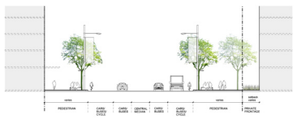
Manukau City Centre - Public Domain Manual

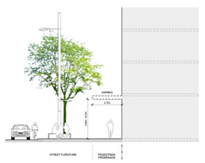
Final Report 10 November 2010

Te Kaunihera o
MANUKAU
City Council

Boffa Miskell A08296 MCC PDM - 10 November 2010

Manukau City Centre - Public Domain Manual





Introduction and Background

Vision and Strategy

Structure Plan

Precincts

Streets

Public Open Space

General Controls

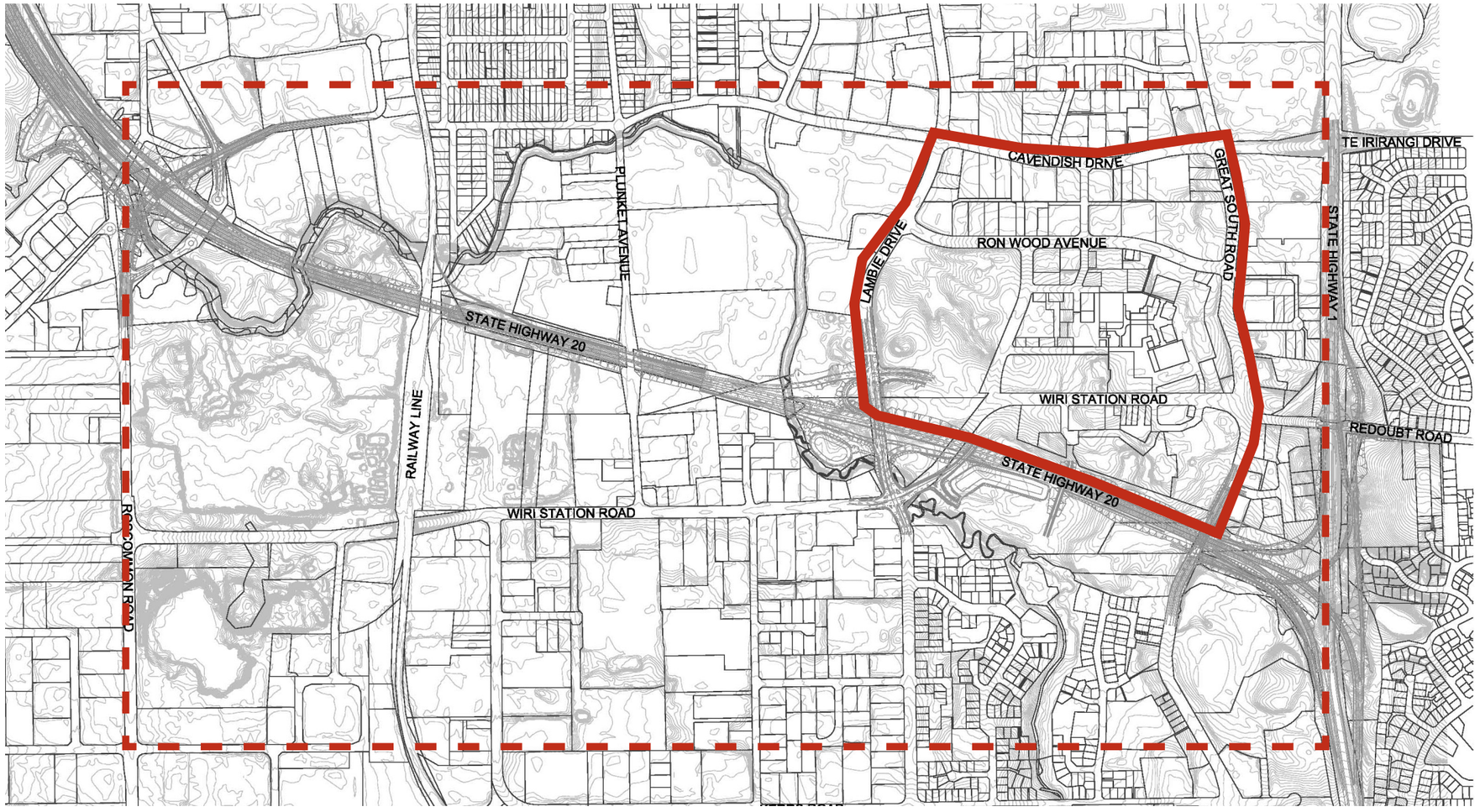
= PDM

Introduction

The Public Domain Manual is a manual to manage future development in Manukau City Centre, with supporting technical specifications.

Purpose of the Public Domain Manual

- To manage the transformation of Manukau City Centre into a high quality urban environment
- To ensure the city centre public domain forms an integrated and cohesive spatial system
- To redefine the built form of the city centre, responding to urban intensification requirements
- To define and integrate the city centre precincts
- To integrate the Manukau Train Station and Hollyford to Ronwood Bus Corridor Route within a well-designed network of streets and open spaces
- To create significant public open spaces within the city centre
- To provide a pedestrian focused environment for the city centre
- To strengthen the city centre's landscape character and connections
- To increase and diversify the native vegetation communities within the city centre
- To integrate low impact stormwater management systems within urban and landscape design objectives and controls for Manukau City Centre



Land covered by the Public Domain Manual

The extent of land covered in the Manual is defined by Cavendish Drive to the north, Great South Road to the east, the new SH20 – SH1 motorway link to the south and Lambie Avenue to the west. The site area is marked by a solid red line on the map opposite. The wider city environment is indicated by a dashed red line.

What is a Public Domain Manual?

A Public Domain Manual provides the spatial framework to manage future development within a specially defined urban area. A Public Domain Manual sets in place urban design controls to achieve an integrated vision and cohesive outcome for the area.

The Manukau City Centre Public Domain Manual relates to all parts of the city centre where the public has free access. The public domain encompasses all streets, squares and other rights of way, whether predominantly in commercial, residential or community/civic use; open spaces and parks; and the private open spaces where public access is unrestricted (at least during daylight hours). The public domain includes the interface with both existing and proposed built form.

The Public Domain Manual includes a technical appendix (Technical Manual) which provides detail on materials and finishes, guidelines for placement and configuration, and detailed technical details that help achieve the public domain outcome for Manukau City Centre.

How does the Public Domain Manual relate to other planning documents for Manukau City Centre?

The Public Domain Manual forms part of a suite of six documents which have been produced to re-define and manage development in the Manukau City Centre. These documents are listed on the page opposite and illustrated in a planning process diagram on the following page.

The six documents produce a new built form and spatial vision for the city centre. This vision seeks to fully integrate the city centre with its wider context, improve its destination potential, maximize its through-connections, optimise its growth and landuse potential, respond to urban intensification requirements, enable the creation of a legible public domain, and take advantage of its landscape setting, with Hayman Park at the heart of the re-configured city centre.

The Public Domain Manual consolidates and refines this vision. One of the Manual's key objectives is to develop a cohesive spatial system for the city centre. The Manual defines city centre precincts, aligns built form in relation to streets and open spaces, outlines typical street types and key new public open spaces and integrates these with the Manukau Train Station, Hollyford to Ronwood Bus Corridor Route and a pedestrian focused street envionment.

Status of the Public Domain Manual and other planning documents for Manukau City Centre

Volume 1 & 2 (Built Form + Spatial Structure Plan) were endorsed in principle by the Manukau City Council Policy and Activities Committee to be the guiding documents for the future development and basis of a Plan Change for Manukau City Centre (4 June 2008).

The Public Domain Manual (Vol.4) was approved as a council policy document by the Manukau City Council Policy and Activities Committee on 21 September 2010 (Minute no. PA/SEP/959/10). The Manual was also endorsed in principle as a resource document to assist the new Auckland Council with the preparation of future plan changes for the city centre.

The Manual sits outside the current District Plan and is to be used as a planning and technical document informing all decision-making on Manukau City Centre. The Manual compliments the Council's Engineering Quality Standards.

Manukau City Centre Planning Documents

The Manual forms part of a suite of six planning documents for the Manukau City Centre (MCC):

Volume 1
MCC Built Form + Spatial Structure Plan 2008, Randles Straatveit Architects

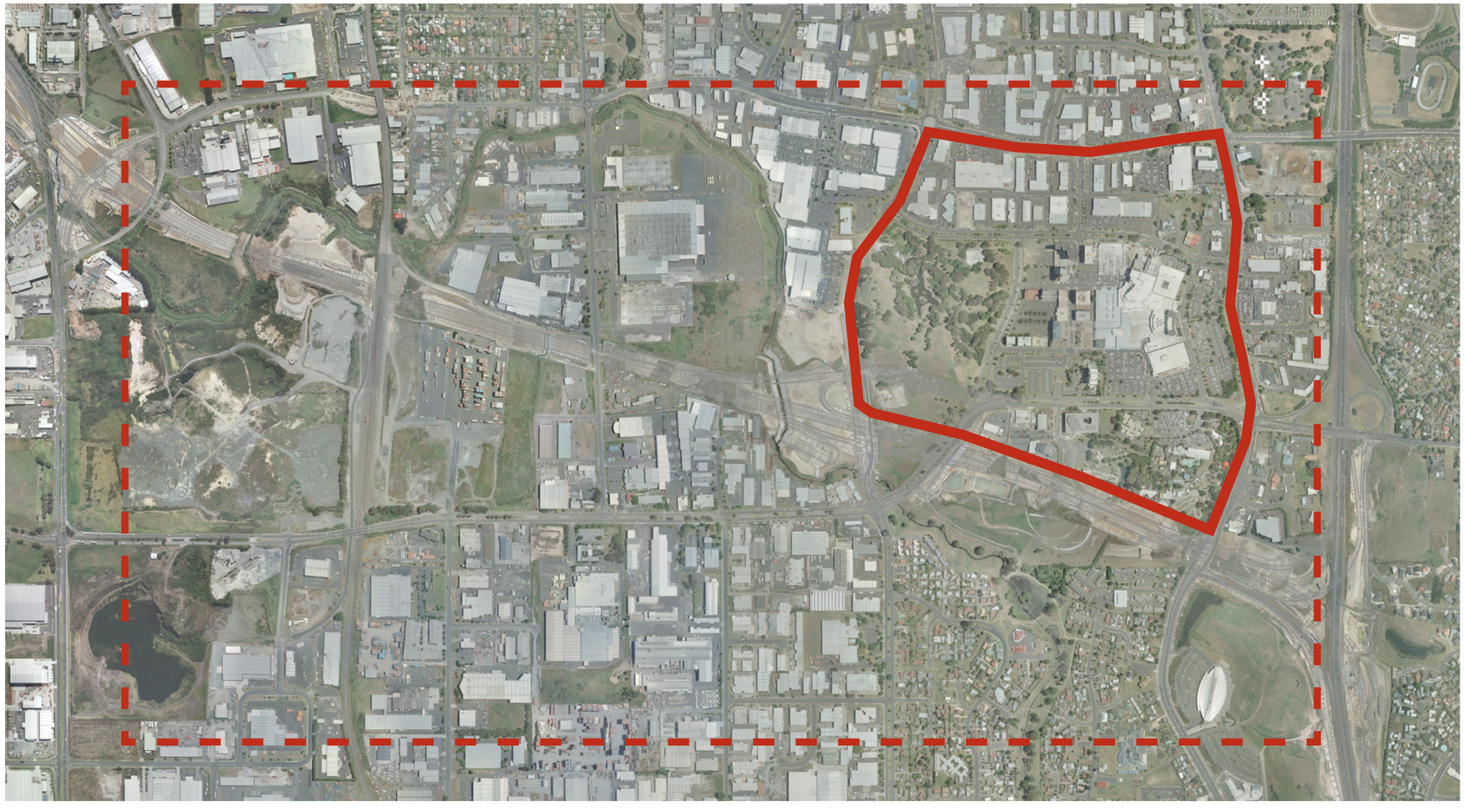
Volume 1 (Addendum) MCC Built Form + Spatial Structure Plan 2009, Randles Straatveit Architects

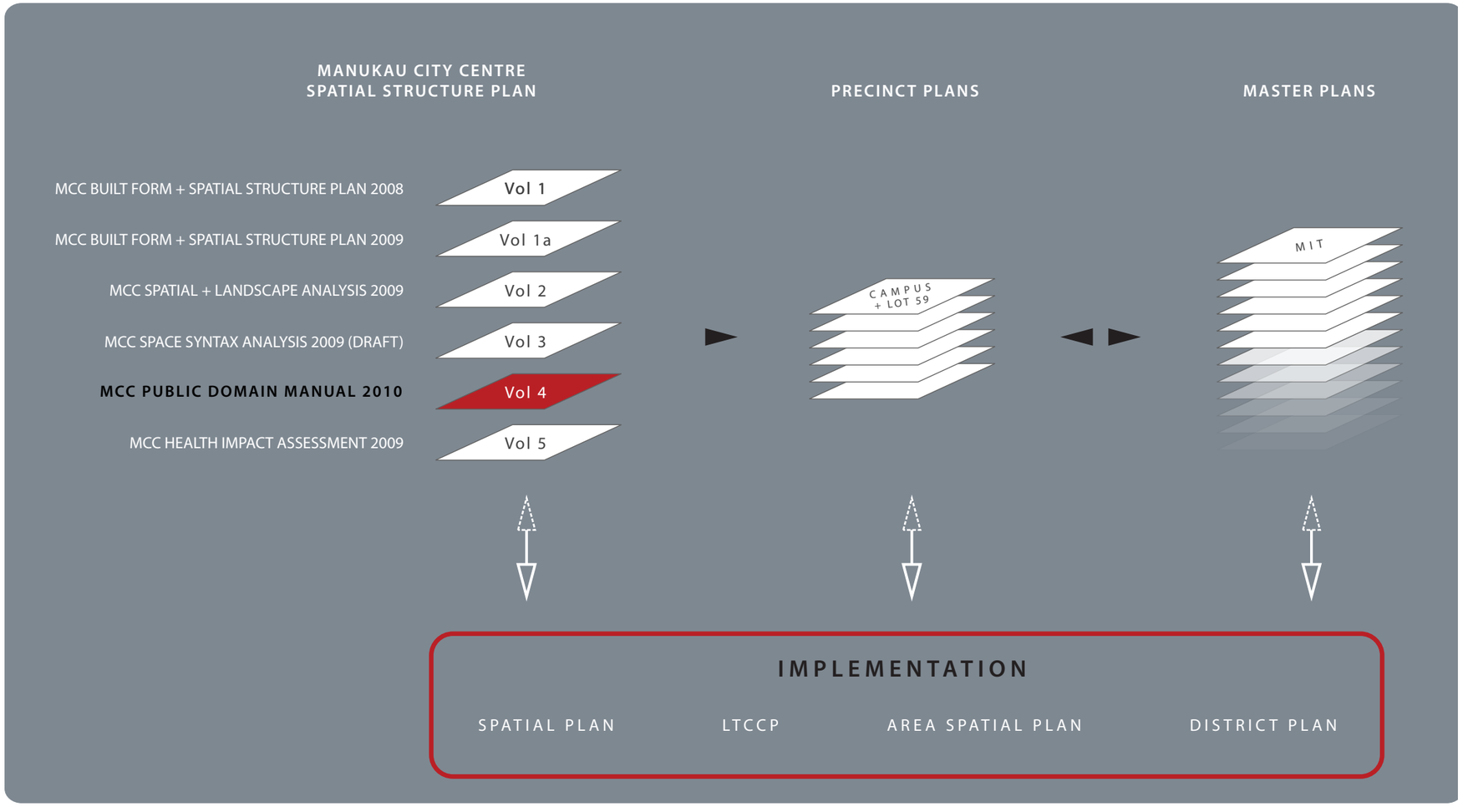
Volume 2
MCC Spatial and Landscape Analysis 2008, Boffa Miskell Ltd

Volume 3
MCC Space Synt ax Analysis 2009, Space Syntax

Volume 4
MCC Public Domain Manual 2010, Boffa Miskell Ltd in association with Richard Reid & Associates Ltd on behalf of Manukau City Council

Volume 5
MCC Health Impact Assessment 2009, Synergia (draft)





Planning Process Diagram

Manukau City Centre Public Domain Manual

Vision and Strategy

Otara Mall, Otara Manukau City (photo BML Simon van Wijnen)

"Shared Street" - Brighton UK (Source Landscape Journal Autumn 09)

Vision and Strategy

Council's vision is to revitalise Manukau City Centre in order to optimise its economic, social and environmental potential as a major urban centre in Auckland.

Council's vision includes the creation of a shared city environment where people, traffic and ecology are in balance with each other. A shared city environment aims to combine rather than separate the spaces, functions and uses of a city so that streets, public spaces and activities all benefit from one another.

How does the Public Domain Manual help deliver this vision?

Manukau's City Centre has significant development potential. Council is uniquely positioned in that it owns the majority of the land available for redevelopment, with a number of sites currently operating as at-grade car parks (see the diagram showing land ownership on page 10).

Council has an opportunity to develop an optimally designed city centre, ensuring that the urban form and function of development is not compromised. The Public Domain Manual is a key component of this delivery.

The Public Domain Manual provides objectives and controls for the design and layout of built form, streets, open spaces and stormwater management, including the interfaces between them. Objectives and controls are outlined for special character areas, known as precincts, which have been determined based on their unique landscape situation, landform, built form, predominant land use, relationship to public thoroughfares and influence from traffic movement. The overlapping approach to the precincts enables a cohesive treatment and refined outcome for the city centre. Detailed design resolutions are supplied for core public domain elements such as street paving, trees and lighting (see the Technical Manual).

The level of resolution will give greater confidence to future development decisions and investment outcomes within the city centre. It will also serve as a fundamental tool for integrating significant future developments within the city centre.

What do we gain from a shared city environment?

The urban and environmental qualities of a city fundamentally affect the choices people make about where to live, work, play and travel. The health and vitality of a city can simultaneously enhance all the four well-beings which comprise our quality of life (social, economic, cultural and environment).

An important outcome from delivering a shared city environment will be the creation of a public domain which is people and pedestrian focused. Manukau City Council wants a city centre which supports and encourages public behaviour rather than solely highway (traffic) behaviour.

Barcelona boulevard (photo BML Tim Church)

Wiri Station Rd, Manukau City Centre (photo BML Rachel de Lambert)

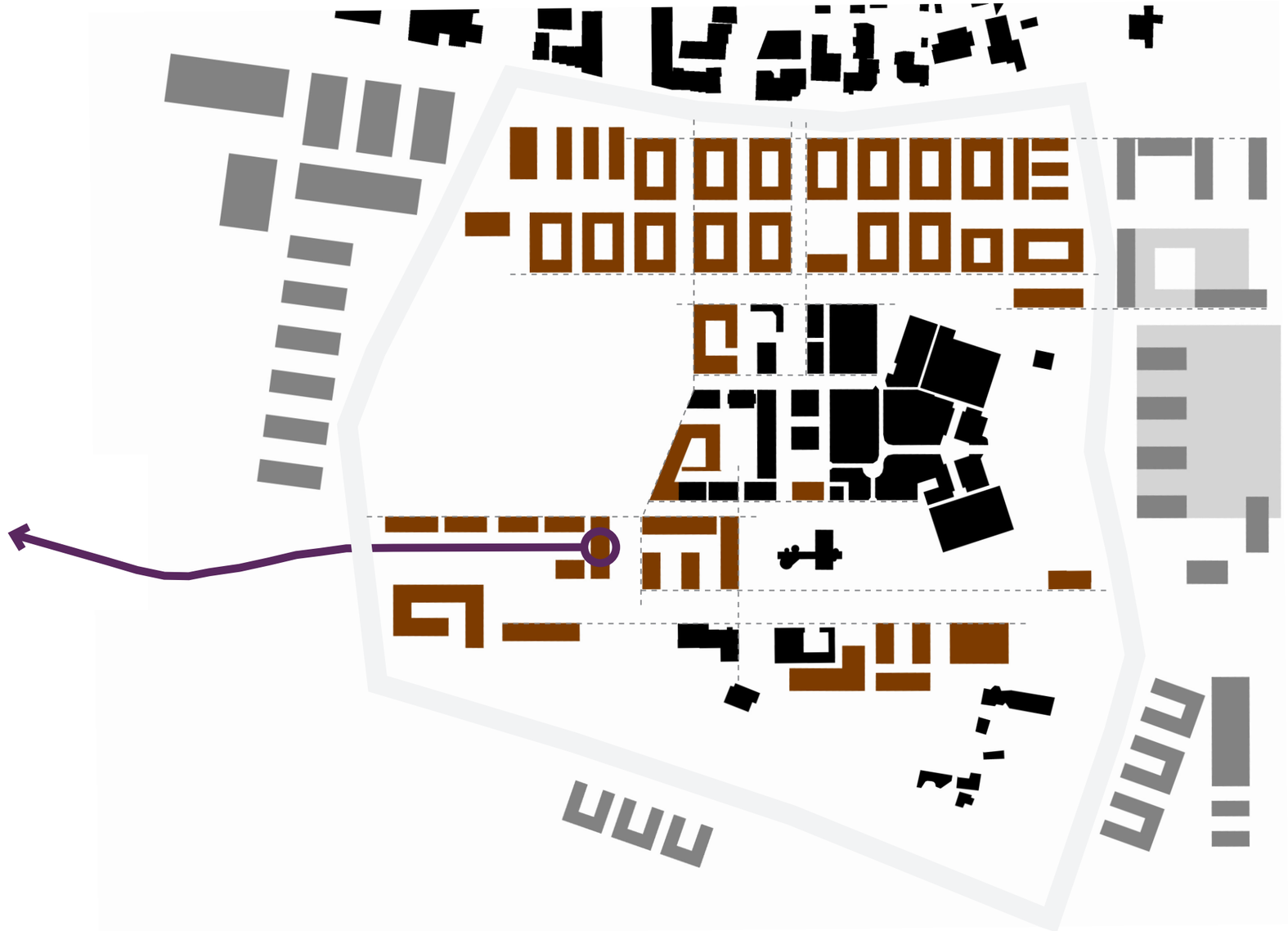
Public Behaviour:

Human behaviour in social space is characterised by movement that is not guided by a pre-determined uniform programme, but by what people feel like from one moment to the next. The movements are unfocused, unpredictable, and relatively slow. People's behaviour in social space is largely determined by the physical environment and by the behaviour of others, and eye contact plays an important role.

Highway behaviour:

Traffic behaviour, i.e. the behaviour people display when they want to move quickly from A to B, is characterised by movements that are direct, focused and largely predictable. This behaviour not only typifies traffic in the fast lane, but also commuters or students who cycle every day between home and school or work. The speeds are high, and there is almost no eye contact. People move with focus and their behaviour is largely guided by legal traffic systems, by vehicles on the road and by traffic engineering signals, such as road markings and traffic signs.

Source: "Room for everyone, a new vision for public spaces" Fryslan Provincial Council The Netherlands, June 2005



Key elements of the Public Domain Manual

Extent of this PDM. The extent of land covered in this PDM is defined by Cavendish Drive to the north, Great South Road to the east, the new SH20 – SH1 motorway link to the south and Lambie Avenue to the west.

Existing Built Form. Existing buildings within the City Centre and wider city environment.

Manukau Train Station. Spur from Main Truckline.

City Centre Cadastral Grid. Building alignment and set back controls create a new spatial organisation for the city centre.

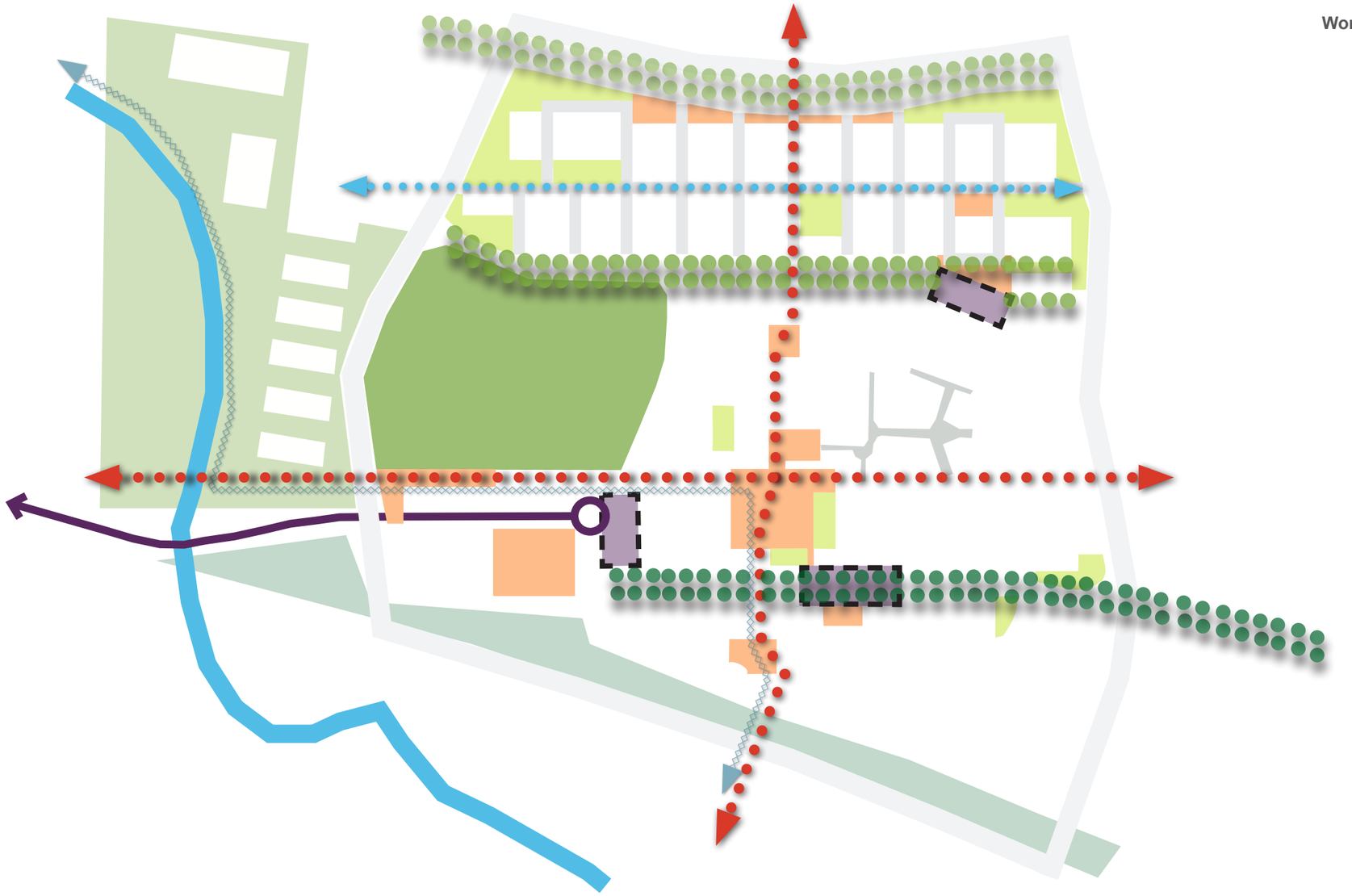
Proposed Built Form. Within Manukau City Centre and included in this PDM.

