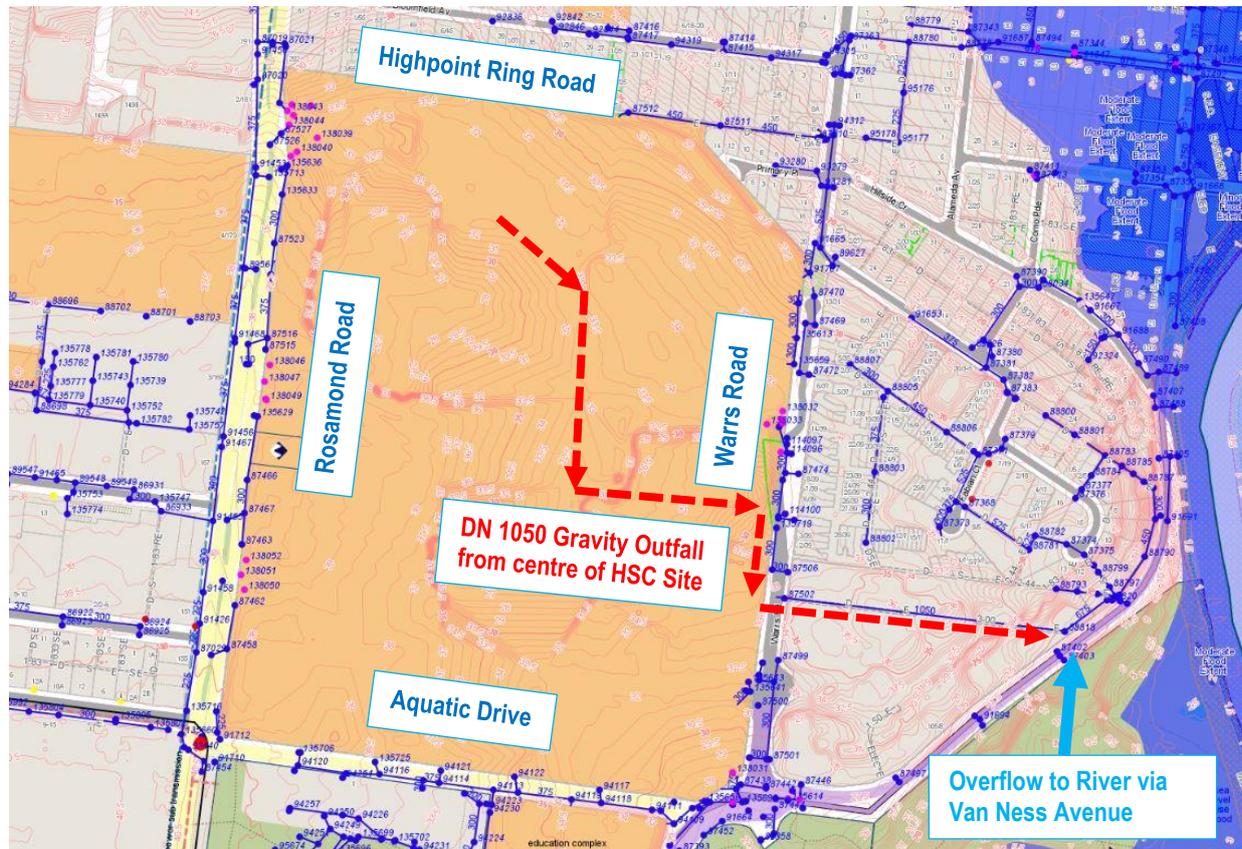
Surface flows are generally from the center of the site to the perimeter with the main feature being the eastern outfall that drains the old Quarry Excavation areas. Refer to the Red dashed outfall pipe highlighted in **Figure 3-1** below.

The new facilities that are the subject of this Development Plan review are either a replacement of existing amenities buildings / facilities or upgrading of existing facilities.

Where pavements are involved, all the areas are already catered for within the existing treatment systems provided for the site and contained within each catchment.

The various facility locations have respected the need to maintain existing catchments and stormwater outfalls as well as ensuring treatment of collected stormwater is maintained to pre-development standards.

Figure 3-1 Pre-Development Topography of the HSC site



Van Ness Avenue overflow to River from Belvedere Close cul de sac



Figure 3-2 & 3-3 below shows the general arrangement of the overall catchments, the location of the various treatment zones and the site outfalls for the stormwater system.

Figure 3-2 Overall Existing Stormwater – Perimeter Drainage System (Large arrows are major site outfall locations & blue circles are existing Retarding Basins)

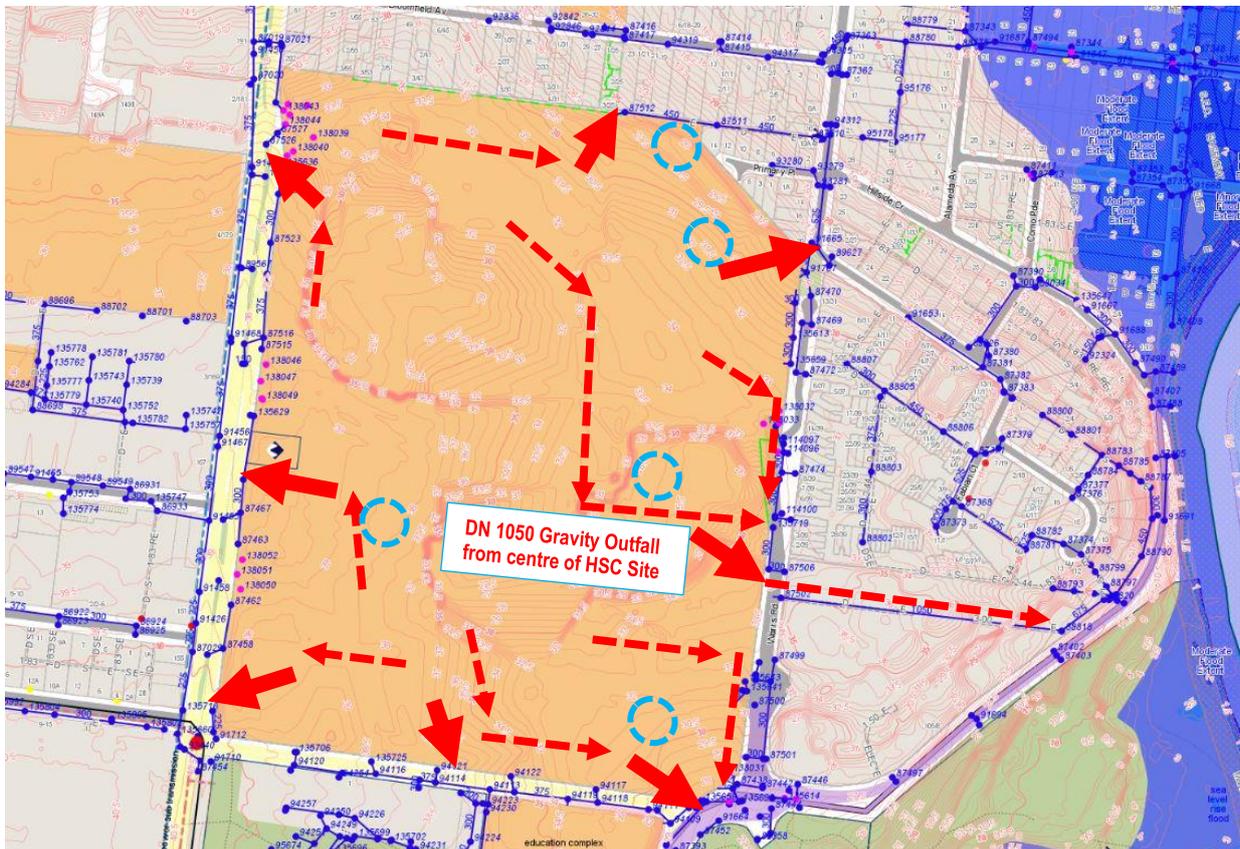


Figure 3-3 Overall Existing Stormwater – Proposed and existing Green space & Catchment outfalls