Proposed Built Form. Outside of this PDM.

Urban Spines. A north-south urban spine strengthens the central thoroughfare from Sharkey Street in the north to Barrowcliff Place and Wiri suburb in the south. An east-west landscape spine connects Great South Road with Hayman Park and the Puhinui Stream

Puhinui Stream. This natural corridor meanders its way through the wider city environment, connecting the city centre to a series of public open spaces. This stream is an important ecological corridor joining Totara Park in the east to Manukau Harbour in the west.

Te Araroa (The Long Pathway). The national walking trail is diverted from the stream corridor into the heart of the city (The Civic Square).



Urban Forest. The existing and future character of the city centre is underpinned by its topography. Manukau Station Road, Ronwood Avenue and Cavendish Drive will be formally planted with trees to create a strong landscape structure responding to the plateau the City Centre is built upon above the Puhinui Stream.

City Centre Park. Hayman Park becomes the focal point of a revitalised City Centre. The park benefits from proximity to Manukau Train Station and a new Campus Precinct and a significant increase in the City Centre's residential population.

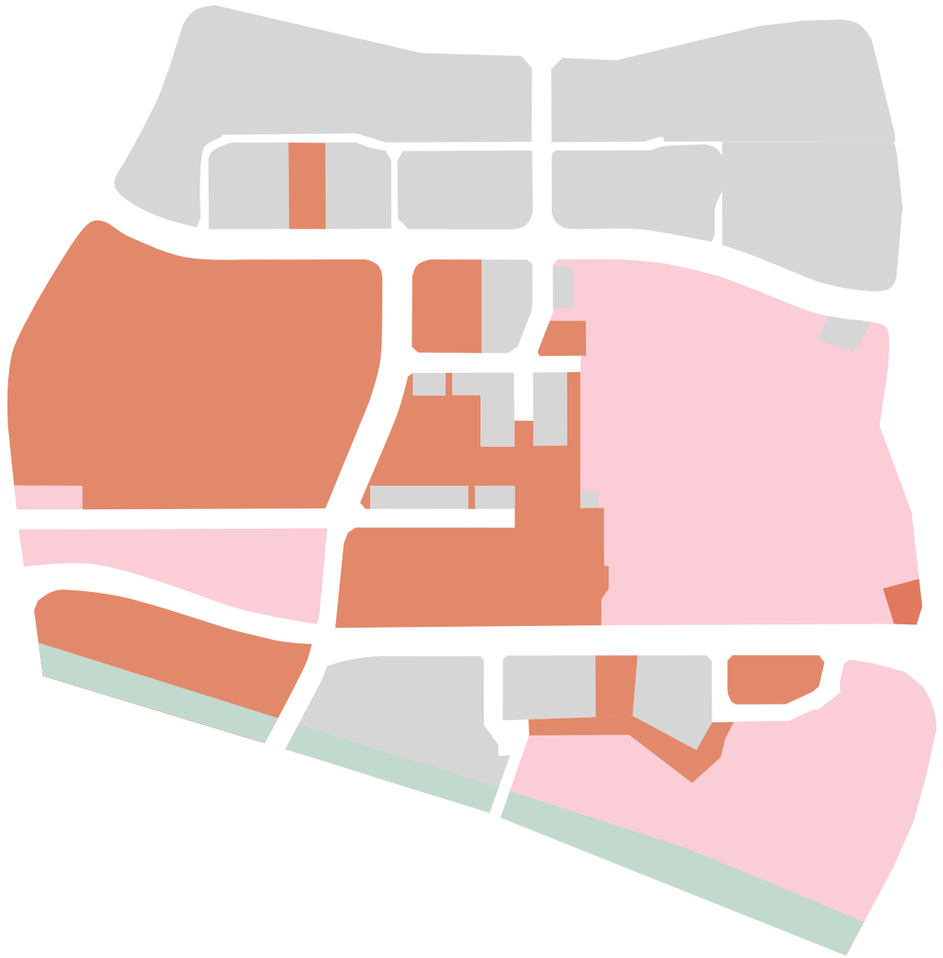
Soft Public Space. A series of diverse 'soft' landscaped places that provide greenery and recreational areas.

Transport Interchange and Bus Superstops. The train station and bus superstops are significant catalysts for growth and are major places for the circulation of people within the City Centre.

Hard Public Space. A series of 'hard' landscaped places are strategically located along major thoroughfares and active frontages. A number of these are shared spaces including pedestrians and vehicles.

Urban Tributary. This strategy utilises the movement of water (hydrology) through the City Centre in a sustainable way. The Urban Tributary reveals the flow and fall of water through streets and public spaces.

H **Ronwood Precinct Street Grid.** Multiple north- south connections and an east - west central spine.



Land ownership in Manukau City Centre

- Land in Council ownership
- Land owned by others
- Leased land in Council ownership
- State Highway Designation

Structure Plan

Structure Plan

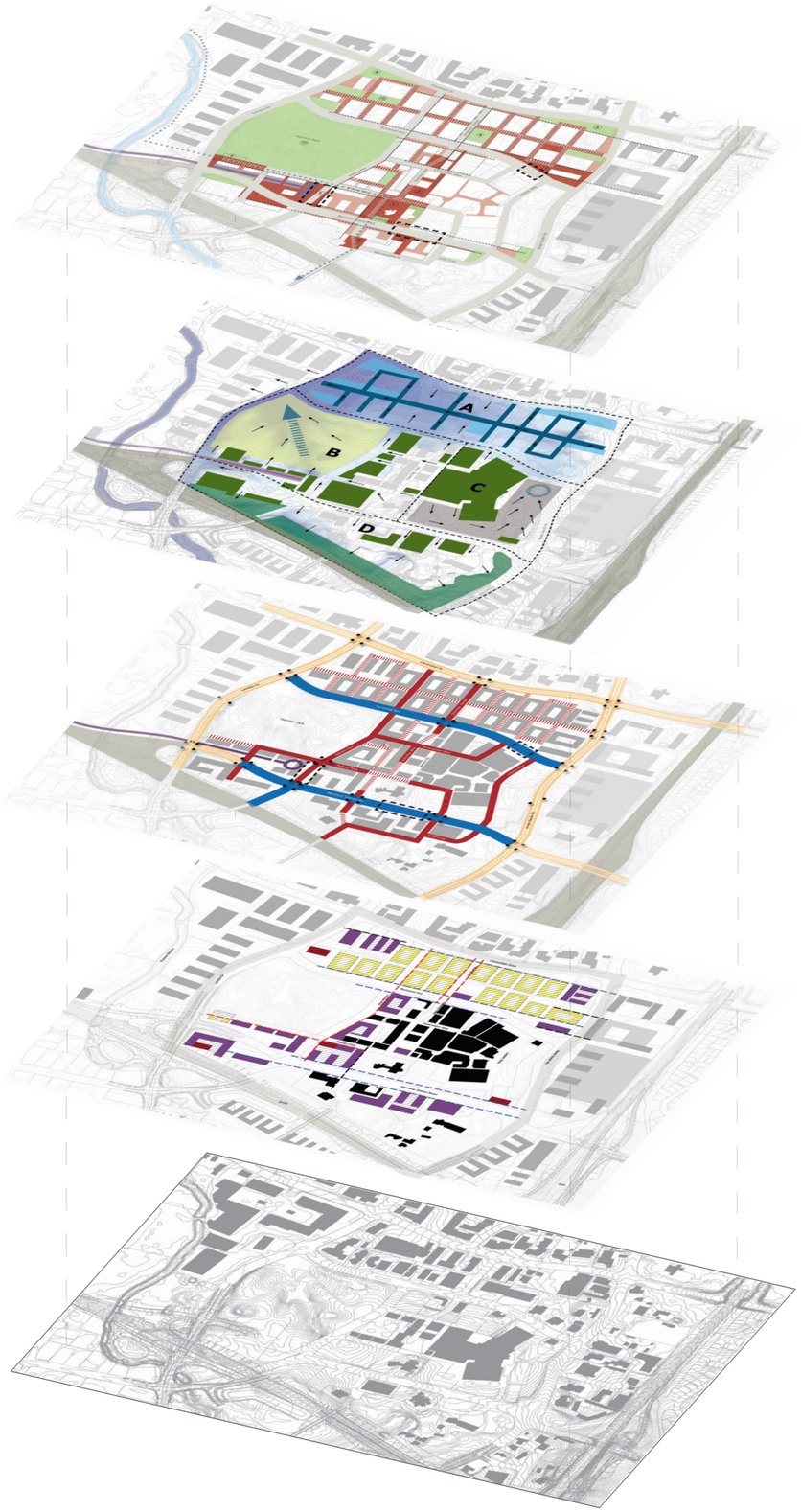
Introduction

The Structure Plan sets out the broad framework for managing development within the Manukau City Centre. It underpins the development controls within the Public Domain Manual.

The Structure Plan is comprised of four elements:

- Built Form Network
- Street Network
- Hydrology Network
- Open Space Network

Development in Manukau City Centre should occur within the framework of the Structure Plan's objectives and controls, which establish the street layout and street blocks, built form, open spaces and stormwater management. The integration of these networks will strengthen the city centre's structure and character and create the public domain environment within which the development of sites can occur.



Open Space

Hydrology

Streets

Built Form

Existing City

= Structure Plan

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Structure Plan Diagram

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Built Form Network

Objectives

- To respond to urban densification requirements
- To ensure that built form relates well to streets and open spaces
- To strengthen the legibility of the street and open space networks
- To consolidate the primary north-south and east-west urban spines
- To assist in way-finding, and locate important public places and parks within Manukau City Centre
- To provide a framework for a mix of civic, commercial, educational, residential and retail uses, transforming the city centre's primary focus as a retail and parking location
- To provide a foundation for the provision of public benefits in return for built form opportunities and bonuses

Strategy

The Built Form Network focuses on the alignment and height distribution of built form within the Manukau City Centre. It supports the building height and density controls contained in the Manukau City Centre Built Form Spatial Structure Plan (Volume 1).

The Built Form Network provides a spatial framework for the city centre that differentiates itself from the existing curvilinear street pattern in order to create more legible urban form and public space. Important east-west street corridors such as Cavendish Drive, Ronwood Ave, Putney Way and Manukau Station Road are reinforced by consistent building alignments and heights.

New intermediary open spaces are created where the built form is set back from the street pattern. Controls are provided for the use of these public, or publicly accessible, open spaces and for their interface with the built form. The public benefits that these intermediate spaces provide are translated into specific built form opportunities or bonuses (for instance 'air rights') for the adjoining building footprints.

Opportunities for significant buildings (Building Height Towers) have been identified. These proposed buildings spatially locate important places within Manukau City Centre such as key entry points, public open spaces and the Manukau Train Station. The significant buildings are intended to remain distinct from their lower scaled surroundings. They are located at the intersections of Great South Rd and Manukau Station Rd; SH20 and Lambie Drive; Lambie Drive and Ronwood Ave; and opposite the Manukau Train Station.

Controls

1. Provide building alignments and heights as shown in the Built Form Network drawing
2. Provide building alignments that define public open space and publicly accessible private open space as shown in the Open Space Network drawing
3. Provide significant buildings (Building Height Towers) as shown in the Built Form Network drawing
4. Provide active frontages as shown on each Precinct-Public Domain drawing

Existing Building

Building Zone

Building Height
5-6 Storeys

Building Height
8-10 Storeys

Building Height
Tower

Setback Control

Cadastral Boundary Alignment

Build To Alignment

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Built Form Network

NORTH

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Street Network

Objectives

- To establish a clear hierarchy of public streets, building on the existing street hierarchy within the city centre
- To provide a street network that responds to topography, existing development and urban intensification requirements for the city centre
- To accommodate the Manukau Train Station and Hollyford to Ronwood Bus Corridor Route and associated bus stops
- To create visually unified and coherent spaces for traffic and pedestrian movement
- To create a safe, pedestrian focused shared city environment
- To reduce the dominance of vehicles i.e. reduce speed, promote underground carparking and minimize the visual impact of parking areas
- To improve pedestrian, cycle and vehicular access and permeability within Manukau City Centre
- To improve pedestrian, cycle and vehicular connectivity between the city centre and surrounding areas
- To improve legibility and provide way-finding opportunities within Manukau City Centre
- To improve access to public open space
- To improve linkages to landscape features outside the city centre, such as Puhinui Stream and Wiri Maunga
- To provide additional active street frontages for more street-based social and business activity
- To create bio-links and canopy connections to existing vegetation communities both within and surrounding the city centre

Strategy

The Street Network provides a clear hierarchy of street types that increasingly promotes a pedestrian environment as traffic moves towards the centre. The street network is made up of the following street types:

- Type 1 – Arterial Roads
- Type 2 – East-West Boulevards
- Type 3 – Business Streets
- Type 4 – Shared Streets

The Street Network maximizes connections within and across the city centre and to surrounding areas. It aims to substantially improve pedestrian and cycleway paths to enable a more habitable and permeable public domain.

The scale, width, function and character of these street types correspond to their position in relation to the city centre. Type 1 Streets support major concentrations of traffic around the city centre and provide primary access points into it. Type 2 Streets provide east-west connections through the city centre and accommodate local traffic as well as the Hollyford to Ronwood Bus Corridor Route. Type 3 Streets generally provide access to sites off Type 2 Streets and are located within the city centre. Type 4 Streets are designed to pass through public open space or predominantly residential precincts with the road space shared between vehicles, pedestrians and cyclists.

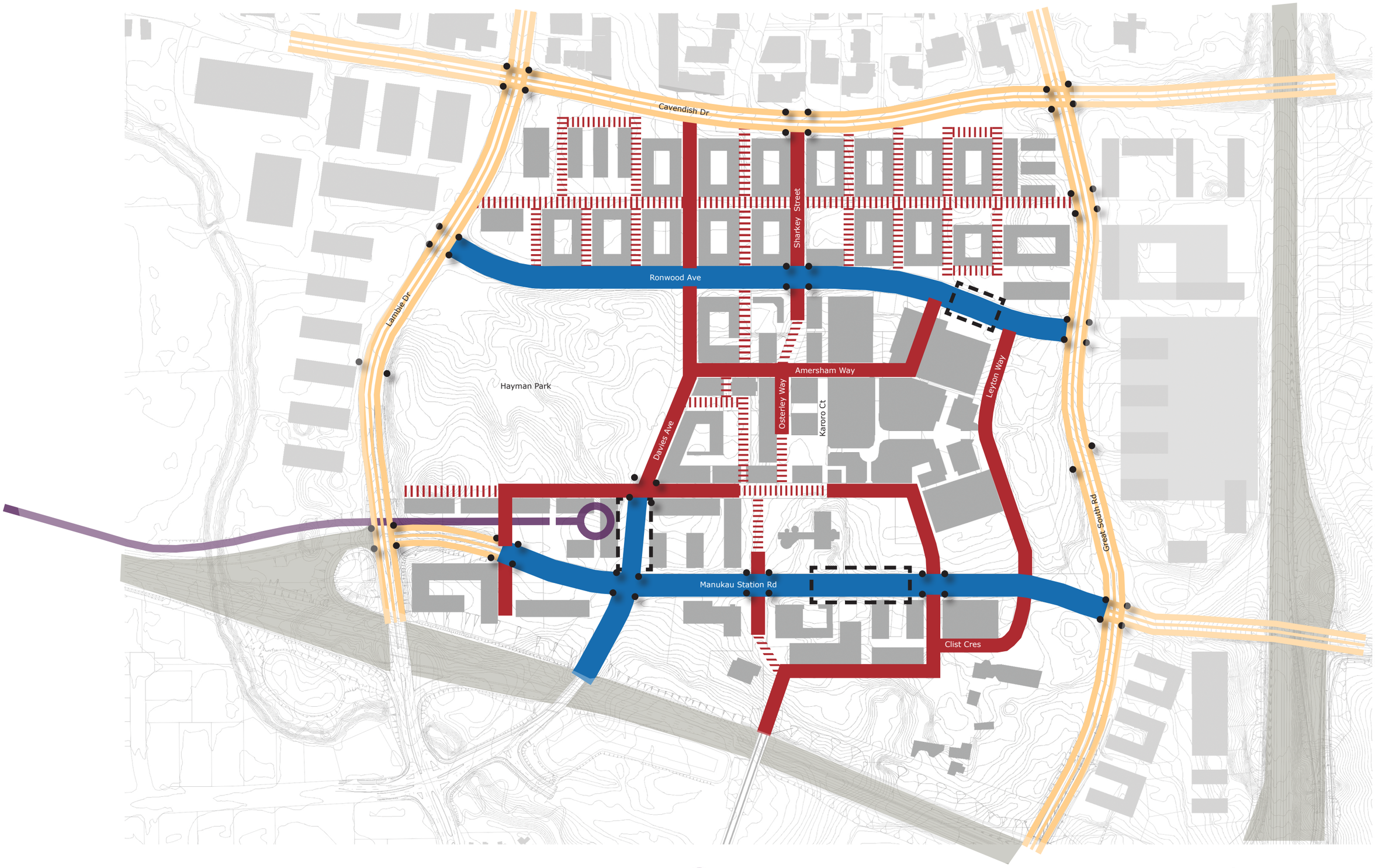
The location and space dedicated to pedestrians and cyclists is related to street type. Type 1 Streets separate pedestrians from heavy trafficked routes with trees and planted berms. Cyclists are provided with dedicated lanes. Type 2 Streets redistribute excessive road median space to the footpaths on either side to more generously accommodate well trodden walking routes (e.g. Justice Court-Westfield Shopping Centre). Cyclists share the same road space with other traffic. Type 3 and 4 Streets are knitted together to form a pedestrian-and-cycling-friendly network to allow easy movement across the city centre.

The street layout responds to the Built Form and Open Space Networks, providing links to significant public places and parks within the city centre and to landscape features beyond such as the Puhinui Stream.

The Manukau Train Station and Hollyford to Ronwood Bus Corridor Route fundamentally change the way the existing street network and roading environment works and is experienced. The station will act as a destination for across-town walking and cycling whilst the bus route will circulate and disperse passengers around the city centre and re-activate walking along major thoroughfares.

Controls

1. Provide streets as shown on the Street Network Plan
2. Refer to the Streets section for detailed information regarding the required location, width, design and function of each street type
3. New streets are to be vested in Council
4. Provide bus stops at locations shown on the Street Network Plan
5. Provide signalled intersections and pedestrian crossings as shown on the Street Network Plan



Type 1 | Type 2 | Type 3 | Type 4 | Manukau City Train Station | Bus Super Stop | Signalled Intersection | Controlled Crossing

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Street Network

NORTH

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Hydrology Network

Objectives

- To attenuate and treat stormwater before it enters reticulated systems to reduce downstream effects on infrastructure and flooding, and to minimise potential effects on the receiving environment
- To utilise public domain and landscape amenity features for on-site stormwater management, and provide opportunities for public enjoyment and interpretation of water in the environment
- To encourage systems that use stormwater in place of potable water, such as passive irrigation to landscape areas
- To provide above-ground detention areas to minimise the nuisance from stormwater inundation
- To promote development types that respond to flood potential through appropriate freeboard, free passage of overland flow and avoidance of downstream inundation
- To promote landscape amenity and ecology outcomes from stormwater management approaches
- To control potential contaminant spills prior to entering the receiving environment

Strategy

The quality and quantity of stormwater runoff and inundation directly affects the function of Manukau City Centre and indirectly the Puhinui Stream. Development of the city centre provides an opportunity to integrate stormwater management systems within urban and landscape design objectives. Stormwater design should seek to reduce and treat stormwater runoff while also raising awareness of naturally occurring processes in the catchment. It is anticipated that low impact design approaches in the developed landscape would contribute significantly to the amenity of the built environment and create a unique sense of place.

The Public Domain Manual defines ways of managing stormwater and organises its movement in order to create spaces for human experience and enhancement of living systems. Four catchments have been identified within the city centre:

A Ronwood Ave Catchment: an emphasis on planted swales and rain gardens forming the precinct streetscape and open spaces

B Hayman Park Catchment: builds on the existing central treatment location in Hayman Park and provides opportunities for green roofs, LID and landscape-led approaches to stormwater management for new development (management subject to Hayman Park design competition outcomes)

C Westfield Catchment: stormwater management emphasises the retrofit of the existing shopping centre car park and roof levels for improved amenity and stormwater treatment

D Manukau Station Rd Catchment: an emphasis on preserving existing and establishing new permeable surfaces and tree canopies to the area south of Manukau Station Road - Justice Precinct (including within the Rainbows End grounds), Campus Precinct, and along SH20. Potential for green roofing of new developments

Controls

1. All stormwater leaving a site is to be managed in accordance with council guidelines and technical publications for urban stormwater management
2. Post-development hydrology should be equivalent to pre-development hydrology based on a forested catchment, including total quantities and peak flows up to a 2 year storm event (i.e. hydrologically neutral)
3. At least 90% of the water requirement for irrigation of public landscape areas is to be sourced from on-site rainwater collection or recycled site water
4. An LID approach to stormwater design is proposed, led by landscape, ecology and urban design objectives to meet stormwater controls
5. Roofing, guttering and down pipes should avoid the use of zinc or copper
6. All built structures should collect rainwater for general use
7. Water supply tanks should be designed as part of the overall building structure
8. Flat roofs have the potential to accommodate a green roof treatment for the majority of their surface area

A Catchment area

Planted swale

Streets with raingardens

Hayman Park

Impervious surfaces

Treatment location

Permeable surfaces

Conceptual stormwater flow

Green roofs indicative

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Hydrology Network

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Open Space Network

Objectives

- To rationalise the existing open space network to provide consolidated open spaces and open space corridors
- To provide additional open space within a network of well-connected parks and squares within the city centre
- To maximise access to public open space and contribute to the pedestrian and cycling network
- To accommodate a range of active and passive recreational uses
- To create a shared city environment that guides human and traffic behaviour
- To provide an open space network that responds to topography
- To contribute to stormwater and ecological management, incorporating Low Impact Design (LID) principles
- To create bio-links and canopy connections to existing vegetation communities surrounding the city centre
- To provide view corridors and linkages to landscape features such as the Puhinui Stream and Wiri Maunga

Strategy

The Open Space Network augments existing public open spaces to create an integrated open space network for the city centre. The Open Space Network has two major organising principles.

The first organising principle recognises the value of the Hollyford to Ronwood Bus Corridor Route which circulates on Type 2 Streets through the city centre. This corridor brings diverse communities to key destinations inside and close to the city centre – Westfield Shopping Centre, the Justice Court, Manukau Train Station, MIT Campus, AUT Campus and businesses in-between. The three bus stops on the route will be developed with a new public open space adjoining them.

The second organising principle strengthens pedestrian routes through the city centre. There are three key routes. One north-south spine runs along the Sharkey Street-Osterley Way-Barrowcliffe Place corridor while the major east-west spine connects Putney Way with the Manukau Train Station, Hayman Park and the Puhinui Stream. The two spines meet at the Civic Square. The third key route connects Great South Road with Lambie Drive along Ronwood Lane through the Ronwood Precinct. These spines improve pedestrian and cycleway connections through the city centre, provide both formal and informal gathering and recreational areas, and highlight important arrival points within the city centre.

A further layer of public open spaces strengthen the corners to the city centre. Cavendish Drive, Ronwood Ave, Putney Way and Great South Road all benefit from new public open spaces at their edges.

Locations for consolidated active street level uses are identified along the key north-south and east-west spines; around the train station and bus stops; and along Cavendish Drive, Ronwood Ave, Amersham Way and Davies Ave. The corridors are identified as significant through-connections or “desire lines” in the Built Form + Spatial Structure Plan Volume 3 (Urban Movement Analysis).