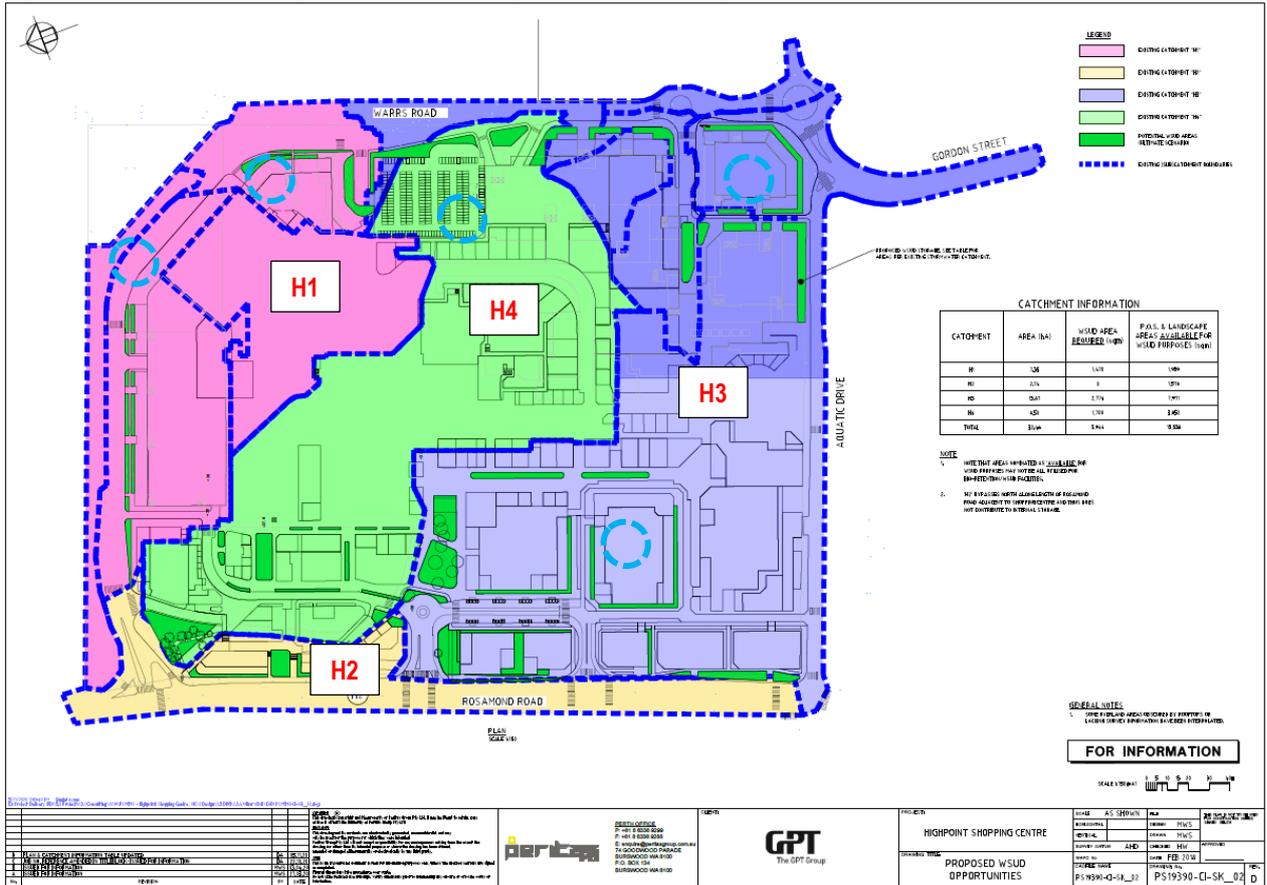
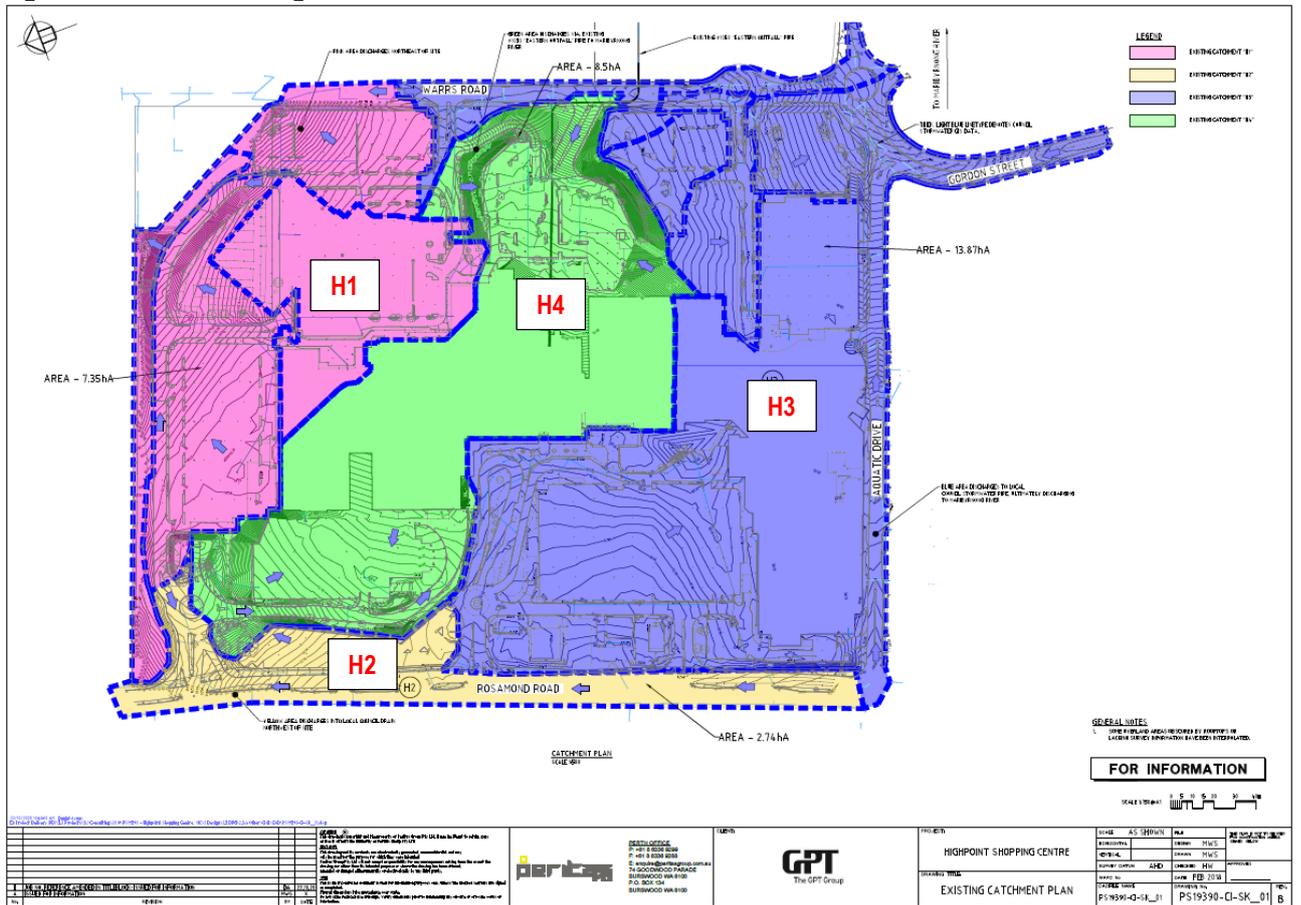


Figure 3-4 Overall Existing Stormwater – Catchments



3.2 Stormwater Quality Management

Additional bioretention basins are proposed to be installed for the site as part of the development plan as noted in previous sections and will be strategically placed as each stage of development is undertaken. Existing retarding basins will be retained and where required will be enhanced based on adjusted catchment area should the need arise.

3.2.1 Retarding (Detention) Basins

The function of the retarding basins is to attenuate flows allowing existing outflows to discharge at controlled rates so as to not overwhelm existing outlets to the perimeter drainage network. The basins also act in part as sediment traps. The existing retarding basins as shown on **Figure 3-1** have sufficient capacity to cater for the new development works being a minor amendment to the existing site facilities and the stormwater nutrient management balance.

3.2.2 Bioretention Basin & WSUD considerations

The bioretention swales, rain gardens and basins serve as a primary treatment chain to treat nutrients prior to discharging to the external outfalls that ultimately discharge to the Maribyrnong River.

The bioretention areas already existing on site have well-established plantings in filter media with a high Phosphorous Retention Index (PRI) material for biofiltration purposes.

Additional bioretention capacity will be provided in the new development within the proposed greenspaces in each of the development precincts. It should be highlighted that the **areas available** for bioretention treatment noted below will not be required to be fully utilised to meet the needs of the development. This means that there will be a greater degree of flexibility for where the WSUD treatment zones may be placed and for the most appropriate areas of the site to be used for this purpose.

Refer to **Figure 3-3** and Table 3-1 below showing the extents of greenspaces and a tabulation confirming that adequate provision has been made in each catchment for bioretention treatment to ensure surface water collected has adequate opportunity to be treated before discharging to the perimeter outfalls from the site.

Table 3-1 Catchment Data – Retarding Bains and Bioretention Areas (Existing and to be provided)

Catchment No	Catchment Area (ha)	Area available for WSUD purposes within Greenspaces (m2)	WSUD Area Required (m2)	Pre Development Retarding Basins (m3)	Post Development Retarding Basins (m3)	Comments
H1	7.35	1,939	1,470	400	400	Plus 110 m3 of WSUD storage in bioretention swales
H2	2.74	1,576	0	0	0	Includes allowable ponding in basement carpark low points in 1:100yr storm event
H3	13.87	7,971	2,774	100	100	
H4	8.50	3,852	1,700	220	220	Plus 100 m3 of WSUD storage in bioretention swales
Totals	32.46	18,969	5,944			

Note: that the above areas quoted only include **available WSUD areas** at ground level and do not take into account the additional areas that are available within rooftop garden areas. These upper floor zones will also be available for use to treat collected water before discharging to the lower levels of the building and out to perimeter outfalls.

3.2.2.1 Bioretention Vegetation

The existing bioretention areas were previously planted with appropriate bioretention plantings. Typical species or their equivalent are shown in 3-2. below

Table 3-2 Typical Bioretention planting species

Species	Common Name	Form	Drought Tolerant	Nutrient Removal
 Ficinia nodosa	Knotted club rush	Grass Sedge or Flax	Yes	Low - Moderate
 Carex appressa	Tussock Sedge	Grass Sedge or Flax	Yes	Effective
 Juncus pallidus	Pale rush	Grass Sedge or Flax	Yes	Effective

3.2.2.2 Nutrient Load Comparisons

The existing online biofiltration system areas within each catchment are noted in Table 3-1 above.

3.3 Detention Basins

There is no increase in development areas from previously approved stormwater strategies. Therefore the size of the detention basins can be accommodated within the current provision on site and as described in previous sections of this report. Should catchment boundaries alter then a recalculation of the basin sizes may be required.

3.4 Surface Water Monitoring

Section 2.4 identifies that the site is mainly silty clays and therefore are not conducive to infiltration. Accordingly, groundwater quality monitoring is not deemed necessary for stormwater purposes. The existing drainage systems have been operating efficiently for many years without recourse and the proposed site facilities will not alter the current bioretention balance or the stormwater flows, hence short or long term water quality monitoring will not be required.