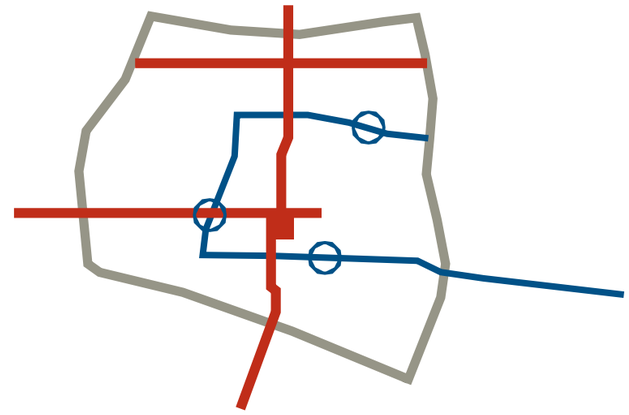
The open space network should be designed so that the treatment between public open space and publicly accessible private open space is integrated, seamless and fluid.

The key public open spaces are:

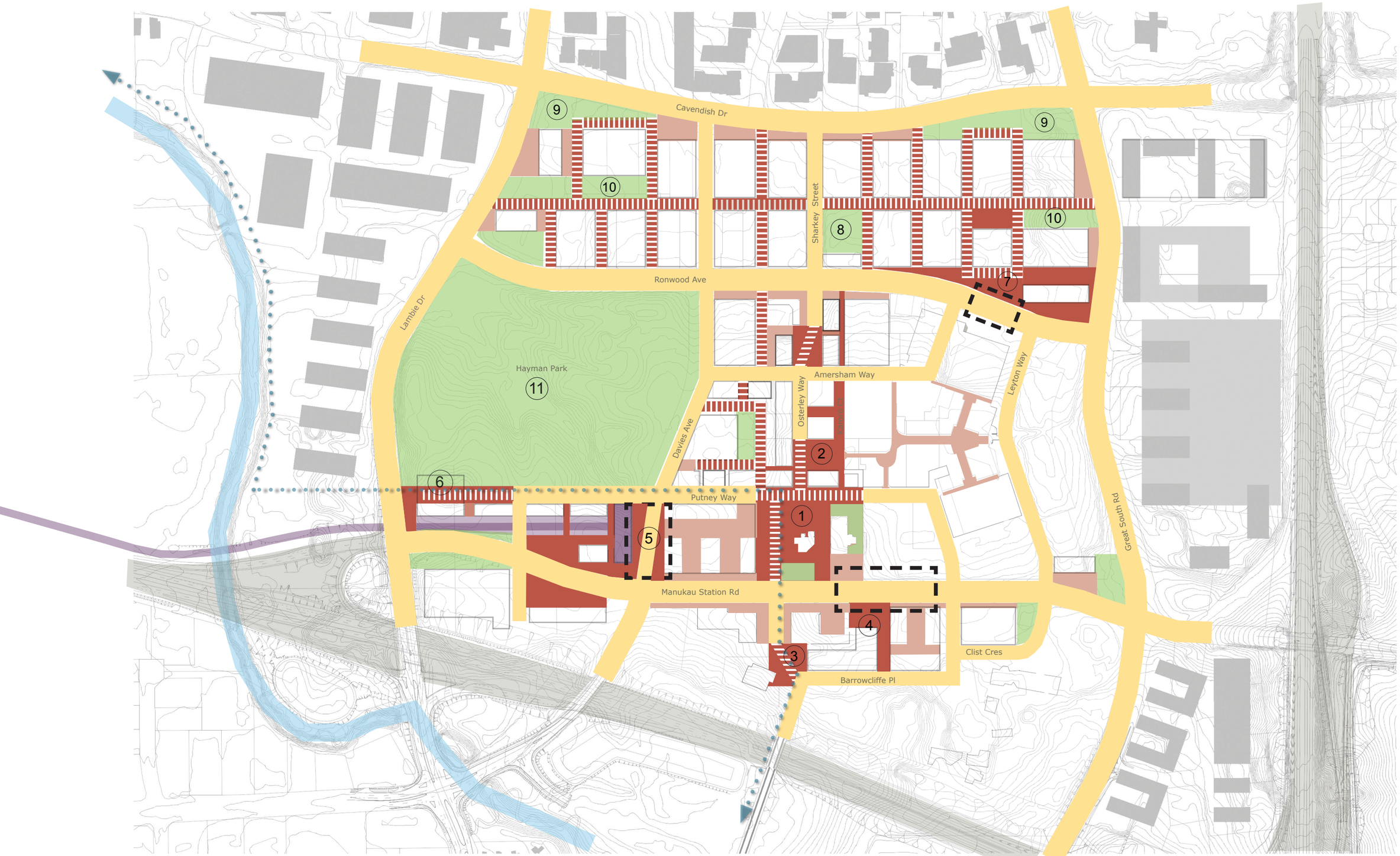
1. Civic Square
2. Manukau Plaza
3. Barrowcliffe Place
4. Wiri Place
5. Manukau Station Square
6. Putney Place
7. Ronwood Place
8. Sharkey Park
9. Cavendish Corner(s)
10. Ronwood Lane Swale Park
11. Hayman Park

Controls

1. Provide public open space (soft and hard) as show on the Open Space Network Plan
2. Provide new public streets (including shared streets) as shown on the Open Space Network Plan
3. Public Open Spaces and public streets are to be in public ownership and vested in Council
4. Provide publicly accessible private open space as shown on the Open Space Network Plan
5. Refer to the Public Open Space section of this manual for detailed information regarding the design requirements for each public open space
6. Refer to the General Public Domain Controls for detailed information regarding the design requirements for landscaping on publically accessible private open space



Organising Principles: Hollyford to Ronwood Bus corridor Route (blue) and Pedestrian Urban Spines (red)



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Open Space Network

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Precincts

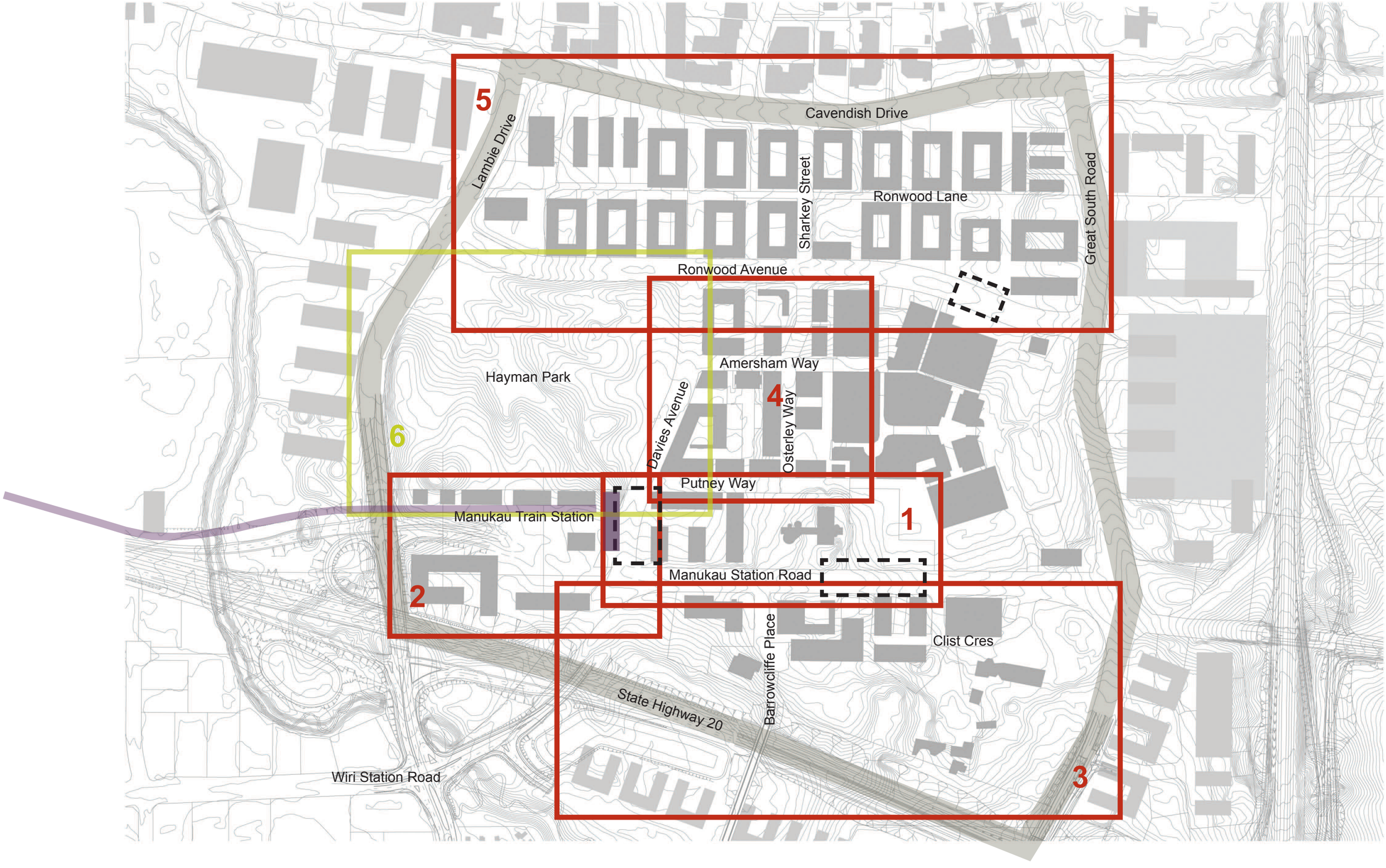
Precincts

Introduction

The Public Domain Manual provides future character statements, objectives and controls for areas that have been identified as precincts within the Manukau City Centre. Six precincts have been identified:

1. Civic
2. Justice
3. Campus
4. Davies
5. Ronwood
6. Hayman Park

Hayman Park, the sixth precinct, is being progressed as a design competition with outcomes as yet unknown. See the Public Open Space section within this Manual for an outline of objectives for the competition.



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Precinct Identification

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Planning Framework

A - Understanding the Precincts

Precincts are special character areas with distinctive features, elements and attributes which distinguish them from adjacent areas. Each character area within the Manukau City Centre has been determined by its unique landscape situation, the landform, existing built form, predominant land use, relationship to public thoroughfares, influence from traffic movement, identification of existing constraints and future potentials for growth.

The precincts are drawn with overlapping boundaries which enables a cohesive treatment and integrated approach for adjoining precincts, as well as a refined outcome for the city centre as a whole.

B - Understanding the objectives and controls for each Precinct

Each precinct is prescribed by a number of planning layers which define the development of the public domain, the built form and the interface between them. Taken together, these represent the finer grain understanding of how the public domain must be met by any future development.

A future character statement prefaces each precinct. This envisages the intended outcome from future development based upon meeting the objectives and controls set out for each precinct and from the Public Domain Manual generally.

C - Using the controls

Controls are used to ensure that the quality of any future development within the city centre is to a sufficient standard to fulfill the Council's vision. Controls within this Manual are divided into three main headings:

- Public domain controls

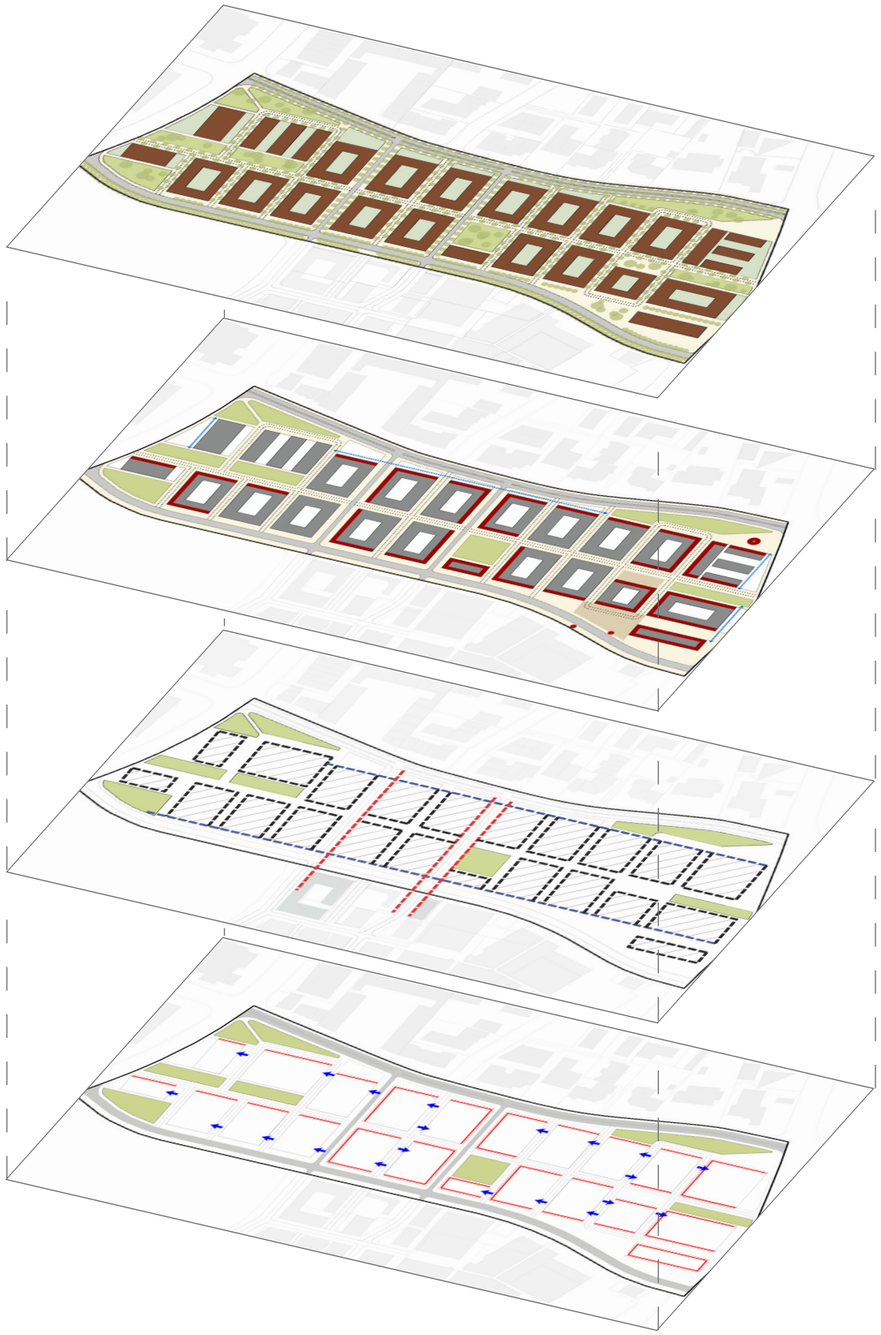
Controls under this heading contain details for where and how the public domain is defined and used at street level, including the provision of public open space, publicly accessible private open space, pedestrian through-site links, and active frontages on buildings.

- Building zones and alignment controls

Controls under this heading identify the objectives for building zones and determine their alignment and setback in relationship to the public domain. Controls for buildings are used to shape the public domain and ensure spatial consistency along the streets.

- Public domain interface controls

Controls under this heading enable a well-designed and consistent interface between the public domain and development. The controls cover details for elements such as the preferred position/location of entrances for private vehicular parking and the preferred location of awnings on buildings.



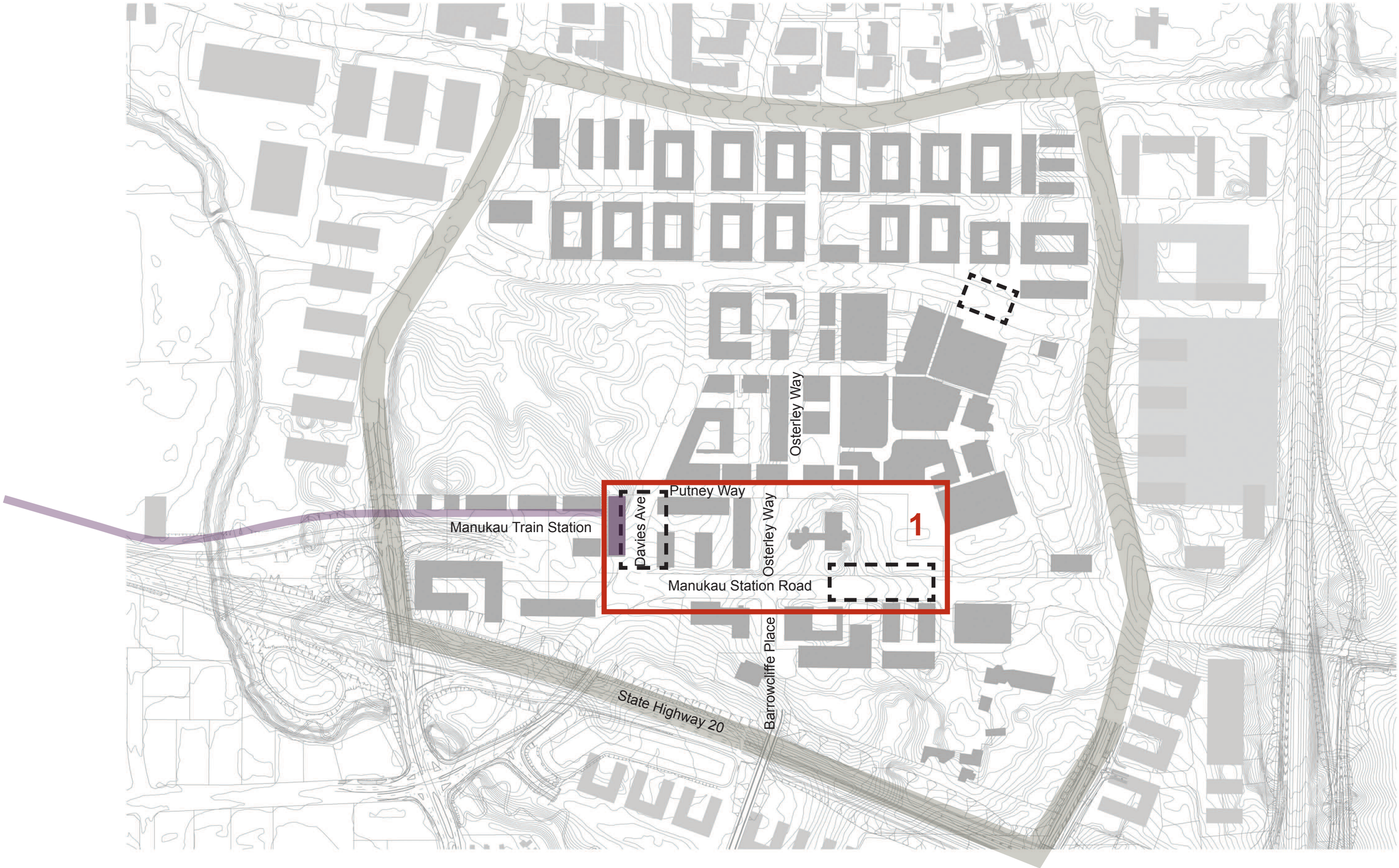
Future Character Objectives

Public Domain Controls

Building Zones and Alignment Controls

Public Domain Interface Controls

= Precinct



A08296 1:5000 @ A3
Civic Precinct Identification

PO BOX 91250 | Level 3, IBM Centre | Auckland
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Future Character

Character Statement

Development of the Civic Precinct will significantly strengthen, as well as refocus attention on, the civic heart of the city centre. A major new public open space, Civic Square, is created around the architecturally distinctive landmark of the Manukau Civic Building which occupies the highpoint of the city centre. Another key public open space, Manukau Station Square, becomes a major distribution point for public transport users in the region.

Both these public open spaces are strongly shaped by the new urban structure of the precinct. Its orthogonal geometry transforms the existing curvilinear street pattern and counterbalances the free-form civic building and landscape.

Civic Square is sited at the crossroads of Osterley and Putney Way, the key north-south and east-west urban spines. The square benefits from Osterley Way's re-alignment around its main space and the scale of new buildings and street trees which define its outside edges. The dimensions of the square allow the gently sloping landform to be integrated into a series of terraces and grass banks, thus retaining the landscape character of the place.

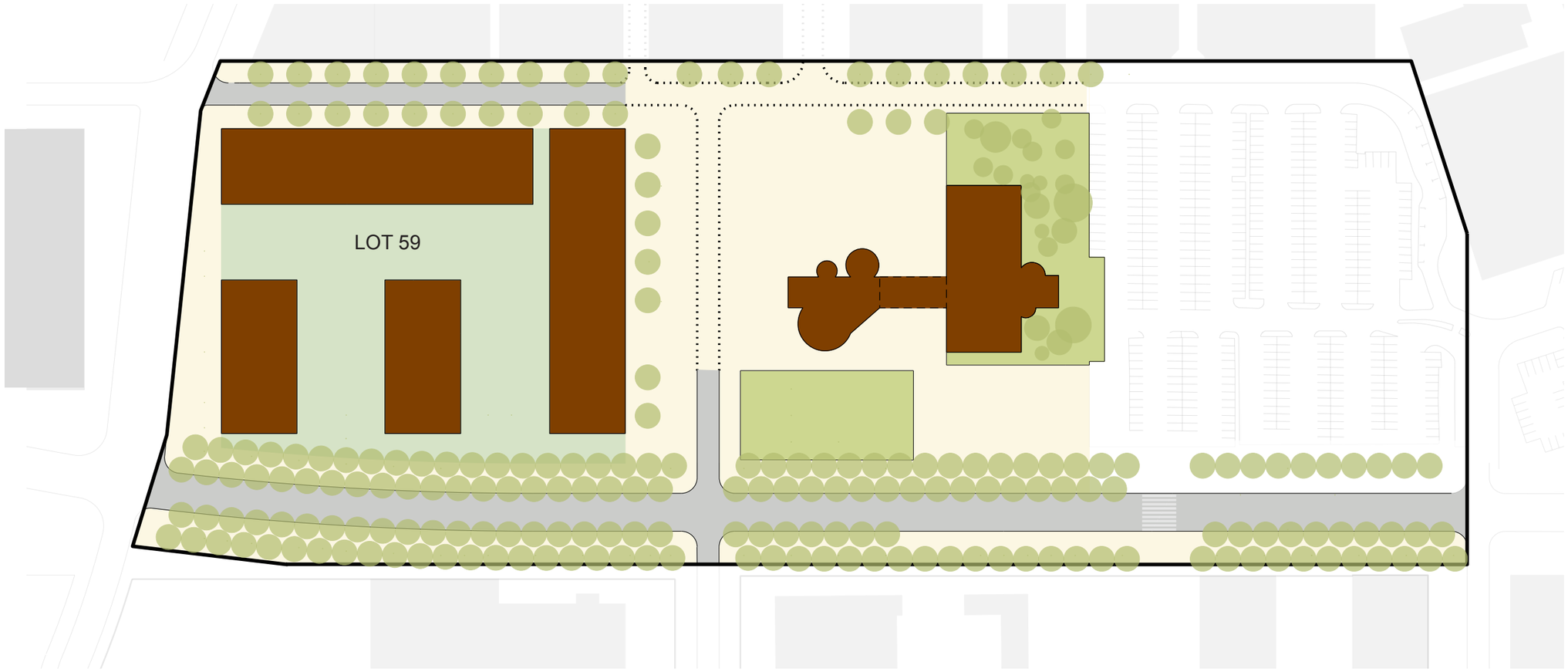
The precinct is circumnavigated on two sides by the Hollyford to Ronwood Bus Corridor Route. The bus stops on Manukau Station Road and Manukau Station Square create excellent links across the precinct and around the city centre. Manukau Station Road is re-organised as a tree-line boulevard with generous provision made for pedestrians along its length.

A pedestrian focused environment is a feature of the precinct. Civic Square incorporates Osterley Way as a shared space for vehicles and pedestrians. Vehicles are slowed to low speeds through a reduced speed limit, traffic calming, signage, use of shared materials and other visual cues that encourage drivers to travel with caution. The national walkway, the Te Araroa Trail, diverts from the Puhinui Stream Corridor to pass through Civic Square and Putney Way. Pedestrian through-site links are provided through the future development site of Lot 59 for easy access to Manukau Train Station and bus interchanges.

An opportunity is signalled for Lot 59's re-development to incorporate public uses such as library/museum/arts facilities to reinforce the precinct's civic nature. Active frontages are provided within new development and along key thoroughfares to activate public open spaces and stimulate a healthy commercial precinct at ground level.

Objectives

- To create a built form structure that corresponds to this Manual
- To ensure the built form provides a high quality interface with Civic Square, Manukau Station Road, Putney Way and Davies Ave
- To ensure the precinct is highly permeable by providing multiple north-south links from Putney Way to Manukau Station Road and east-west through-site links from Civic Square to Davies Ave
- To ensure that the scale and form of development contributes to the public domain and legibility of streets and open spaces
- To ensure that development on private land contributes to the provision of the public domain
- To accommodate a range of uses, including civic, retail and residential, that complement the broader uses within the precinct and generate activity at ground level
- To provide a range of high quality public spaces
- To ensure that public spaces and streets are activated along their edges
- To create a safe, legible and accessible public domain that fosters a high quality shared city environment
- To encourage walking and cycling
- To strengthen the city centre's landscape character and connections, and highlight the Te Araroa Trail through the precinct
- To increase and diversify the native vegetation communities within the city centre
- To incorporate low impact urban design into the public domain in order to create spaces for human experience, raise awareness of naturally occurring processes and contribute significantly towards the amenity of the built environment and a sense of place



Building Footprints (indicative only)

Public Domain Paved Areas

Private / Semi Private Courtyard (indicative only)

Public Park and Landscape Areas

Proposed Street Network

Shared Streets

Street Tree Planting

Civic Precinct Boundary

A08296 MCC 1:1500 @ A3
Civic Precinct - Future Character

NORTH

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Public Domain

The key public domain features of this Precinct are:

- Civic Square, a significant civic public open space on the junction of Osterley Way and Putney Way (the key north–south and east-west urban spines)
- The realignment of Osterley Way and its inclusion within the Civic Square as a shared street for vehicles and pedestrians
- Integration of topography within the Civic Square as a series of terraces and/or grassed banks for public use and enjoyment
- Providing a passageway and urban focal point for the Te Araroa Walking Trail
- Manukau Station Road, a key east-west connection across the city centre and a major public open space in its own right
- Hollyford to Ronwood Bus Corridor interchanges on Manukau Station Road and Davies Ave
- Manukau Station Square, a key destination place for rail and bus users arriving/departing the city centre
- Pedestrian through-site links from the Civic Square to Davies Ave and Manukau Station Square

These public places will be the focus for people visiting, working and living in the Civic Precinct and Manukau City Centre. The character of these spaces contributes to the identity of the precinct as the civic heart of the city centre and local region.

New streets, improvements to existing streets and new public open spaces are to be provided. These, together with the strong alignment of built form and street planting, establish two major focal points for the city centre (Civic Square and Manukau Station Square). Manukau Station Road also benefits from the same controls to become a well-defined and cohesive transport thoroughfare. A pedestrian focused environment is created across the whole precinct. Active frontages are provided within building developments facing on to both Civic and Manukau Station Squares.

The Public Domain Manual has been provided to ensure the coordination, design and delivery of these elements. Please refer also to the Technical Manual for detailed description of construction and management details.

Controls

Public Open Space

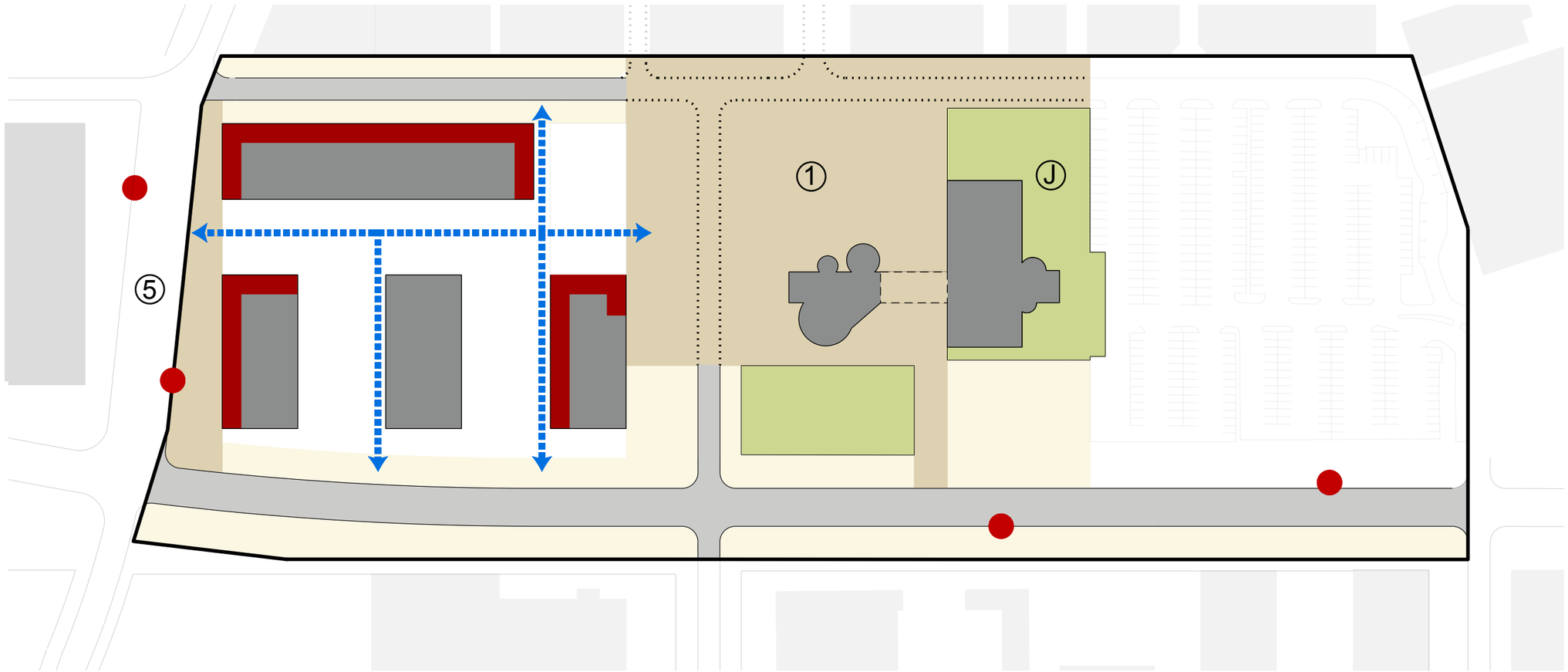
1. New public open spaces are to be provided where shown in the Civic Precinct Public Domain drawing
2. Public open spaces are to be designed in accordance with the Public Open Space Section of this Manual and the details shown in the Technical Manual
3. Public open spaces are to be vested in Council. Where a publicly accessible private open space is proposed, Manukau City Council must be consulted at an early stage of the design process and thereafter through to implementation
4. Public footpaths are to be provided where shown in the Public Domain drawing. The footpaths should be designed in accordance with details shown in the Technical Manual

Streets

1. Streets shall be designed in accordance with the Streets Section of this Manual and in accordance with the details shown in the Technical Manual
2. Active Frontages are to be provided where shown in the Public Domain drawing. Refer to the General Public Domain Controls Section for further information on Active Frontage controls
3. Refer to the General Public Domain Controls Section for further information on pavement retail and public seating places. Public seating should be designed in accordance with the Public Open Space Controls Section of this Manual and the Technical Manual
4. Shared Streets are to be provided at locations indicated on the Public Domain drawing, in accordance with the Streets Section of this Manual, and the details shown in the Technical Manual

Pedestrian Through-Site Links

1. Pedestrian through-site links are to be provided where shown on the Public Domain drawing
2. Refer to the General Public Domain Controls Section for controls relating to pedestrian through-site links



Building Footprints (indicative only)

Active Frontage

Civic Streetscape

Public Open Space

Public Footpath

① Civic Square

⑤ Manukau Station Square

Ⓙ Japanese Garden

Pedestrian Through Site Link

Shared Street

Proposed Street Network

Bus Stop (indicative location)

Civic Precinct Boundary

A08296 MCC 1:1500 @ A3
Civic Precinct - Public Domain

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Building zone and alignment

The building zone is an area within which buildings can occur on the site. The building zone for each site is determined by a combination of cadastral boundaries, street setbacks and other defined build-to lines.

The extent of the building zone that can be occupied by buildings will be determined through a future Plan Change for the City Centre which will include new development controls.

Alignment controls are necessary to ensure a spatial consistency for the precinct in the context of irregular and unaligned streets and property boundaries.

Controls

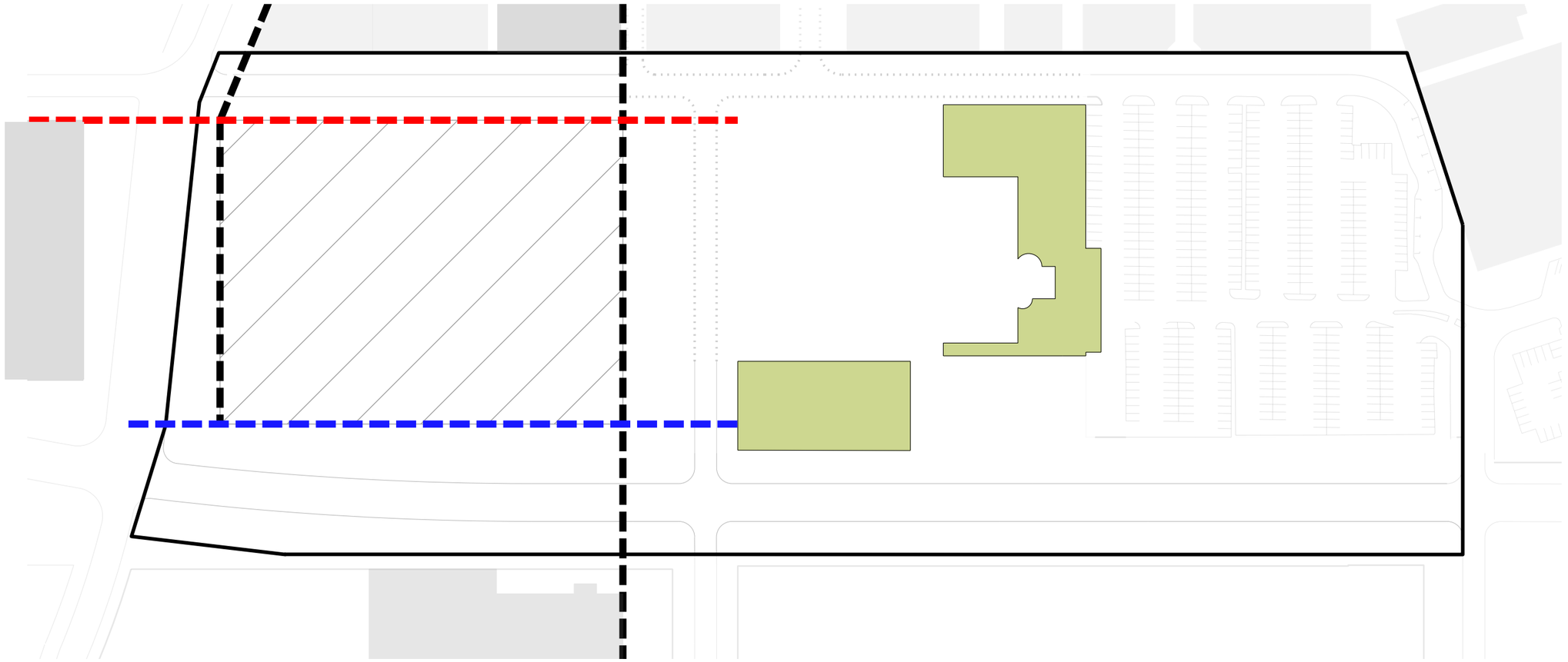
1. Ensure that the building alignments shown in the Civic Precinct Building Zone and Alignment drawing are provided

2. Provide a building alignment along the cadastral boundary of Putney Way as shown in the Building Zone and Alignment drawing

3. Provide setback lines as shown in the Building Zone and Alignment drawing. The setback line on Manukau Station Road is parallel to the City Centre Cadastral Grid (e.g. Putney Way/Amersham Way)

4. Provide build-to lines as shown in the Building Zone and Alignment drawing. These build-to lines relate to the building alignments in the Davies Ave Precinct. The eastern build-to line is to line up with the left-hand side of the lane connecting to Putney Way

5. Underground parking is not permitted to encroach into the setback areas or outside of the building zones unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting



Public Open Space

Building Zone

Cadastral Boundary Alignment (0m setback)

Setback Alignment

Build-to-alignment

Civic Precinct Boundary

A08296 MCC 1:1500 @ A3
Civic Precinct - Building zone and alignment

NORTH

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Public Interface

Specific interface relationships between the public domain and buildings within the Civic Precinct are required to achieve consistency within the Precinct and to reinforce the desired public domain character.

The character of the public domain is largely determined by the design, consistency and activation of building edges; the continuity of the pedestrian surface relative to driveways and vehicular crossings; and the quality of the public space design.

Controls

Vehicular access + Parking

1. Entrances to underground carparking are preferably provided from streets as shown in the Public Domain Interface drawing

2. Driveways and vehicular crossings are not preferred along Manukau Station Road or Davies Ave

3. Accessways and driveways are to avoid adverse impact on the visual quality of the streetscape; where they occur priority is to be given to the pedestrian surface on all footpaths (in terms of kerbing, horizontal alignment and surface materials)

4. Refer to General Public Domain Controls within this Manual for more information on vehicular access, ramps to basements and security gates

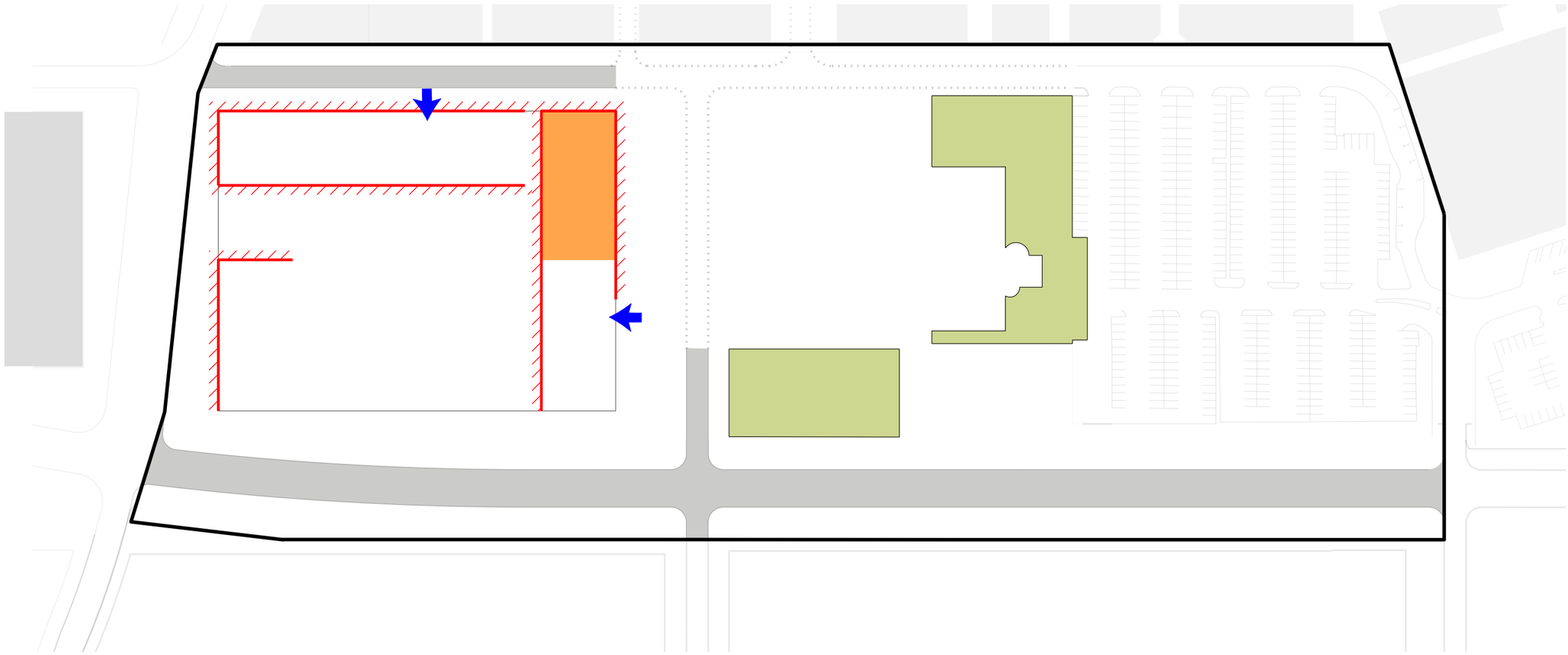
Awnings

1. Provide continuous awnings to street frontages where shown on the Public Domain Interface drawing (especially along Active Frontages)

2. Provide awnings with a minimum width of 2.7m (outside the building alignment) and a minimum soffit height of 3.6m

3. Ensure that awning heights and depths are continuous along the length of the street block and consistent with neighbouring sites

4. Provide under-awning lighting to create a safe environment



Public Open Space

Covered Open Space

Preferred Access Points

Proposed Street Network

Shared Streets

Awning

Civic Precinct Boundary

A08296 MCC 1:1500 @ A3
Civic Precinct - Public Interface

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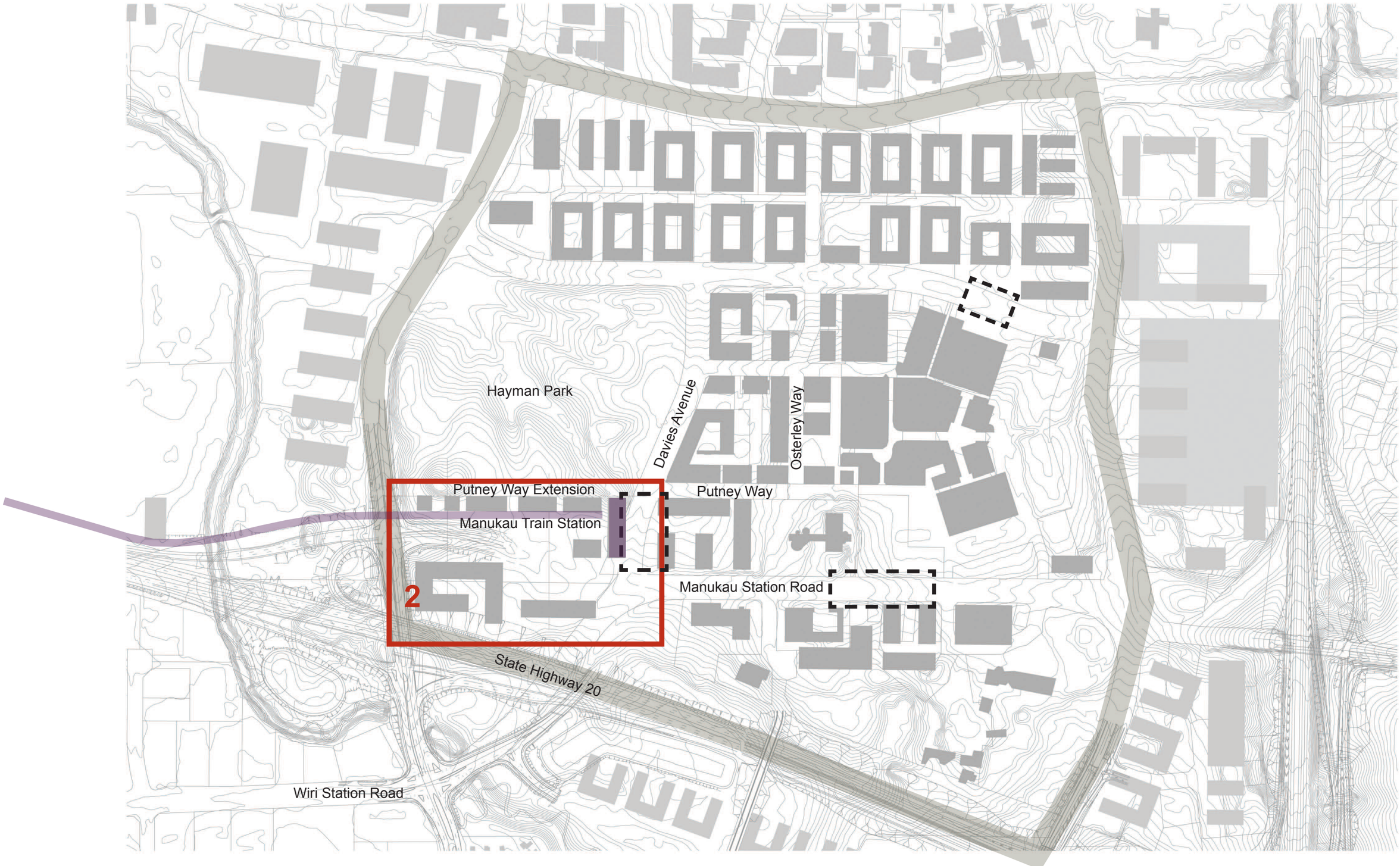

A08296 1:5000 @ A3
Campus Precinct Identification

PO BOX 91250 | Level 3, IBM Centre | Auckland
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Future Character

Character Statement

Development of the Campus Precinct signals the arrival of key regional transport infrastructure in the city centre. A rail line will link Manukau City Centre with the Auckland rail network and is to be developed in conjunction with a new train station, regional bus interchange and significant public open space, Manukau Station Square. Construction of the new SH20-1 Manukau Motorway Extension, with an interchange at Lambie Drive, will provide the city centre with direct access to/from Auckland Airport and the Western Ring Route.

The rail connection in particular will foster significant change, improving access, generating new business, creating opportunities for further investment and development, and lifting the city centre's regional identity and status.

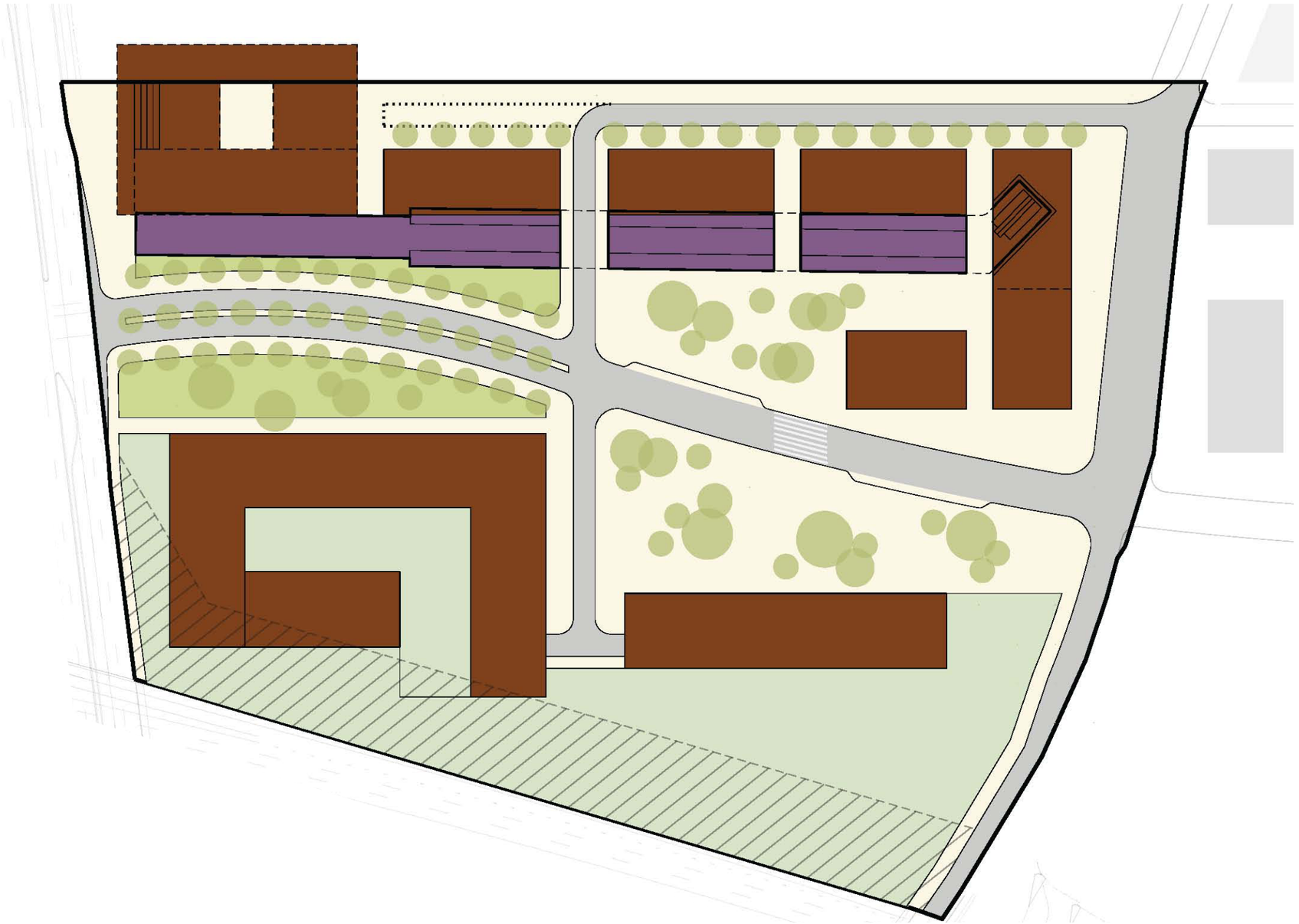
Manukau Train Station will form part of a major new tertiary campus planned for the precinct. This will activate the whole precinct and encourage movement elsewhere in the city centre. The built form of the campus is focused on Manukau Station Square and along the extension of Putney Way, which has been claimed from Hayman Park. Manukau Station Square includes both sides of Davies Ave and is defined by the alignment and height of built form adjoining this key urban space. The square becomes a regional public transport hub and the key interchange for the Hollyford to Ronwood Bus Corridor Route.

The extension of Putney Way as a public street regulates the urban expansion of the precinct and formalises the southern edge of Hayman Park. The new built form of the Campus will activate the park, dramatically increasing its public use and safety. The street also strengthens the city centre's relationship with the Puhinui Stream Corridor and foreshadows the future western expansion of the city centre beyond Lambie Drive. A new public open space, Putney Place, creates a key arrival gateway space at the junction of Putney Way with Lambie Drive, and especially welcomes the Te Ararora (The Long Pathway) Trail which is diverted from the Puhinui Stream Corridor through the city centre.

The Campus buildings are dissected by through-site links which cross over the rail trench. These open the precinct and Hayman Park to new development on the southern side of Manukau Station Road. A new public open space visually joins both sides of Manukau Station Road, allowing for 'kiss and ride' drop-off points and convenient access to the campus, train station and bus interchange. The space also signals a change in street type and character, with the arterial function of Lambie Drive giving way to the urban boulevard of Manukau Station Road.