4. CONCLUSION

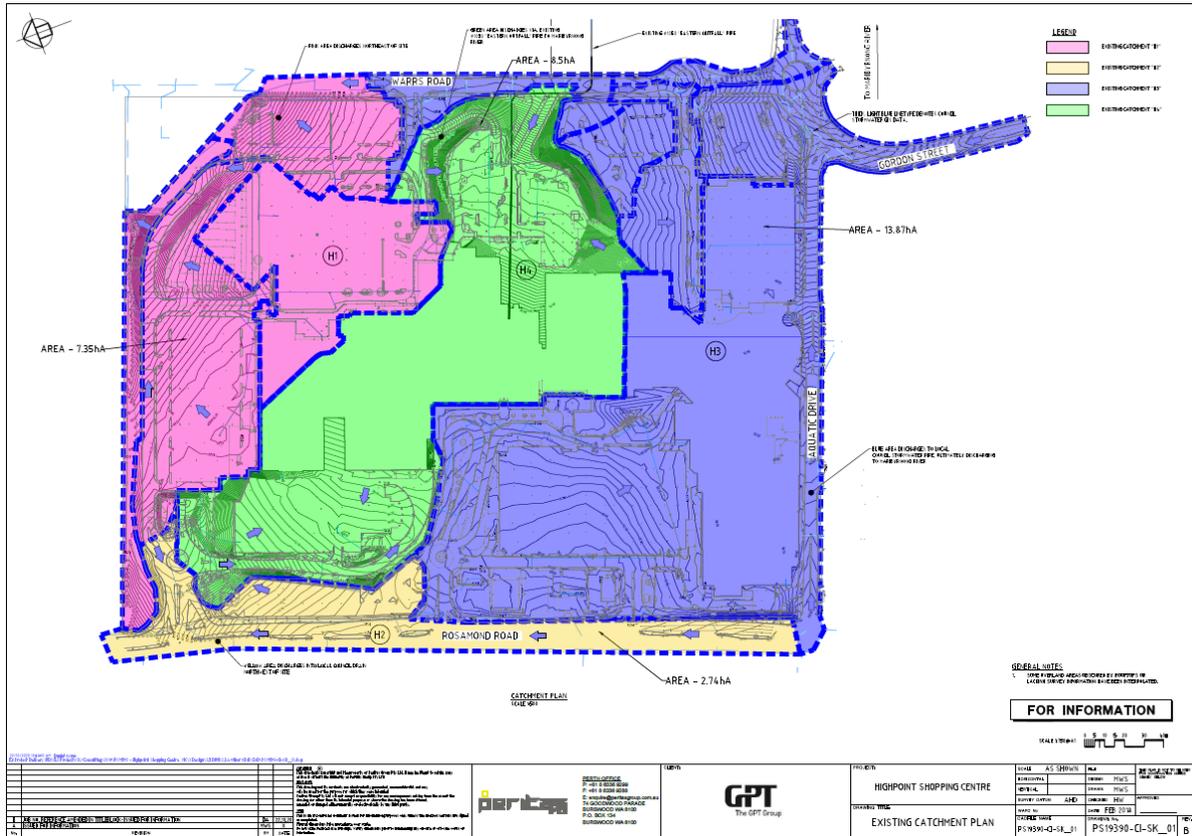
The facilities proposed as part of this Development Plan will not alter the drainage patterns of the site, are contained within existing catchments and are adequately catered for by existing stormwater collection, detention and treatment systems.

A more in depth analysis will be undertaken at detailed design during the staged redevelopment of the HSC Complex.