Objectives

- To create a built form structure that corresponds to this Manual
- To ensure the built form provides a high quality interface with Davies Ave, Manukau Station Road, Putney Way Extension, Lambie Drive and SH20
- To ensure the precinct is highly permeable by providing multiple north-south links from Putney Way to Manukau Station Road
- To ensure that the scale and form of development contributes to the public domain and legibility of streets and open spaces
- To ensure that development on private land contributes to the provision of the public domain
- To accommodate a range of uses, including education, retail and residential, that complement the broader uses within the precinct and generate activity at ground level
- To provide a range of high quality public spaces
- To ensure that public spaces and streets are activated along their edges
- To create a safe, legible and accessible public domain that fosters a high quality shared city environment
- To encourage walking and cycling
- To strengthen the city centre's landscape character and connections, and highlight the Te Araroa Trail through the precinct
- To increase and diversify the native vegetation communities within the city centre
- To incorporate low impact urban design into the public domain in order to create spaces for human experience, raise awareness of naturally occurring processes and contribute significantly towards the amenity of the built environment and a sense of place



Building Footprints (indicative only)

Public Domain Paved Areas

Private / Semi Private Courtyard (indicative only)

Public Park and Landscape Areas

Manukau Train Station

Proposed Street Network

Shared Streets

Street Tree Planting

State Highway Designation

Campus Precinct Boundary

A08296 MCC 1:1500 @ A3
Campus Precinct - Future Character

NORTH

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Public Domain

The key public domain features of the Campus Precinct are:

- Manukau Station Square, a key destination place for rail and bus users arriving/departing the city centre, and students accessing the MIT Campus buildings
- Putney Way Extension, including its relationship to Hayman Park and connection to Lambie Drive
- Putney Place, a key arrival space in the city centre for pedestrians travelling from Lambie Drive, the Te Araroa Trail and Puhinui Stream Corridor; and vehicular traffic entering Manukau Station Road from SH20 and Lambie Drive
- Multiple north-south connections from Hayman Park and Putney Way Extension through to Manukau Station Rd

These public places will be the focus for people travelling, working, studying and socialising within the precinct. The character of these spaces contributes to the identity of the precinct as a major destination place within the city centre, as well as its urban quality and amenity.

New streets, improvements to existing streets and new public open spaces are to be provided. These will improve the legibility of transport services and arrival spaces in the city centre, increase access and permeability within the precinct, and encourage wider links and connections across the city centre. Development of an active edge on the south side of Hayman Park becomes a feature of the city centre and contributes significantly towards a safer and more usable park.

The Public Domain Manual has been provided to ensure the coordination, design and delivery of these elements. Please refer to the Manukau City Centre Public Domain Technical Manual for a detailed description of construction and management details.

Controls

Public Open Space

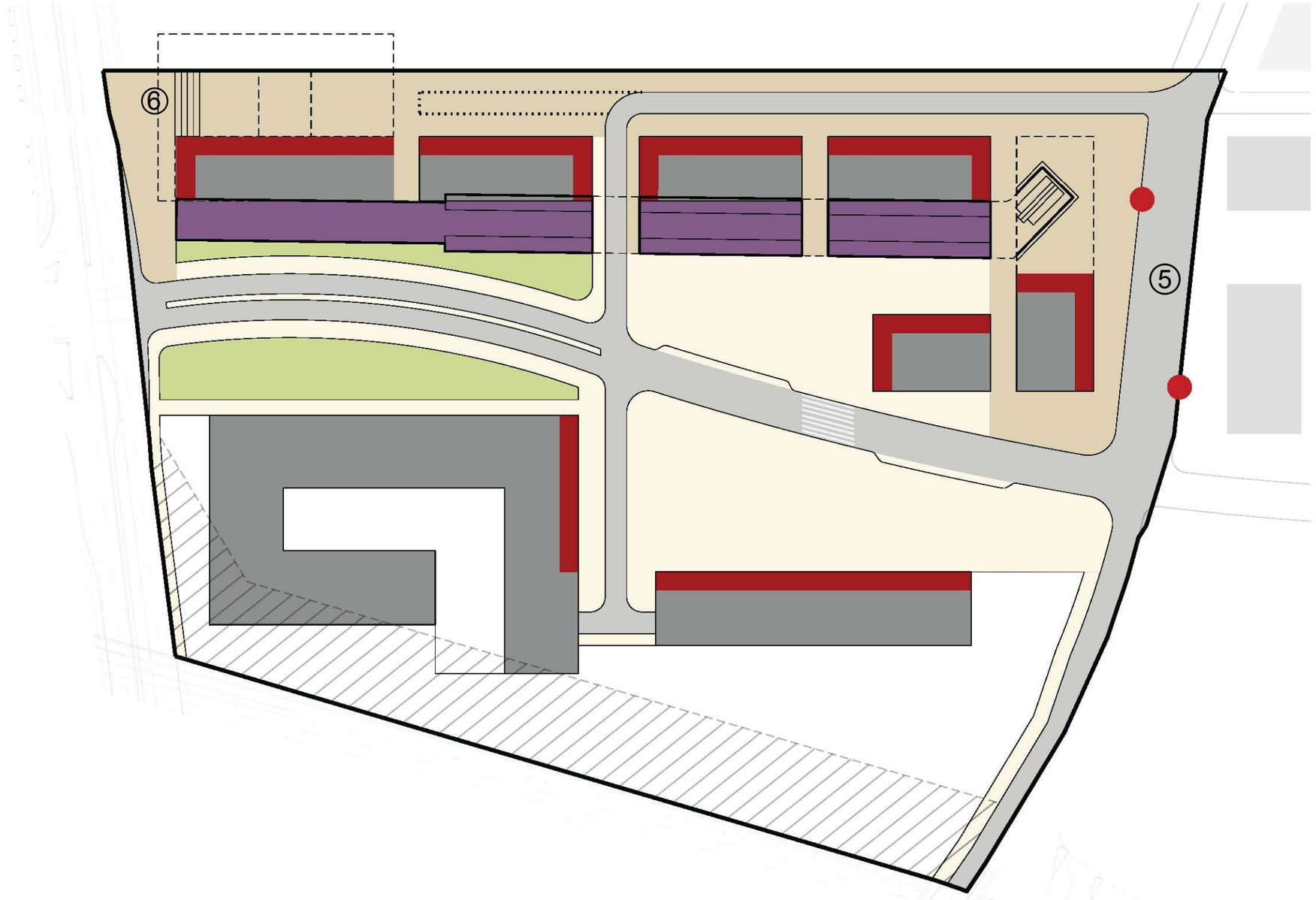
1. New public open spaces are to be provided where shown in the Campus Precinct Public Domain drawing
2. Public open spaces are to be designed in accordance with the Public Open Space Section of this Manual and in accordance with the details shown the Technical Manual
3. Public open spaces are to be vested in Council. Where a publicly accessible private open space is proposed Manukau City Council must be consulted at an early stage of the design process and thereafter through to implementation
4. Public footpaths are to be provided where shown in the Public Domain drawing. The footpaths should be designed in accordance with details shown in the Technical Manual

Streets

1. Streets shall be designed in accordance with the Streets Section of this Manual and in accordance with the details shown in the Technical Manual
2. Active Frontages are to be provided where shown in the Public Domain drawing. Refer to the General Public Domain Controls Section for further information on Active Frontage controls
3. Refer to the General Public Domain Controls Section for further information on pavement retail/public seating places. Public seating should be designed in accordance with the Technical Manual
4. Shared Streets are to be provided at locations indicated on the Public Domain drawing, in accordance with the Streets Section of this Manual, and the details shown in the Technical Manual

Pedestrian Through-Site Links

1. Pedestrian through-site links are to be provided where shown on the Public Domain drawing
2. Refer to General Public Domain Controls Section for controls relating to pedestrian through-site links



Building Footprints (indicative only)

Active Frontage

Civic Streetscape

Public Open Space

Public Footpath

Manukau Train Station

⑤ Manukau Station Square

⑥ Putney Place

Shared Street

Proposed Street Network

Bus Stop (indicative location)

State Highway Designation

Campus Precinct Boundary

A08296 MCC 1:1500 @ A3
Campus Precinct - Public Domain

NORTH

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Building Zone and Alignment

The building zone is an area within which buildings can occur on the site. The building zone for each site is determined by a combination of cadastral boundaries, street setbacks and other defined build-to lines.

The extent of the building zone that can be occupied by buildings will be determined through a future Plan Change for the City Centre which will include new development controls.

Alignment controls are necessary to ensure a spatial consistency for the precinct in the context of irregular and unaligned streets and property boundaries.

Controls

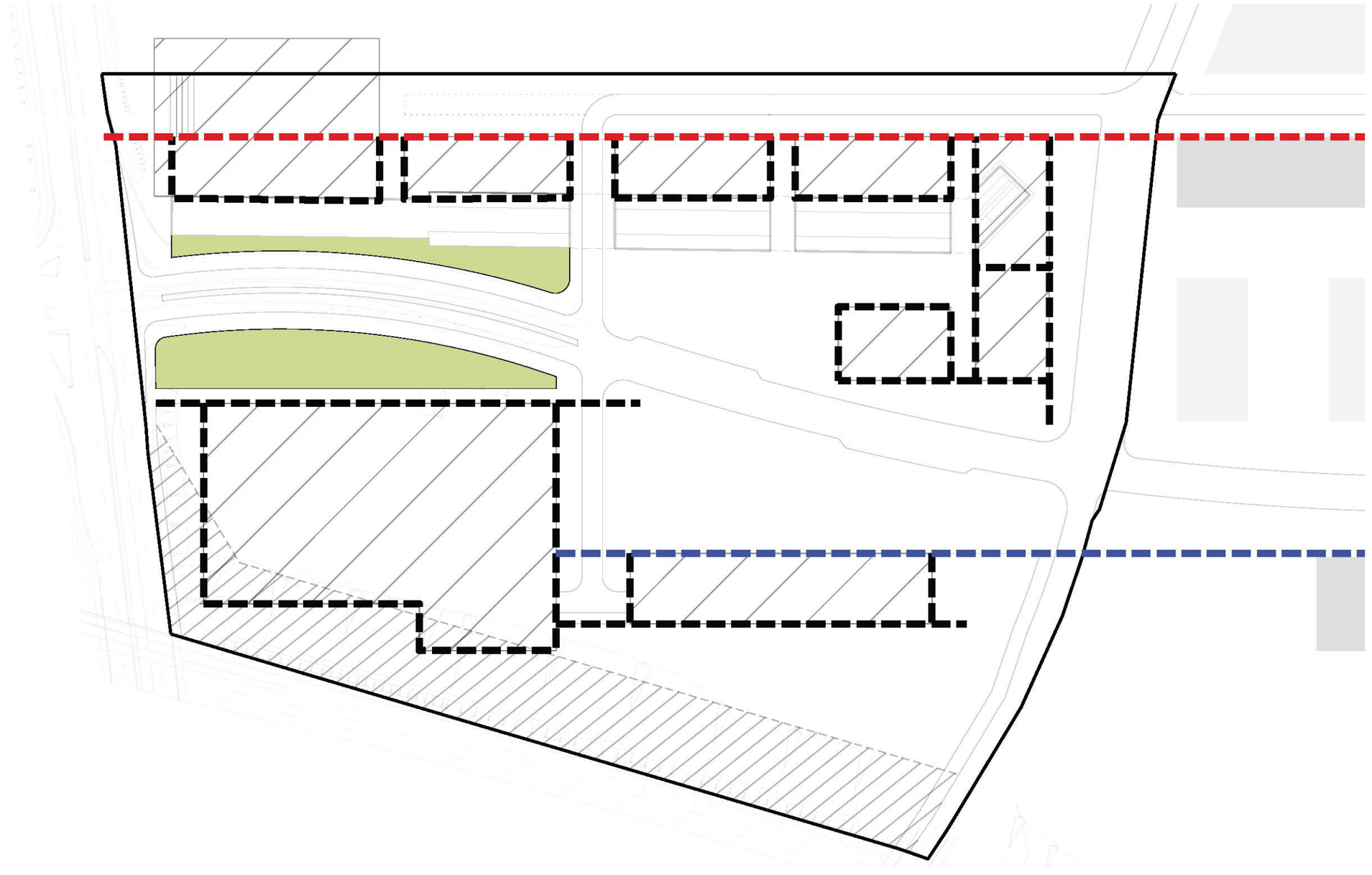
1. Ensure that the building alignments shown in the Campus Precinct Building Zone and Alignment drawing are provided

2. Provide the building alignment along the cadastral boundary as shown in the Building Zone and Alignment drawing. This boundary is an extension of the existing cadastral grid along Putney Way and has the same alignment as the cadastral boundary for the Civic Precinct

3. Provide setback lines as shown in the Building Zone and Alignment drawing. The setback line of Manukau Station Road is parallel to the City Centre Cadastral Grid (e.g. Amersham Way/Putney Way) and is the same alignment as the setback line for the Justice Precinct

4. Provide build-to lines as shown in the Building Zone and Alignment drawing. The north-south build-to lines of the Campus/Manukau Train Station building adjoining Manuaku Station Square is parallel with the build-to alignment of the other side of the square (see the Civic Precinct Building Zone and Alignment drawing)

5. Underground parking is not permitted to encroach into the setback areas or outside of the building zones unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting



Public Open Space

Building Zone

Cadastral Boundary Alignment (0m setback)

Setback Alignment

Build-to-alignment

Campus Precinct Boundary

A08296 MCC 1:1500 @ A3
Campus Precinct - Building zone and alignment

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Public Domain Interface

Specific interface between the public domain and the buildings within the Campus Precinct are required to achieve consistency within the Precinct and to reinforce the desired public domain character. The character of the public domain is determined by the design and consistency of the building edges, public space design and the continuity of the built form interface relative to driveways and vehicular crossings.

Controls

Vehicular access + Parking

1. Driveways and vehicular crossings are not preferred along Davies Ave, Putney Way Extension or Manukau Station Road

2. Entrances to underground carparking are preferred on secondary streets in the locations shown in the Public Domain Interface drawing

3. Accessways and driveways are to avoid adverse impact on the visual quality of the streetscape; where they occur priority is to be given to the pedestrian surface on all footpaths (in terms of kerbing, horizontal alignment and surface materials)

4. Refer to General Public Domain Controls within this Manual for more information on vehicular access, ramps to basements and security gates

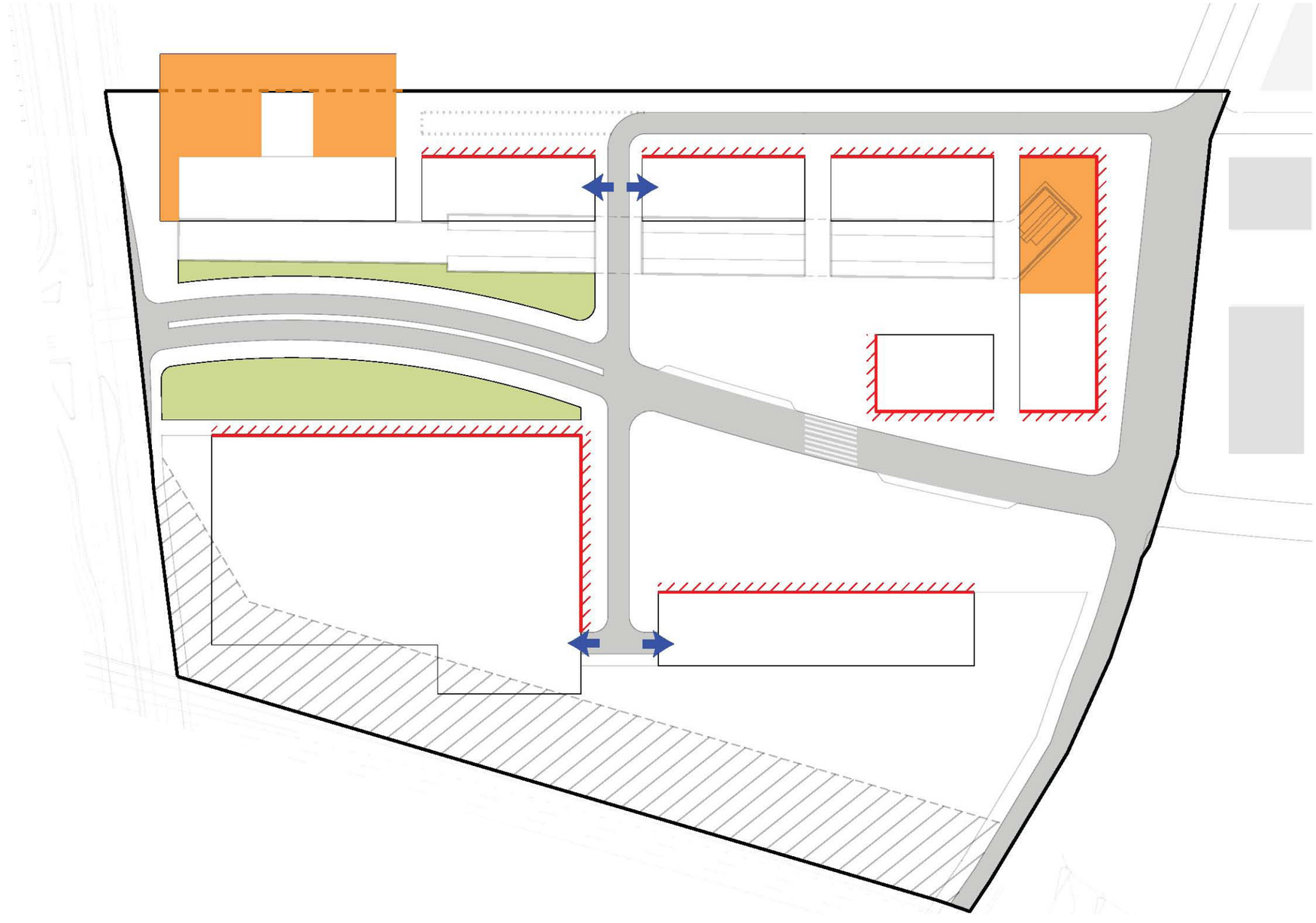
Awnings

1. Provide continuous awnings to street frontages where shown in the Public Domain Interface drawing (especially along Active Frontages)

2. Provide awnings with a minimum width of 2.7m (outside the building alignment) and a minimum soffit height of 3.6m

3. Ensure that awning heights and depths are continuous along the length of the street block and consistent with neighbouring sites

4. Provide under-awning lighting to create a safe environment



Public Open Space

Covered Open Space

Preferred Access Points

Proposed Street Network

Shared Streets

Awning

Campus Precinct Boundary

A08296 MCC 1:1500 @ A3
Campus Precinct - Public Interface

NORTH

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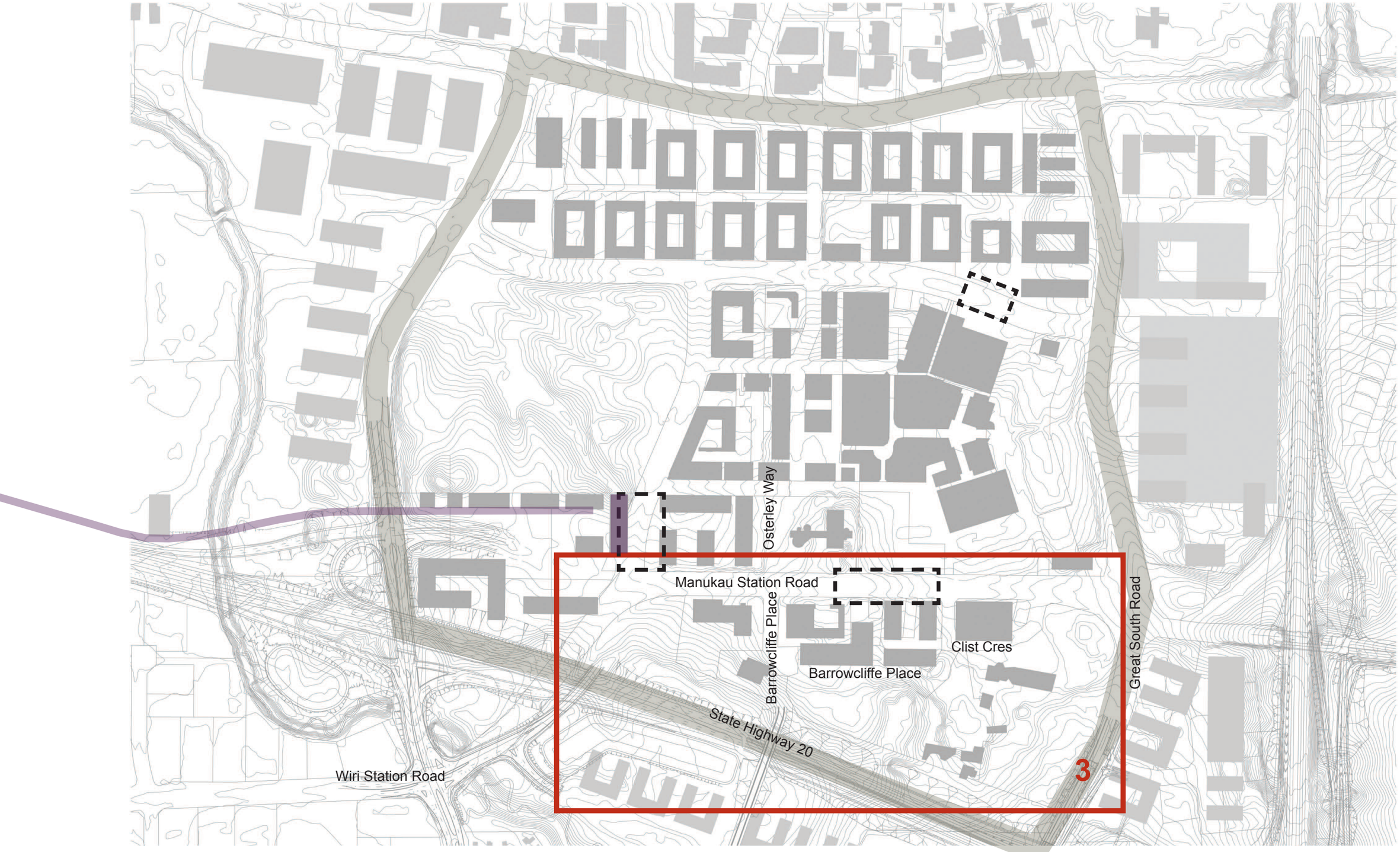


A08296 1:5000 @ A3
Justice Precinct Identification

PO BOX 91250 | Level 3, IBM Centre | Auckland
www.boffamiskell.co.nz

Future Character

Character Statement

Development of the Justice Precinct conforms to the precinct's alignment with Manukau Station Road and the ridgeline it runs along. Manukau Station Road forms the backbone to the precinct and is an important east-west connector across the city centre. The street is transformed into a tree-lined boulevard accommodating through-traffic as well as the Hollyford to Ronwood Bus Corridor Route. Its re-organisation also makes generous provision for the high numbers of pedestrians using the bus service, as well as those moving along the street between Manukau District Court, Rainbows End and the Westfield Shopping Centre.

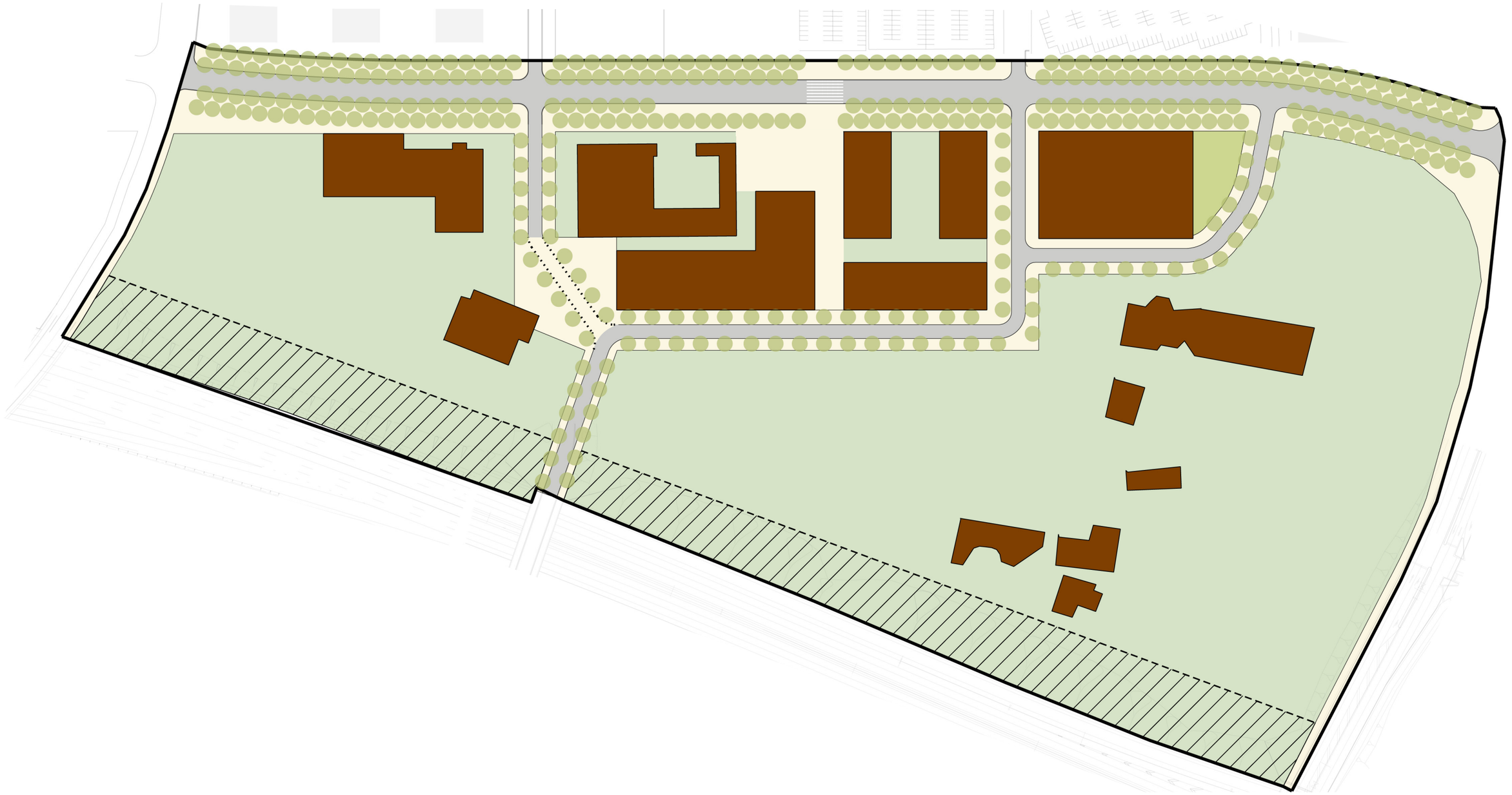
The bus stop half way along both sides of Manukau Station Road is the focus for most pedestrian activity in the precinct. A new public open space (Wiri Place) and a new pedestrian crossing are positioned here to facilitate movement across the busy street and behind to Barrowcliffe Place and Rainbows End. This strong desire line will likely structure the future development of land north of Manukau Station Road to connect the Justice Precinct with the southern entrance of the shopping centre. Wiri Place will also provide a public open space forecourt to the expanded District Court complex, inviting and gathering people into this area for greater sociability and comfort.

The city centre's key north-south urban spine has been extended beyond Manukau Station Road to link with the residential communities on the southern side of SH20. An important public gateway space to the city centre has been created at Barrowcliffe Place, welcoming these outside linkages as well as the Te Araroa Trail into the city centre.

The national walking route is diverted from the Puhinui Stream Corridor to experience and celebrate the region's intersection of natural and urban networks. The trail follows Osterley Way into Civic Square, the heart of the city centre, before heading west along Putney Way to reunite with the Puhinui Stream beyond Lambie Drive. Native trees associated with the restored stream corridor are planted along the route, attracting birdlife and fostering greater biodiversity within the city centre.

Objectives

- To create a built form structure that corresponds to this Manual
- To ensure the built form provides a high quality interface with Manukau Station Road, Barrowcliff Place and Clist Crescent
- To ensure the precinct is highly permeable by providing multiple north-south links from Manukau Station Road to Barrowcliffe Place
- To ensure that the scale and form of development contributes to the public domain and legibility of streets and open spaces
- To ensure that development on private land contributes to the provision of the public domain
- To accommodate a range of uses, including retail and residential, that complement the broader uses within the precinct and generate activity at ground level
- To provide a range of high quality public spaces
- To ensure that public spaces and streets are activated along their edges
- To create a safe, legible and accessible public domain that fosters a high quality shared city environment
- To encourage walking and cycling
- To strengthen the city centre's landscape character and connections, and highlight the Te Araroa Trail through the precinct
- To increase and diversify the native vegetation communities within the city centre
- To incorporate low impact urban design into the public domain in order to create spaces for human experience, raise awareness of naturally occurring processes and contribute significantly towards the amenity of the built environment and a sense of place



Building Footprints (indicative only)

Public Domain Paved Areas

Private / Semi Private Courtyard (indicative only)

State Highway Designation

Proposed Street Network

Shared Streets

Street Tree Planting

Justice Precinct Boundary

A08296 MCC 1:2000 @ A3
Justice Precinct - Future Character

NORTH

PO BOX 91250 | Level 3, IBM Centre | Auckland
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Public Domain

The key public domain features of the Justice Precinct are:

- Manukau Station Road, a key east-west connection across the city centre and a major public open space in its own right
- Wiri Place, a key public space within the city centre for those people using the Hollyford to Ronwood Bus Corridor Route and Manukau District Court
- Barrowcliff Place, a public open space and shared street for vehicles and pedestrians, which defines the entrance to the city centre from Ratavine and other communities south of SH20. Barrowcliff Place also welcomes those walking the Te Araroa Trail which is diverted from the Puhinui Stream Corridor through the city centre
- North-south pedestrian linkages through the precinct connecting Manukau Station Road to Rainbows End and Ratavine

These public spaces will be the focus for people working in and visiting the Justice Precinct. The character of these spaces contributes to the identity and amenity of the precinct, as well as its urban quality.

New streets, improvements to existing streets and new public open spaces are to be provided. These will improve access and permeability within the precinct and across the city centre (especially between Westfield Shopping Centre and Manukau District Court). Key north-south and east-west streets are strengthened with planting and generous provision is made for pedestrian movement. New public open spaces and active frontages concentrate people in appropriate places, fostering social well-being and public safety.

The Public Domain Manual has been prepared to ensure the coordination, design and delivery of these elements. Please refer also to the Technical Manual for detailed description of construction and management details.

Controls

Public Open Space

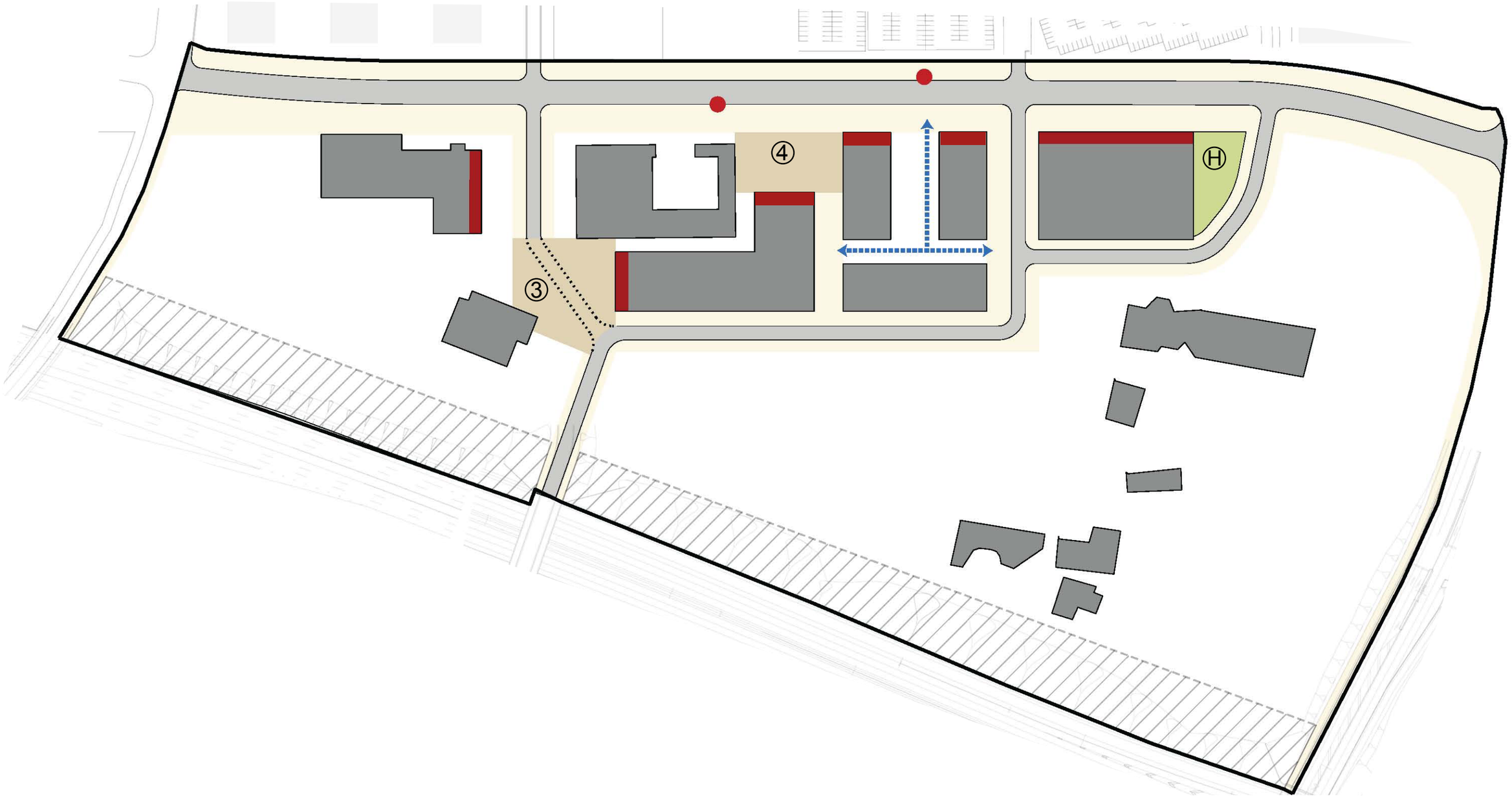
1. New public open spaces are to be provided where shown in the Justice Precinct Public Domain drawing
2. Public open spaces are to be designed in accordance with the Public Open Space Section of this Manual and the details shown in the Technical Manual
3. Public open spaces are to be vested in Council. Where a publicly accessible private open space is proposed, Manukau City Council must be consulted at an early stage of the design process and thereafter through to implementation
4. Public footpaths are to be provided where shown in the Public Domain drawing. The footpaths should be designed in accordance with details shown in the Technical Manual

Streets

1. Streets shall be designed in accordance with the Streets Section and in accordance with the details shown in the Technical Manual
2. Active Frontages are to be provided where shown in the Public Domain drawing. Refer to the General Public Domain Controls Section for further information on Active Frontage controls
3. Refer to the General Public Domain Controls Section for further information on pavement retail and public seating places. Public seating should be designed in accordance with the Technical Manual
4. Shared Streets are to be provided at locations indicated on the Public Domain drawing, in accordance with the Streets Section of this Manual, and the details shown in the Technical Manual

Pedestrian Through-Site Links

1. Pedestrian through-site links are to be provided where shown on the Public Domain drawing
2. Refer to the General Public Domain Controls Section for controls relating to pedestrian through-site links



Building Footprints (indicative only)

Active Frontage

Civic Streetscape

Public Open Space

Public Footpath

③ Barrowcliffe Place

④ Wiri Place

Ⓗ Heritage Site Cemetery

Pedestrian Through Site Link

Shared Street

Proposed Street Network

Bus Stop (indicative location)

Justice Precinct Boundary

A08296 MCC 1:2000 @ A3
Justice Precinct - Public Domain

NORTH

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Building zone and alignment

The building zone is an area within which buildings can occur on the site. The building zone for each site is determined by a combination of cadastral boundaries, street setbacks and other defined build-to lines.

The extent of the building zone that can be occupied by buildings will be determined through a future Plan Change for the City Centre which will include new development controls.

Alignment controls are necessary to ensure a spatial consistency for the precinct in the context of irregular and unaligned streets and property boundaries.

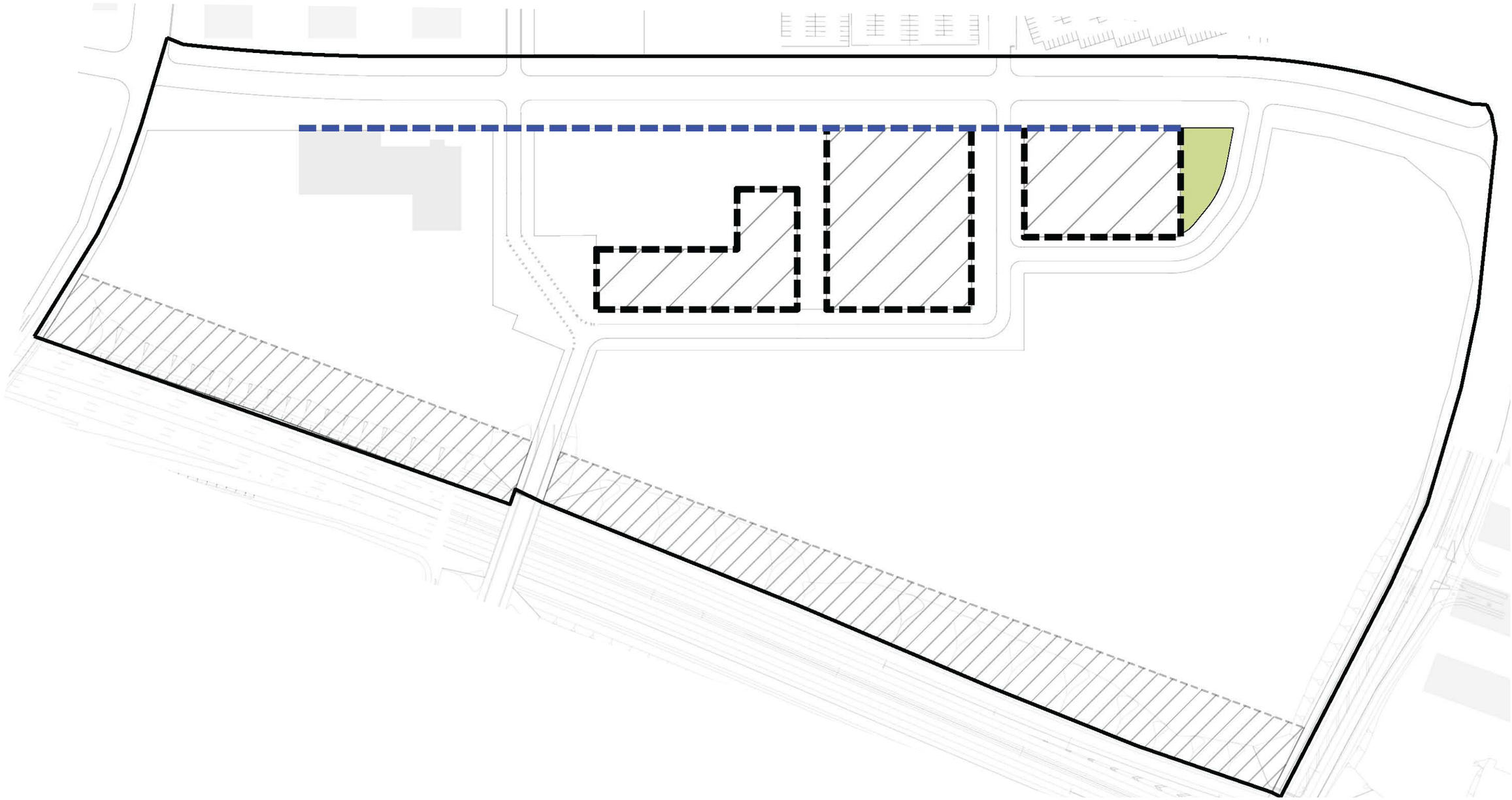
Controls

1. Ensure that the building alignments shown in the Justice Precinct Building Zone and Alignment drawing are provided

2. Provide setback lines as shown in the Building Zone and Alignment drawing. The setback line on Manukau Station Road is parallel to the City Centre Cadastral Grid (e.g. Putney Way/Amersham Way)

3. Provide build-to lines as shown in the Building Zone and Alignment drawing. The north-south build-to lines partly relate to establishing future building alignments for the land immediately north of Manukau Station Road currently used for carparking

4. Underground parking is not permitted to encroach into the setback areas or outside of the building zones unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting



Public Open Space

Building Zone

Setback Alignment

Build-to-alignment

Justice Precinct Boundary

A08296 MCC 1:2000 @ A3
Justice Precinct - Building zone and alignment

NORTH

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Public Domain Interface

Specific street frontage treatments are required in order to achieve consistency within and around the precinct, and to reinforce the desired streetscape character. The character of a streetscape is determined by the design and consistency of the building edges, and the continuity of the built form interface relative to driveways and vehicular crossings.

Controls

Vehicular access + Parking

1. Driveways and vehicular crossings are not preferred along Manuaku Station Road

2. Entrances to underground carparking are preferred on secondary streets in the locations shown in the Justice Precinct Public Domain Interface drawing

3. Accessways and driveways are to avoid adverse impact on the visual quality of the streetscape; where they occur priority is to be given to the pedestrian surface on all footpaths (in terms of kerbing, horizontal alignment and surface materials)

4. Refer to the General Public Domain Controls within this Manual for more information on vehicular access, ramps to basements and security gates

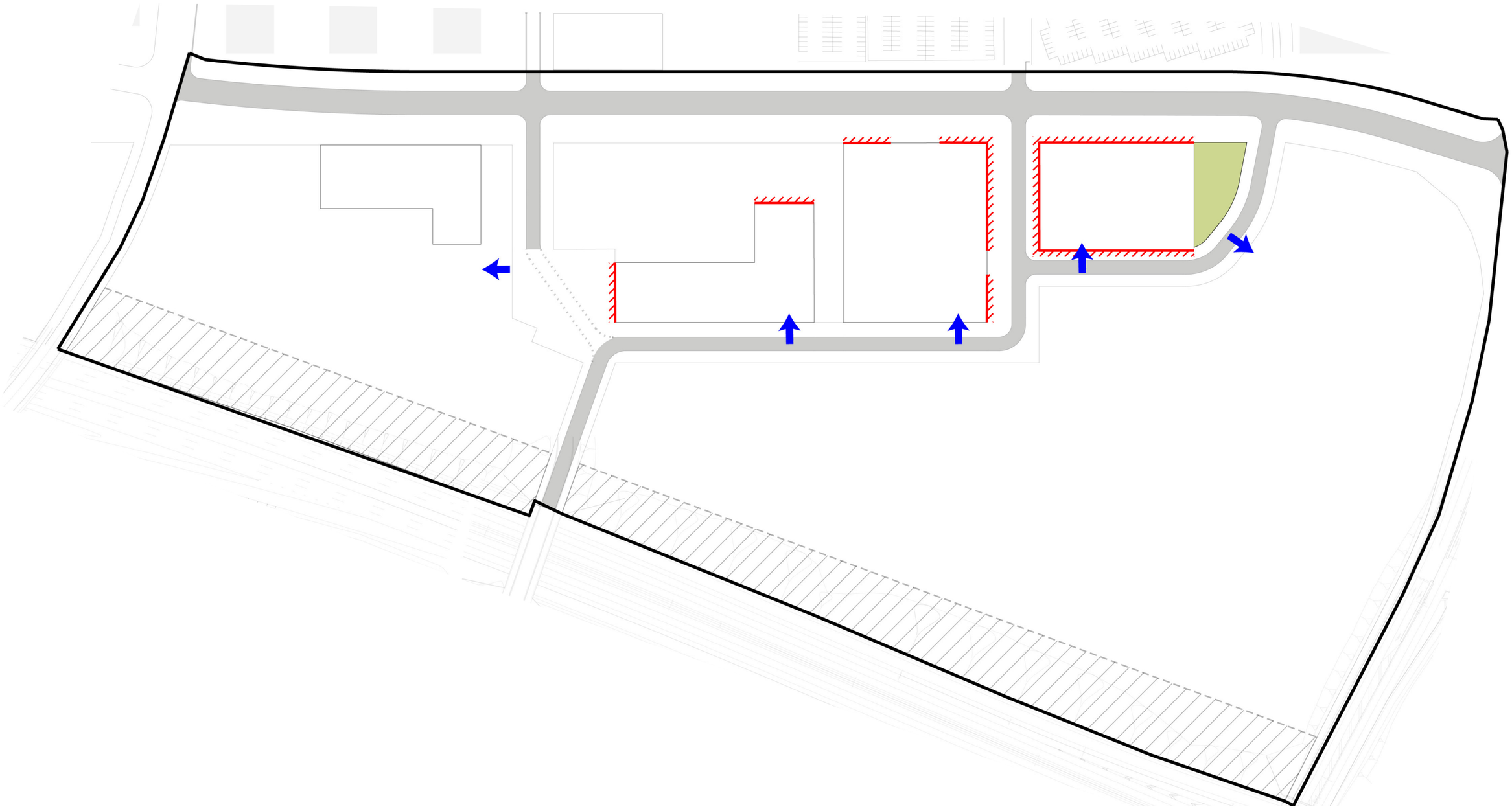
Awnings

1. Provide continuous awnings to street frontages where shown on the Public Domain Interface drawing (especially along Active Frontages)

2. Provide awnings with a minimum width of 2.7m (outside the building alignment) and a minimum soffit height of 3.6m

3. Ensure that awning heights and depths are continuous along the length of the street block and consistent with neighbouring sites

4. Provide under-awning lighting to create a safe environment



Public Open Space

Preferred Access Points

Proposed Street Network

Shared Streets

Awning

Justice Precinct Boundary

A08296 MCC 1:2000 @ A3
Justice Precinct - Public Interface

NORTH

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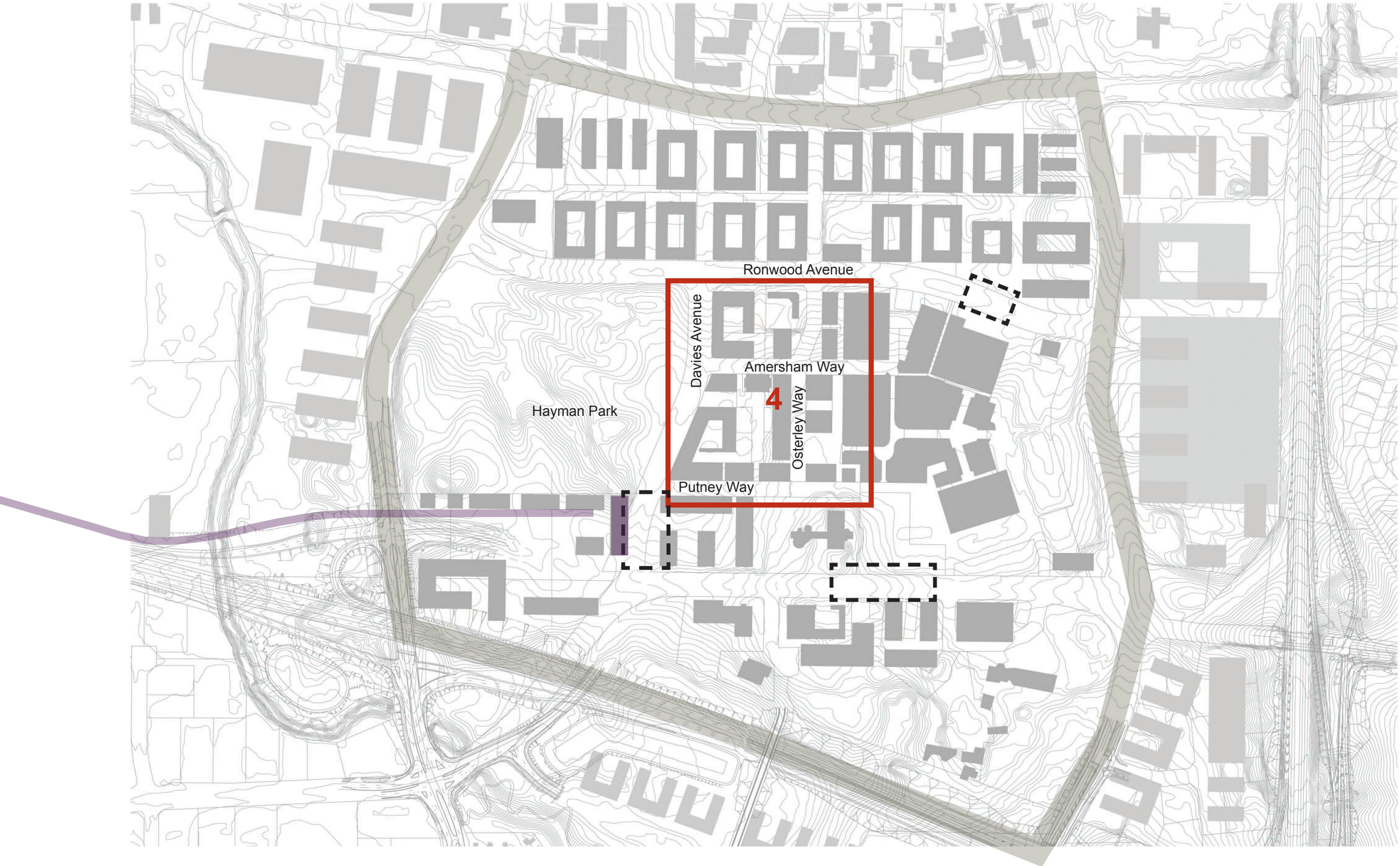

A08296 1:5000 @ A3
Davies Precinct Identification

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Future Character

Character Statement

Development of the Davies Precinct will consolidate its existing urban structure and strengthen its position at the core of the city centre. The interface with other precincts will be enhanced and make for a more accessible and permeable city centre. Development will also contribute an important residential component and a neighbourhood character. Both the precinct and the city centre will become a more attractive and liveable place as a result.