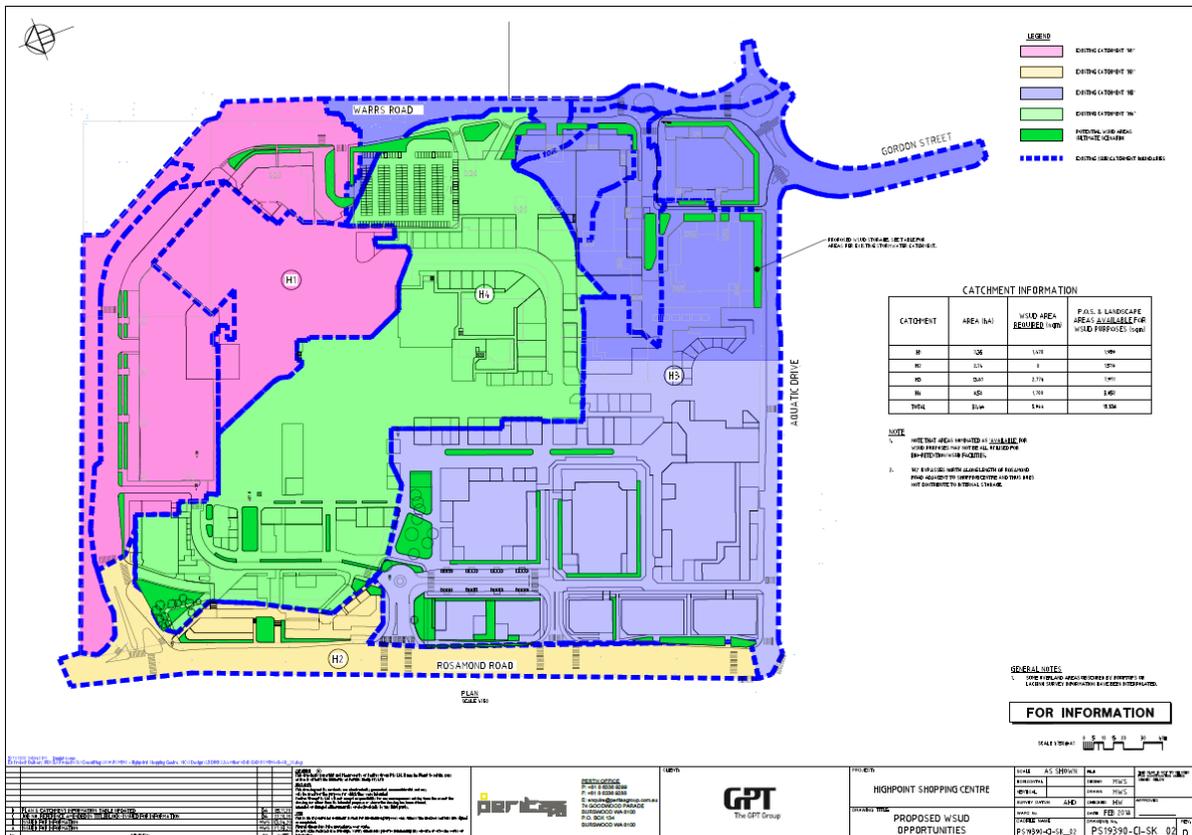
5. REFERENCES

Urbis Planning Report – Volume 2 – Highpoint Urban Village Development Plan dated October 2002.

Appendix 1 Overall Site – Existing Stormwater Catchment Plan & Bioretention Areas

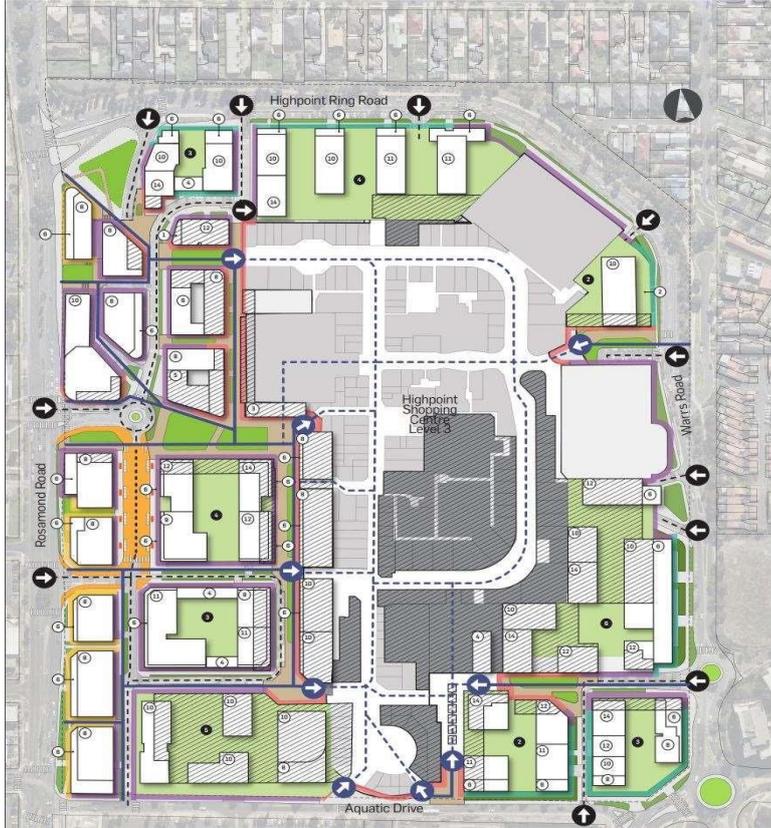


Bioretention Areas & Greenspaces



For Larger Scale Plan see below

Appendix 2 Development Site Plan
Highpoint Urban Village Development Plan (URBIS 2020)