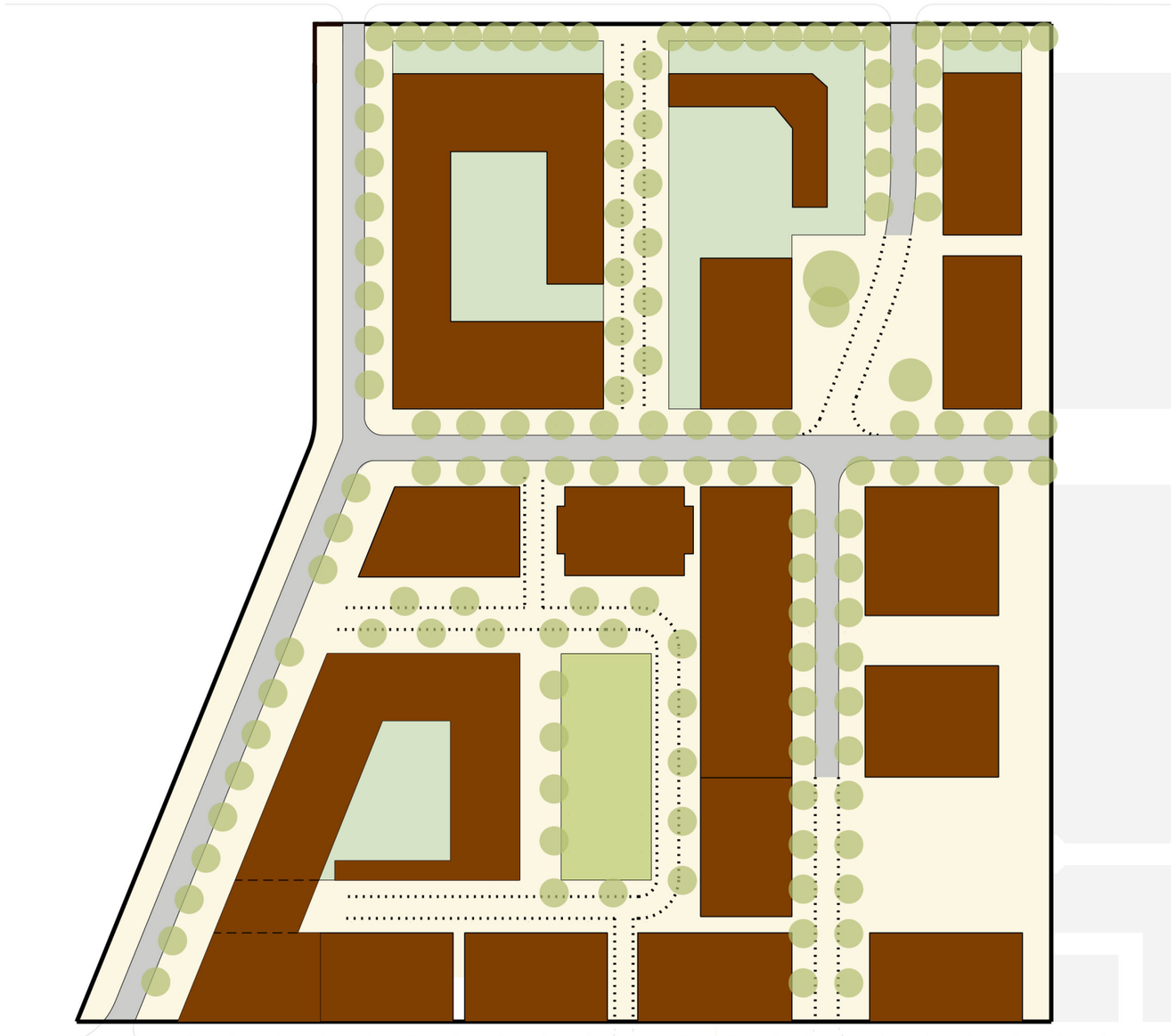
The Davies Precinct is more clearly defined along its edges by consistent building heights and alignments, and treatment of its streetscapes. Osterley Way is strengthened as the major north-south urban spine running through the precinct, whilst Davies Ave will gain a special dimension due to a more sociable and active interface with Hayman Park.

A more active programme for Manukau Plaza and the buildings surrounding it will allow better integration of Westfield Shopping Centre with the public domain. The plaza's potential provision of features such as children's playground and café/s with pavement retail will draw the livelihood and pedestrian activity of the Shopping Centre into the public open space outside of it.

New development is concentrated along Davies Ave and in particular the south-western quadrant. Its intensification substantially increases commercial and residential accommodation in the city centre while its proximity to Hayman Park offers an ideal work/living environment. The re-developed quadrant is also notable for creating an internal courtyard arrangement of buildings and shared streets focused around a small public open space. These 'slow-space' attributes, together with narrow through-site links, combine to make an intimate and communal environment for those people/families residing here.

Objectives

- To create a built form structure that corresponds to this Manual
- To ensure the built form provides a high quality interface with Ronwood Ave, Osterley Way, Putney Way and Davies Ave
- To ensure the precinct is highly permeable by providing multiple north-south links from Ronwood Avenue to Putney Way and east-west through-site links from Manuaku Plaza to Davies Ave
- To ensure that the scale and form of development contributes to the public domain and legibility of streets and open spaces
- To ensure that development on private land contributes to the provision of the public domain
- To accommodate a range of uses, including retail and residential, that complement the broader uses within the precinct and generate activity at ground level
- To provide a range of high quality public spaces
- To ensure that public spaces and streets are activated along their edges
- To create a safe, legible and accessible public domain that fosters a high quality shared city environment
- To encourage walking and cycling
- To strengthen the city centre's landscape character and connections
- To increase and diversify the native vegetation communities within the city centre
- To incorporate low impact urban design into the public domain in order to create spaces for human experience, raise awareness of naturally occurring processes and contribute significantly towards the amenity of the built environment and a sense of place



Building Footprints (indicative only)

Public Domain Paved Areas

Private / Semi Private Courtyard (indicative only)

Public Park and Landscape Areas

Proposed Street Network

Shared Streets

Street Tree Planting

Davies Precinct Boundary

A08296 MCC 1:1500 @ A3
Davies Precinct - Future Character

NORTH

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Public Domain

The key public domain features of the Davies Precinct are:

- Manukau Plaza, which includes a portion of Osterley Way as a shared street for vehicles and pedestrians
- A public open space at the intersection of Osterley Way with Amersham Way, which includes a shared street for vehicles and pedestrians
- North–south streets from Putney Way to Ronwood Avenue
- Pedestrian through-site links from Westfield Shopping Centre to Hayman Park
- A continuous active edge along Davies Ave adjacent to Hayman Park
- A neighbourhood park within the south-west quadrant

These public spaces will be the focus for people working, visiting and living in the Davies Precinct. The character of these spaces contributes to the identity and amenity of the precinct, as well as its urban quality.

New streets, improvements to existing streets and new public open spaces are to be provided. These will improve access and permeability within and across the precinct, strengthen the key north-south urban spine, and contribute to a neighbourhood character. Active frontages around the perimeter of the precinct, as well as along Osterley Way, will stimulate pedestrian activity at ground level, fostering social and economic well-being. Development of the active edge along the Davies Ave/Hayman Park interface becomes a feature of the city centre.

The Public Domain Manual has been prepared to ensure the coordination, design and delivery of these elements. Please refer also to the Technical Manual for detailed description of construction and management details.

Controls

Public Open Space

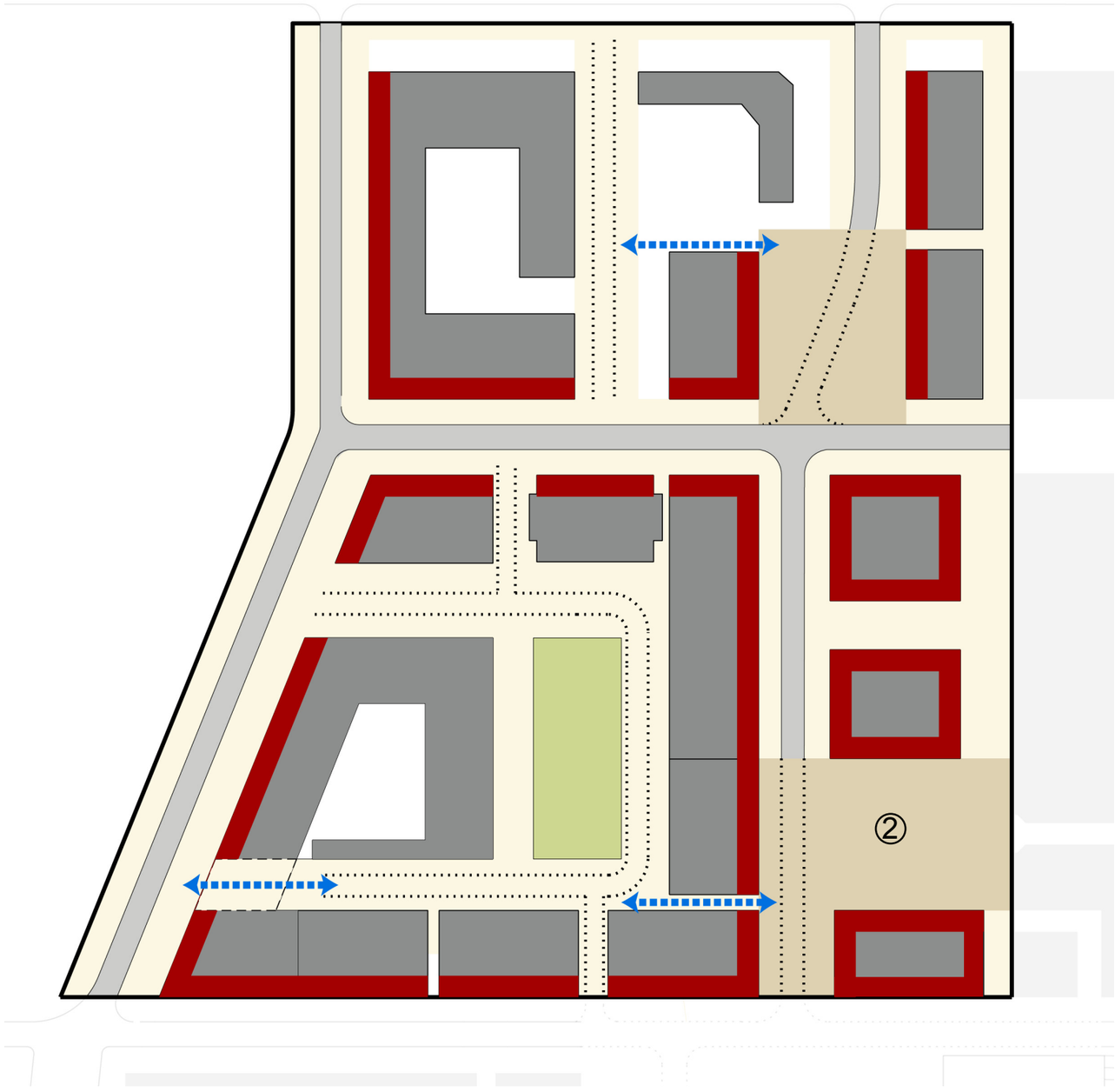
1. New public open spaces are to be provided where shown in the Davies Precinct Public Domain drawing
2. Public open spaces are to be designed in accordance with the Public Open Space Section of this Manual and in accordance with the details shown the Technical Manual
3. Public open spaces are to be vested in Council. Where a publicly accessible private open space is proposed Manukau City Council must be consulted at an early stage of the design process and thereafter through to implementation
4. Public footpaths are to be provided where shown in the Public Domain drawing. The footpaths should be designed in accordance with details shown in the Technical Manual

Streets

1. Streets shall be designed in accordance with the Streets Section of this Manual and in accordance with the details shown in the Technical Manual
2. Active Frontages are to be provided where shown in the Public Domain drawing. Refer to the General Public Domain Controls Section for further information on Active Frontage controls
3. Refer to the General Public Domain Controls Section for further information on pavement retail and public seating places. Public seating should be designed in accordance with the Technical Manual
4. Shared Streets are to be provided at locations indicated on the Public Domain drawing, in accordance with the Streets Section of this Manual, and the details shown in the Technical Manual

Pedestrian Through-Site Links

1. Pedestrian through-site links are to be provided where shown on the Public Domain drawing
2. Refer to General Public Domain Controls Section for controls relating to pedestrian through-site links



Building Footprints (indicative only)

Active Frontage

Civic Streetscape

Public Open Space

Public Footpath

② Manukau Plaza

Pedestrian Through Site Link

Shared Street

Proposed Street Network

Davies Precinct Boundary

A08296 MCC 1:1500 @ A3
Davies Precinct - Public Domain

NORTH

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Building zone and alignment

The building zone is an area within which buildings can occur on the site. The building zone for each site is determined by a combination of cadastral boundaries, street setbacks and other defined build-to lines.

The extent of the building zone that can be occupied by buildings will be determined through a future Plan Change for the City Centre which will include new development controls.

Alignment controls are necessary to ensure a spatial consistency for the precinct in the context of irregular and unaligned streets and property boundaries.

Controls

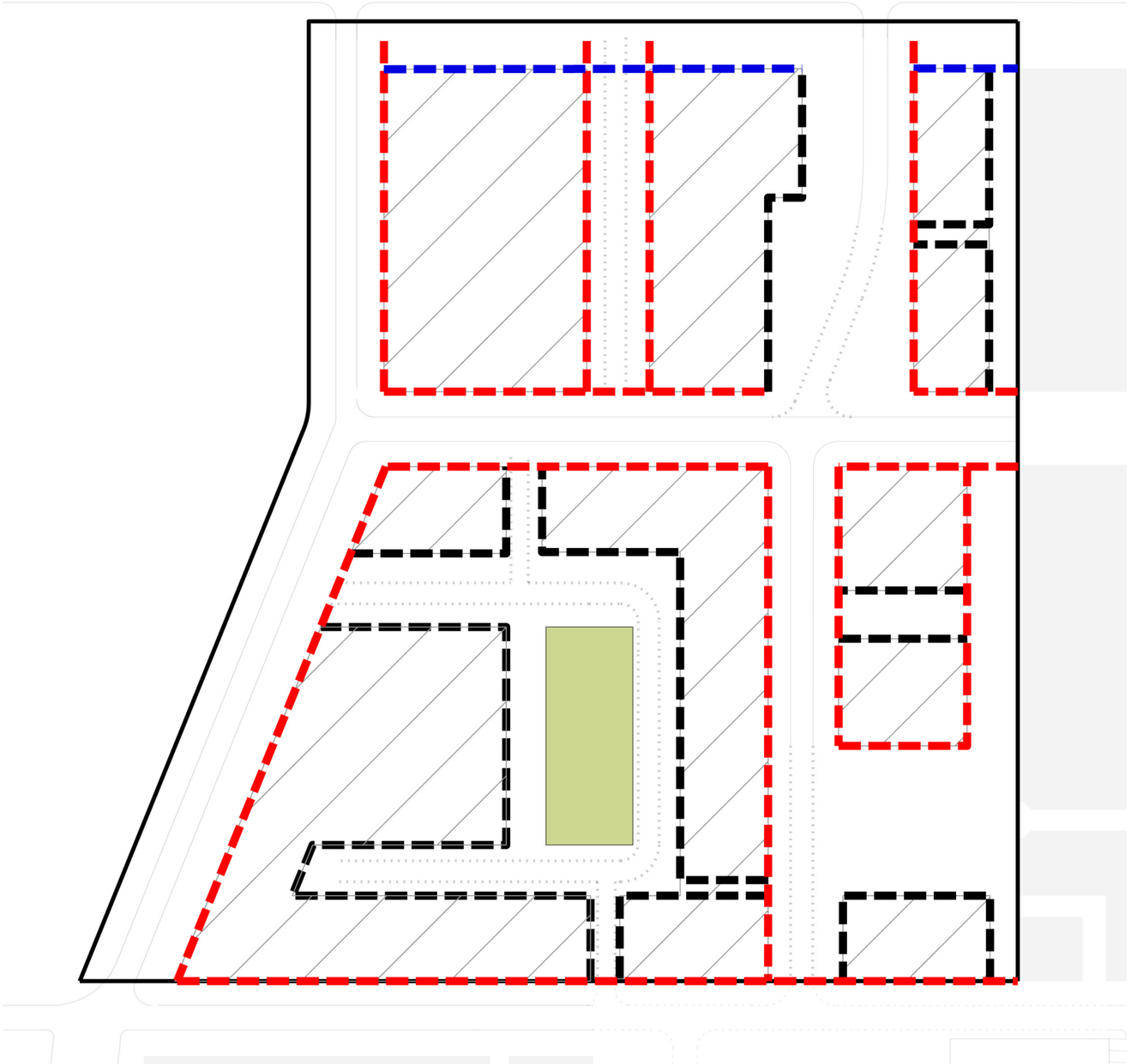
1. Ensure that the building alignments shown in the Davies Precinct Building Zone and Alignment drawing are provided

2. Provide building alignments along the cadastral boundaries as shown in the Building Zone and Alignment drawing. These cadastral boundaries reflect the existing cadastral grid along Davies Ave, Amersham Way, Putney Way, Osterley Way, Karoro Ct, Manukau Plaza and Putney Way

3. Provide setback lines as shown in the Building Zone and Alignment drawing. The setback line of Ronwood Ave is parallel to the City Centre Cadastral Grid (e.g. Amersham Way/Putney Way).

4. Provide build-to lines as shown in the Building Zone and Alignment drawing.

5. Underground parking is not permitted to encroach into the setback areas or outside of the building zones unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting



Public Open Space

Building Zone

Cadastral Boundary Alignment (0m setback)

Setback Alignment

Build-to-alignment

Davies Precinct Boundary

A08296 MCC 1:1500 @ A3

Davies Precinct - Building zone and

NORTH

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Public Domain Interface

Specific street frontage treatments are required in order to achieve consistency within and around the precinct, and to reinforce the desired streetscape character. The character of a streetscape is determined by the design and consistency of the building edges, and the continuity of the built form interface relative to driveways and vehicular crossings.

Controls

Vehicular access + Parking

1. Driveways and vehicular crossings are not preferred along Davies Avenue, Ronwood Avenue or Osterley Way

2. Entrances to underground carparking are preferred on secondary streets in the locations shown in the Public Domain Interface drawing

3. Accessways and driveways are to avoid adverse impact on the visual quality of the streetscape; where they occur priority is to be given to the pedestrian surface on all footpaths (in terms of kerbing, horizontal alignment and surface materials)

4. Refer to General Public Domain Controls within this Manual for more information on vehicular access, ramps to basements and security gates

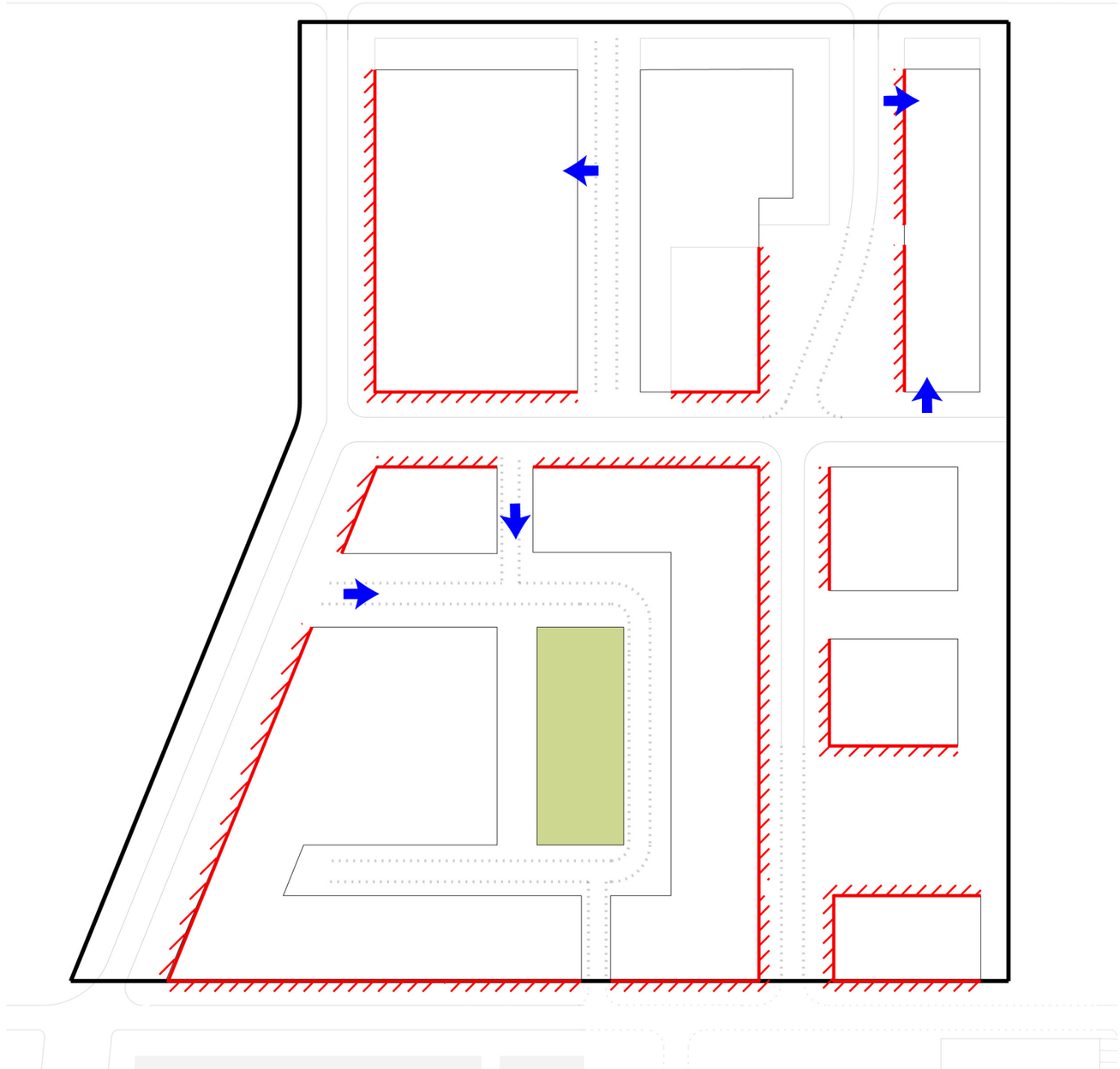
Awnings

1. Provide continuous awnings to street frontages where shown in the Public Domain Interface drawing (especially along Active Frontages)

2. Provide awnings with a minimum width of 2.7m (outside the building alignment) and a minimum soffit height of 3.6m

3. Ensure that awning heights and depths are continuous along the length of the street block and consistent with neighbouring sites

4. Provide under-awning lighting to create a safe environment



Public Open Space

Preferred Access Points

Proposed Street Network

Shared Streets

Awning

Davies Precinct Boundary

A08296 MCC 1:1500 @ A3
Davies Precinct - Public Interface

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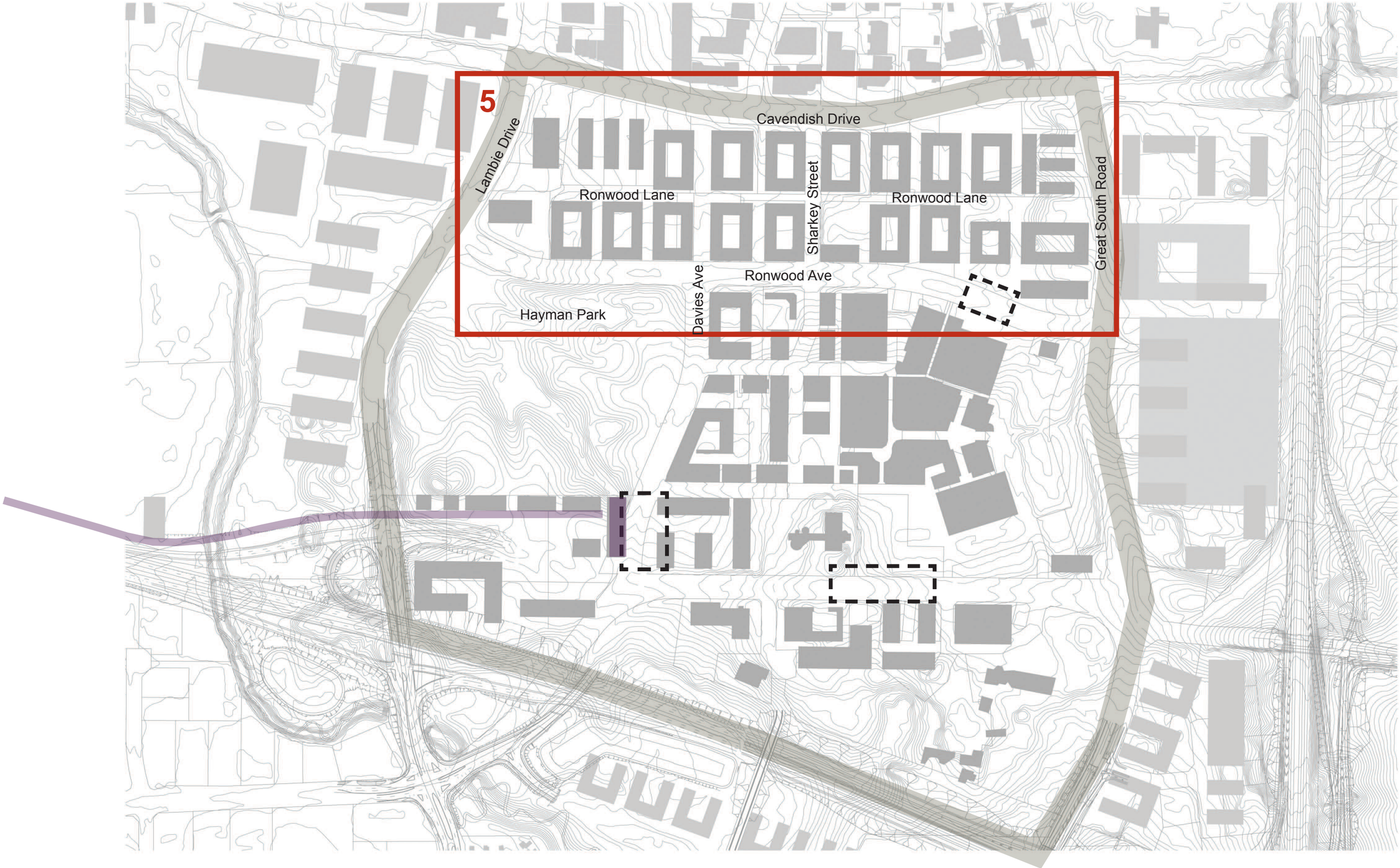

A08296 1:5000 @ A3
Ronwood Precinct Identification

NORTH

PO BOX 91250 | Level 3, IBM Centre | Auckland
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Future Character

Character Statement

Development of the Ronwood Precinct presents the greatest opportunity to redefine the urban form and character of the city centre. The precinct is planned as a series of orthogonal city blocks with setbacks parallel to the city centre cadastral grid rather than the irregularity of Cavendish Drive and Ronwood Ave. The proportions of each block are set by new north-south streets and a central east-west spine, which together with consistent building heights create a legible and permeable spatial framework. The dense organisation of buildings and streets is enlivened and softened by key public open spaces distributed across the precinct.