3.6 DEVELOPMENT PLAN

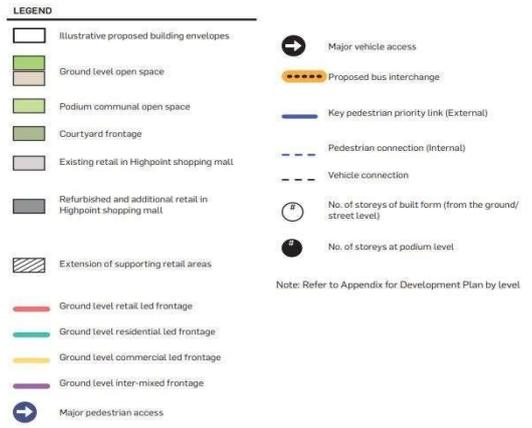
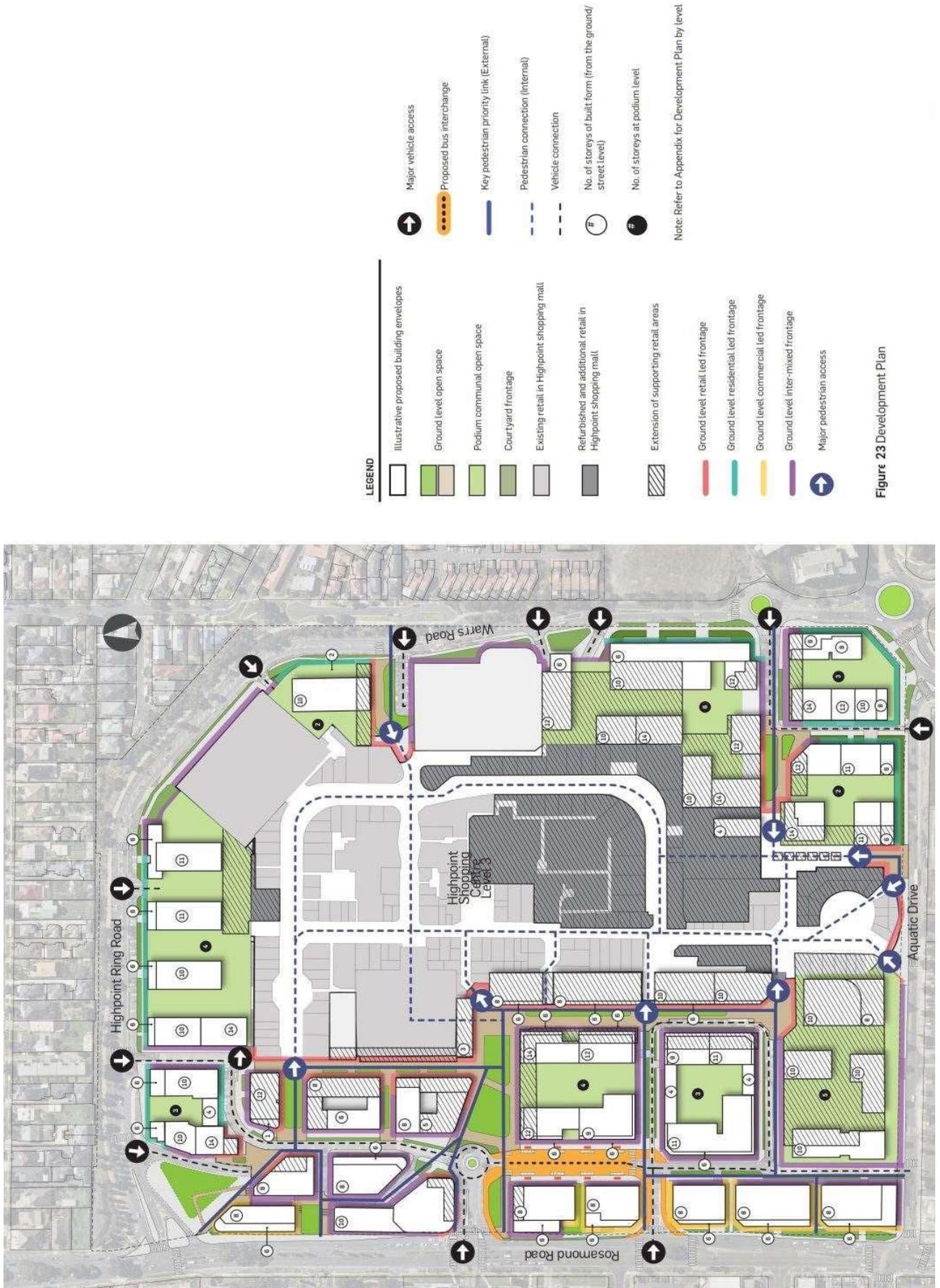
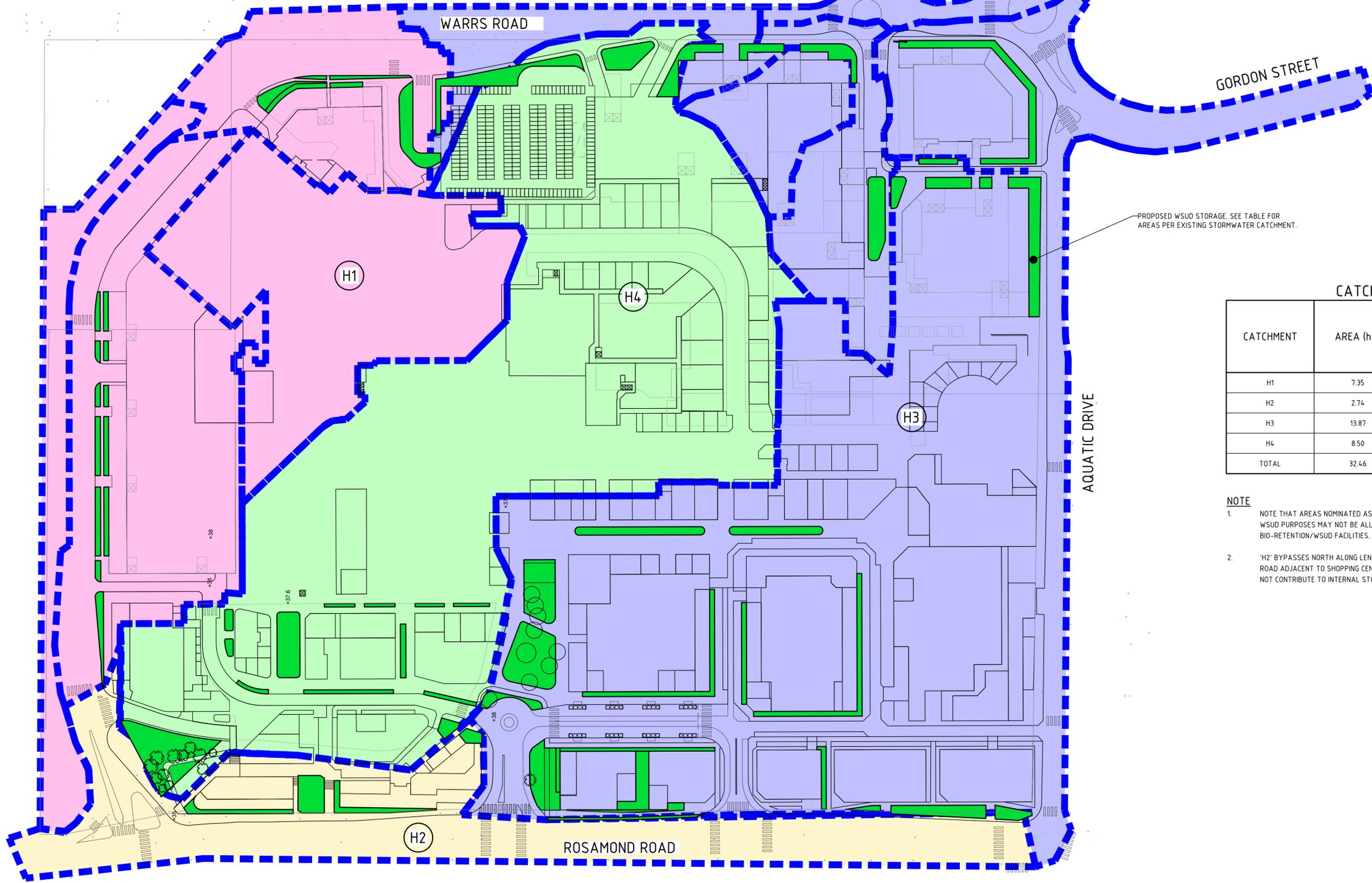
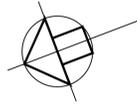


Figure 23 Development Plan

For Larger Scale Plan see below





LEGEND

	EXISTING CATCHMENT "H1"
	EXISTING CATCHMENT "H2"
	EXISTING CATCHMENT "H3"
	EXISTING CATCHMENT "H4"
	POTENTIAL WSUD AREAS (ULTIMATE SCENARIO)
	EXISTING (SUBCATCHMENT BOUNDARIES)

CATCHMENT INFORMATION

CATCHMENT	AREA (hA)	WSUD AREA REQUIRED (sqm)	P.O.S. & LANDSCAPE AREAS AVAILABLE FOR WSUD PURPOSES (sqm)
H1	7.35	1,470	1,939
H2	2.74	0	1,576
H3	13.87	2,774	7,971
H4	8.50	1,700	3,852
TOTAL	32.46	5,944	15,338

NOTE

- NOTE THAT AREAS NOMINATED AS 'AVAILABLE' FOR WSUD PURPOSES MAY NOT BE ALL UTILISED FOR BIO-RETENTION/WSUD FACILITIES.
- 'H2' BYPASSES NORTH ALONG LENGTH OF ROSAMOND ROAD ADJACENT TO SHOPPING CENTRE AND THUS DOES NOT CONTRIBUTE TO INTERNAL STORAGE.

GENERAL NOTES

- SOME OVERLAND AREAS OBSCURED BY ROOFTOPS OR LACKING SURVEY INFORMATION HAVE BEEN INTERPOLATED.

FOR INFORMATION



PLAN
SCALE 1:750

5/11/2020 12:31:40 PM Daniel Ayres E:\Project Delivery (PDI)\3.0 Projects\3.1 Consulting\2019\PS19390 - Highpoint Shopping Centre, VIC\2 Design\2.3 DRG\2.3.4 Other\Civil\CAD\PS19390-CI-SK_02.dwg			
D	PLAN & CATCHMENT INFORMATION TABLE UPDATED	DA	05.11.20
C	JOB NO. REFERENCE AMENDED IN TITLEBLOCK; ISSUED FOR INFORMATION	DA	22.10.20
B	ISSUED FOR INFORMATION	MWS	03.04.20
A	ISSUED FOR INFORMATION	MWS	27.03.20
No.	REVISION	BY	DATE

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PROJECT:
HIGHPOINT SHOPPING CENTRE

DRAWING TITLE:
PROPOSED WSUD OPPORTUNITIES

SCALE	AS SHOWN	FILE		THIS PLAN IS NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BELOW
HORIZONTAL		DESIGN	MWS	
VERTICAL		DRAWN	MWS	
SURVEY DATUM	AHD	CHECKED	HW	APPROVED
WAPC No		DATE	FEB 2018	
CADFILE NAME		DRAWING No.	PS19390-CI-SK_02	REV.
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