Ronwood Precinct is characterised by a mix of commercial, residential and retail uses. The public domain will be predominantly defined by shared streets, giving priority to pedestrians and residents. Typically, in these streets vehicles are slowed to low speeds through a reduced speed limit, traffic calming, signage and use of shared materials and other visual cues that encourage drivers to travel with caution.

Ronwood Lane will become a significant urban promenade. This central east-west spine is a low point within the precinct and falls gently from Great South Road to Lambie Drive. It acts as an urban 'tributary', collecting and concentrating pedestrian flows within the precinct at the same time as stormwater management is integrated with vegetated swales and public open spaces. Ronwood Lane underpins the future character of the public domain for this precinct.

Ronwood Ave benefits from the reorganisation of traffic within the city centre and the reallocation of median space along its edges. Appropriate street planting allows Ronwood Ave to develop a softer urban character, complementing its residential use and linkage with Hayman Park.

Sharkey Street and Davies Ave are the two primary north-south streets and remain exclusive to vehicles and cyclists. Their importance derives from their extension further south into the city centre and a greater degree of access to/from Cavendish Drive. Sharkey Street has been identified as the city centre's 'Urban Spine' whilst Davies Ave's connection to Cavendish Drive increases access to Hayman Park.

Active retail frontage is sited along key thoroughfares and public open spaces, stimulating a healthy commercial precinct at ground level and stronger connections with AUT and Westfield Shopping Centre beyond. The creation of Ronwood Place as a significant public space and bus stop will also attract greater pedestrian flows into the area and intensify the overall urban character of the precinct.

Objectives

- To create a built form structure that corresponds to this Manual
- To ensure the built form provides a high quality interface with Cavendish Drive, Ronwood Avenue, Great South Road and Lambie Drive
- To ensure the precinct is highly permeable by providing multiple north-south links from Cavendish Drive to Ronwood Avenue and an intermediary east-west route between Great South Road and Lambie Drive
- To ensure that the scale and form of development contributes to the public domain and legibility of streets and open spaces
- To ensure that development on private land contributes to the provision of the public domain
- To accommodate a range of uses, including retail and residential, that complement the broader uses within the precinct and generate activity at ground level
- To provide a range of high quality public spaces
- To ensure that public spaces and streets are activated along their edges
- To create a safe, legible and accessible public domain that fosters a high quality shared city environment
- To encourage walking and cycling
- To strengthen the city centre's landscape character and connections
- To increase and diversify the native vegetation communities within the city centre
- To incorporate low impact urban design into the public domain in order to create spaces for human experience, raise awareness of naturally occurring processes and contribute significantly towards the amenity of the built environment and a sense of place

Building Footprints (indicative only)

Public Domain Paved Areas

Private / Semi Private Courtyard (indicative only)

Public Park and Landscape Areas

Proposed Street Network

Shared Streets

Street Tree Planting

Ronwood Precinct Boundary

A08296 MCC 1:2500 @ A3
Ronwood Precinct - Future Character

NORTH

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Public Domain

The key public domain features of Ronwood Precinct are:

- Multiple north–south streets from Cavendish Drive to Ronwood Ave
- Ronwood Lane
- A series of public spaces distributed along Ronwood Lane
- Public open space on each of the corners to the Precinct
- Ronwood Place, which incorporates the bus stop on Ronwood Ave
- A celebration of the topography and natural hydrological cycle of the Ronwood Precinct in public spaces and vegetated swales

These public spaces will be the focus for people working, visiting and living in the Ronwood Precinct. The character of these spaces contributes to the identity and amenity of the precinct, as well as its urban quality.

New streets, improvements to existing streets and new public open spaces are to be provided. These will improve access and permeability across and between the precinct, AUT, Westfield Shopping Centre, Hayman Park, MIT and the Puhinui Stream.

The Public Domain Manual has been prepared to ensure the coordination, design and delivery of these elements. Please refer also to the Technical Manual for detailed description of construction and management details.

Controls

Public Open Space

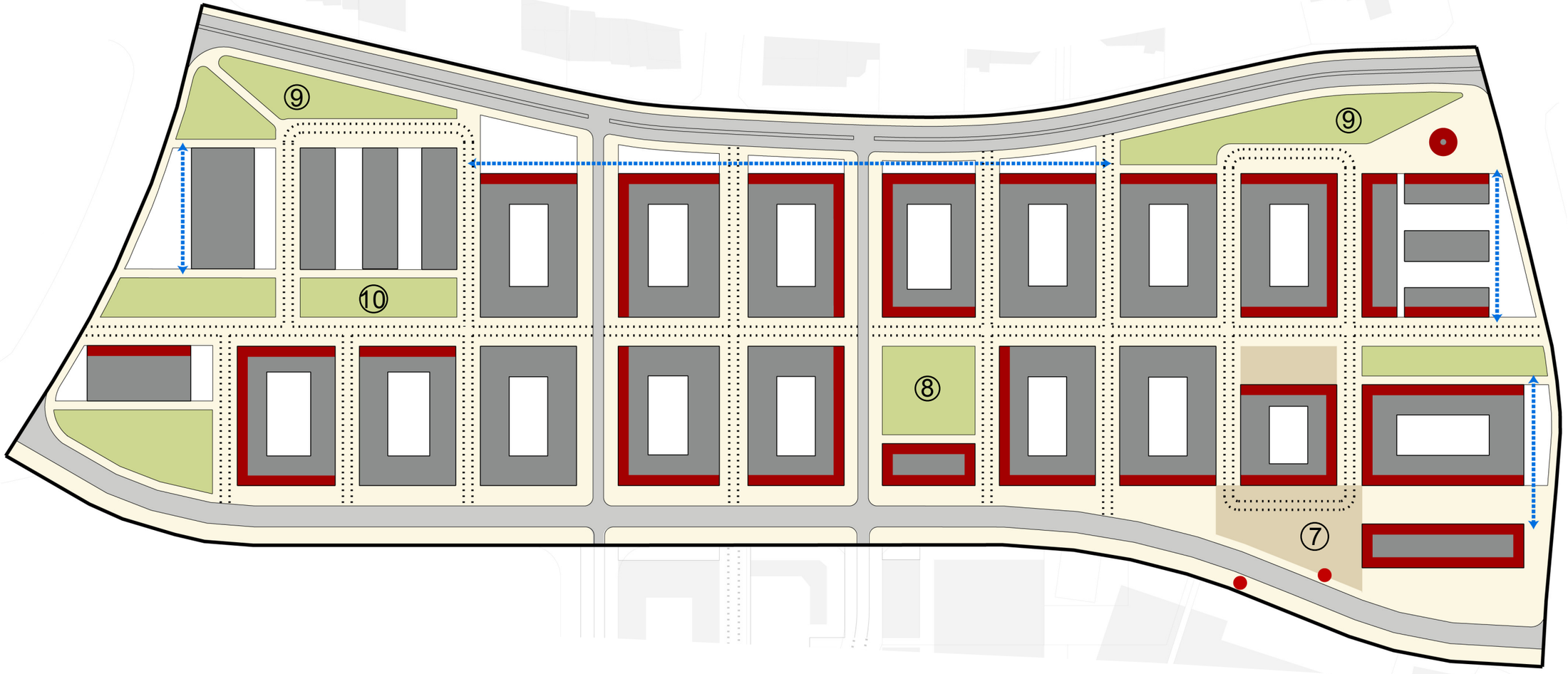
1. New public open spaces are to be provided where shown in the Ronwood Precinct Public Domain drawing
2. Public open spaces are to be designed in accordance with the Public Open Space Section of this Manual and the details shown in the Technical Manual
3. Public open spaces are to be vested in Council. Where a publicly accessible private open space is proposed, Manukau City Council must be consulted at an early stage of the design process and thereafter through to implementation
4. Public footpaths are to be provided where shown in the Public Domain drawing. The footpaths should be designed in accordance with details shown in the Technical Manual

Streets

1. Streets shall be designed in accordance with the Streets Section and in accordance with the details shown in the Technical Manual
2. Active Frontages are to be provided where shown in the Public Domain drawing. Refer to the General Public Domain Controls Section for further information on Active Frontage controls
3. Refer to the General Public Domain Controls Section for further information on pavement retail and public seating places. Public seating should be designed in accordance with the Technical Manual
4. Shared Streets are to be provided at locations indicated on the Public Domain drawing, in accordance with the Streets Section of this Manual, and the details shown in the Technical Manual

Pedestrian Through-Site Links

1. Pedestrian through-site links are to be provided where shown on the Public Domain drawing
2. Refer to the General Public Domain Controls Section for controls relating to pedestrian through-site links



Building Footprints (indicative only)

Active Frontage

Civic Streetscape

Public Open Space

Public Footpath

Pedestrian Through Site Link

Shared Street

Proposed Street Network

Bus Stop (indicative location)

Ronwood Precinct Boundary

⑦ Ronwood Place

⑧ Sharkey Park

⑨ Cavendish Corners

⑩ Ronwood Way Swale Park

A08296 MCC 1:2500 @ A3
Ronwood Precinct - Public Domain

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Building zone and Alignment

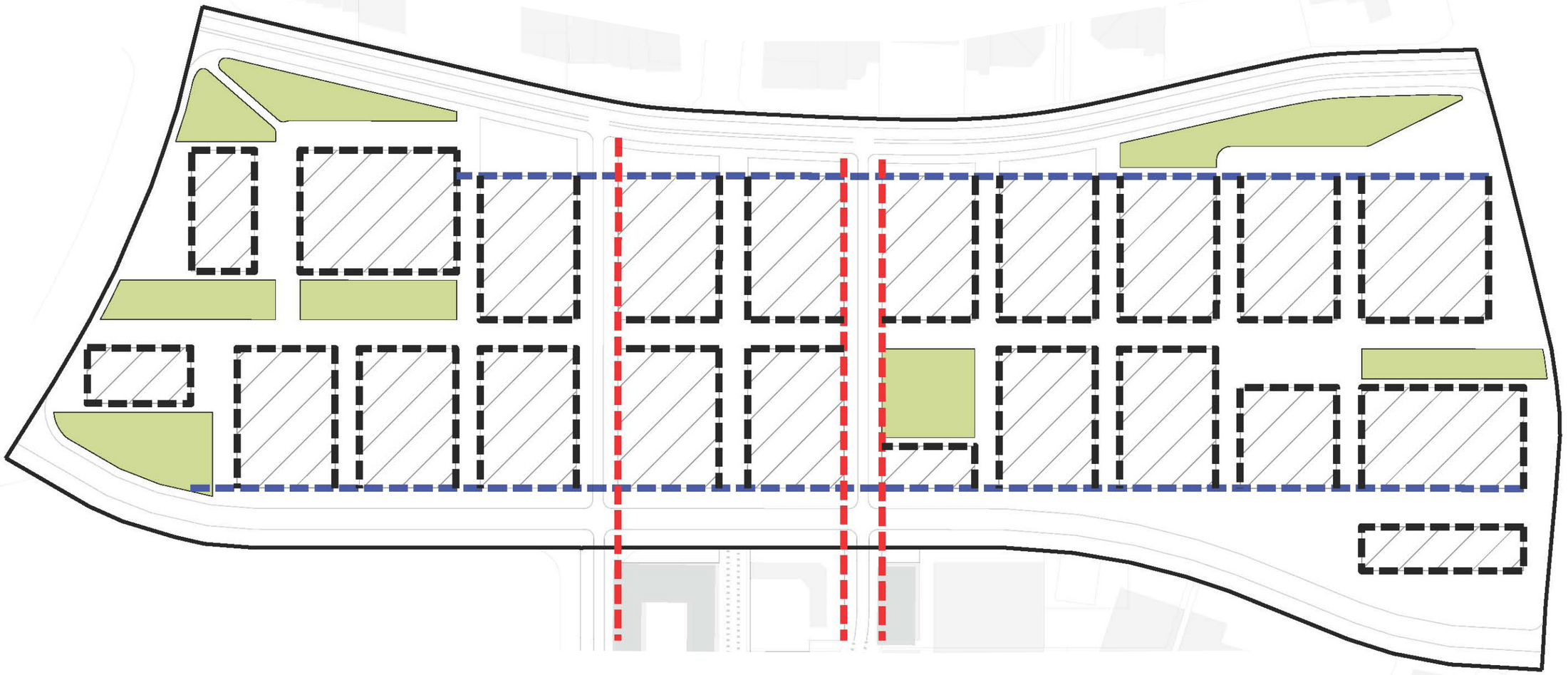
The building zone is an area within which buildings can occur on the site. The building zone for each site is determined by a combination of cadastral boundaries, street setbacks and other defined build-to lines.

The extent of the building zone that can be occupied by buildings will be determined through a future Plan Change for the City Centre which will include new development controls.

Alignment controls are necessary to ensure a spatial consistency for the precinct in the context of irregular and unaligned streets and property boundaries.

Controls

1. Ensure that the building alignments shown in the Ronwood Precinct Building Zone and Alignment drawing are provided
2. Provide building alignments along the cadastral boundaries of Sharkey Street as shown in the Building Zone and Alignment drawing
3. Provide setback lines as shown in the Building Zone and Alignment drawing. The setback lines on Cavendish Drive and Ronwood Ave are parallel to the City Centre Cadastral Grid (e.g. Amersham Way/ Putney Way)
4. Provide build-to lines as shown in the Building Zone and Alignment drawing. These build-to lines partly relate to the building alignments in the Davies Ave Precinct
5. Underground parking is not permitted to encroach into the setback areas or outside of the building zones unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting



Public Open Space

Building Zone

Cadastral Boundary Alignment (0m setback)

Setback Alignment

Build-to-alignment

Ronwood Precinct Boundary

A08296 MCC 1:2500 @ A3
Ronwood Precinct - Building Zone and Alignment

NORTH

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Public Domain Interface

Specific street frontage treatments are required in order to achieve consistency within and around the precinct, and to reinforce the desired streetscape character. The character of a streetscape is determined by the design and consistency of the building edges, and the continuity of the built form interface relative to driveways and vehicular crossings.

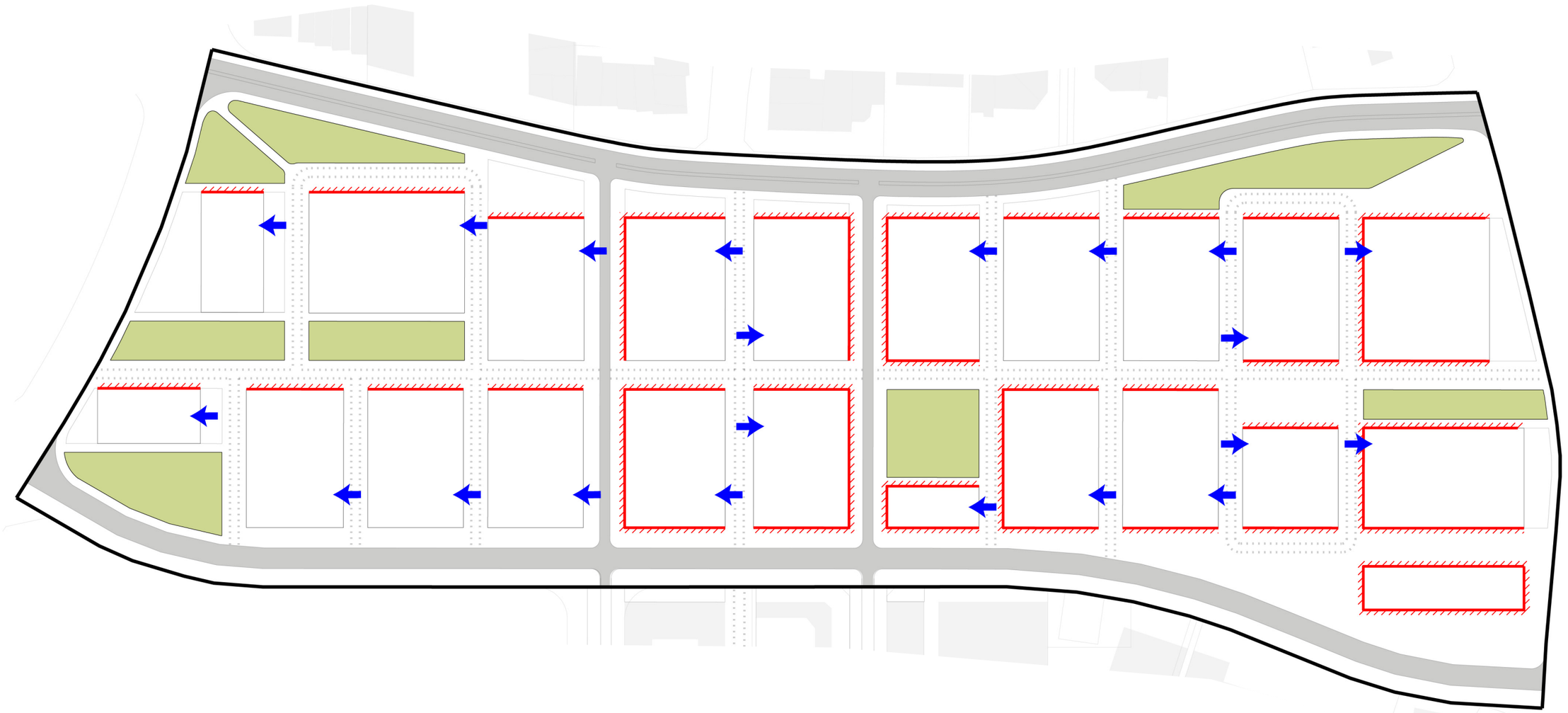
Controls

Vehicular access + Parking

1. Driveways and vehicular crossings are not preferred along Ronwood Avenue, Cavendish Drive, Great South Road and Lambie Drive
2. Entrances to underground carparking are preferred on secondary streets in the locations shown in the Ronwood Precinct Public Domain Interface drawing
3. Accessways and driveways are to avoid adverse impact on the visual quality of the streetscape; where they occur priority is to be given to the pedestrian surface on all footpaths (in terms of kerbing, horizontal alignment and surface materials)
4. Refer to the General Public Domain Controls for more information on vehicular access, ramps to basements and security gates

Awnings

1. Provide continuous awnings to street frontages where shown on the Ronwood Precinct Public Domain Interface drawing (especially along Active Frontages)
2. Provide awnings with a minimum width of 2.7m (outside the building alignment) and a minimum soffit height of 3.6m
3. Ensure that awning heights and depths are continuous along the length of the street block and consistent with neighbouring sites
4. Provide under-awning lighting to create a safe environment



Public Open Space

Preferred Access Points

Proposed Street Network

Shared Streets

Awning

Ronwood Precinct Boundary

A08296 MCC 1:2500 @ A3
Ronwood Precinct - Public Domain Interface

NORTH

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Streets

Streets

Introduction

The street network provides a clear hierarchy of vehicular movement and public behaviour which increasingly promotes a pedestrian environment as traffic moves towards the centre.

The street network is made up of the following street types:

- **Type 1**
  Arterial roads around the city centre
- **Type 2**
  East-west boulevards through the city centre
- **Type 3**
  Business streets within the city centre
- **Type 4**
  Shared streets within each precinct

The scale, definition and character of these street types are in proportion to their function and location.

Type 1 Streets support major concentrations of traffic around the city centre and provide primary access points into it.

Type 2 Streets provide east-west connections through the city centre and accommodate local traffic as well as the Hollyford to Ronwood Bus Corridor Route.

Type 3 Streets generally provide access to sites off Type 2 Streets and are located within the city centre.

Type 4 Streets are designed to pass through public open space or predominantly residential precincts with the road space shared between vehicles, pedestrians and cyclists.

The location and space dedicated to pedestrians and cyclists is related to street type. Type 1 Streets separate pedestrians from heavy trafficked routes with trees and planted berms. Cyclists are provided with dedicated lanes. Type 2 Streets redistribute excessive road median space to the footpaths on either side to more generously accommodate well trodden walking routes (e.g. Justice Court-Westfield Shopping Centre). Cyclists share the same road space with other traffic. Type 3 and 4 Streets are knitted together to form a pedestrian-and-cycling-friendly network to allow easy movement across the city centre.

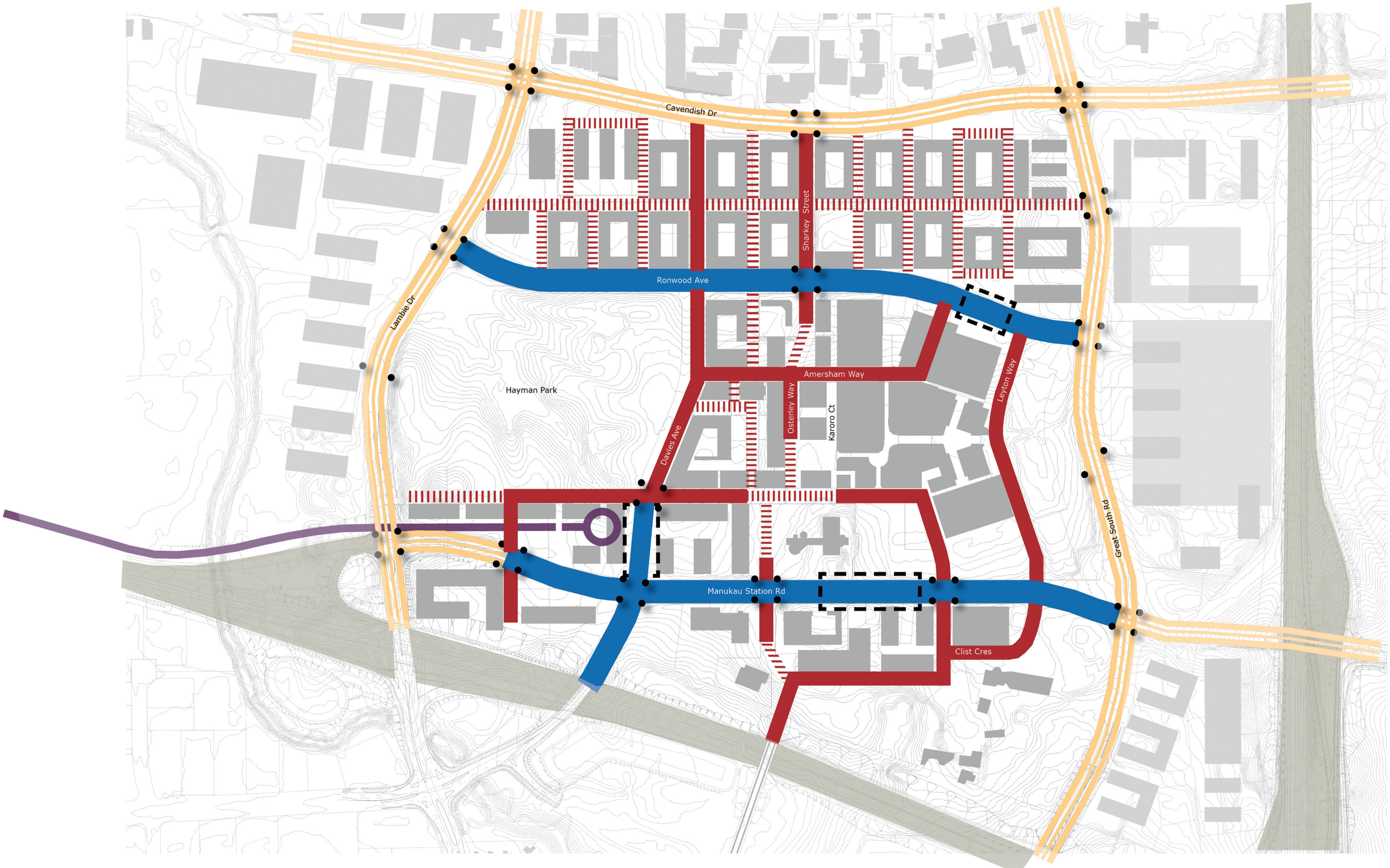
The Manukau Train Station and Hollyford to Ronwood Bus Corridor Route fundamentally change the way the existing street network and roading environment works and is experienced. The station will act as a destination for across-town walking and cycling whilst the bus route will circulate and disperse passengers around the city centre and re-activate walking along major thoroughfares.

Type 1 street (photo Sydney Marc Tomes)

Type 2 street (photo Barcelona BML Tim Church)

Type 3 street (photo Copenhagen BML Simon van Wijnen)

Type 4 street (“Shared Street” - Brighton UK -Source Wikimedia Commons de facto)



Type 1 | Type 2 | Type 3 | Type 4 | Manukau City Train Station | Bus Super Stop | Signalled Intersection | Controlled Crossing

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Street Network

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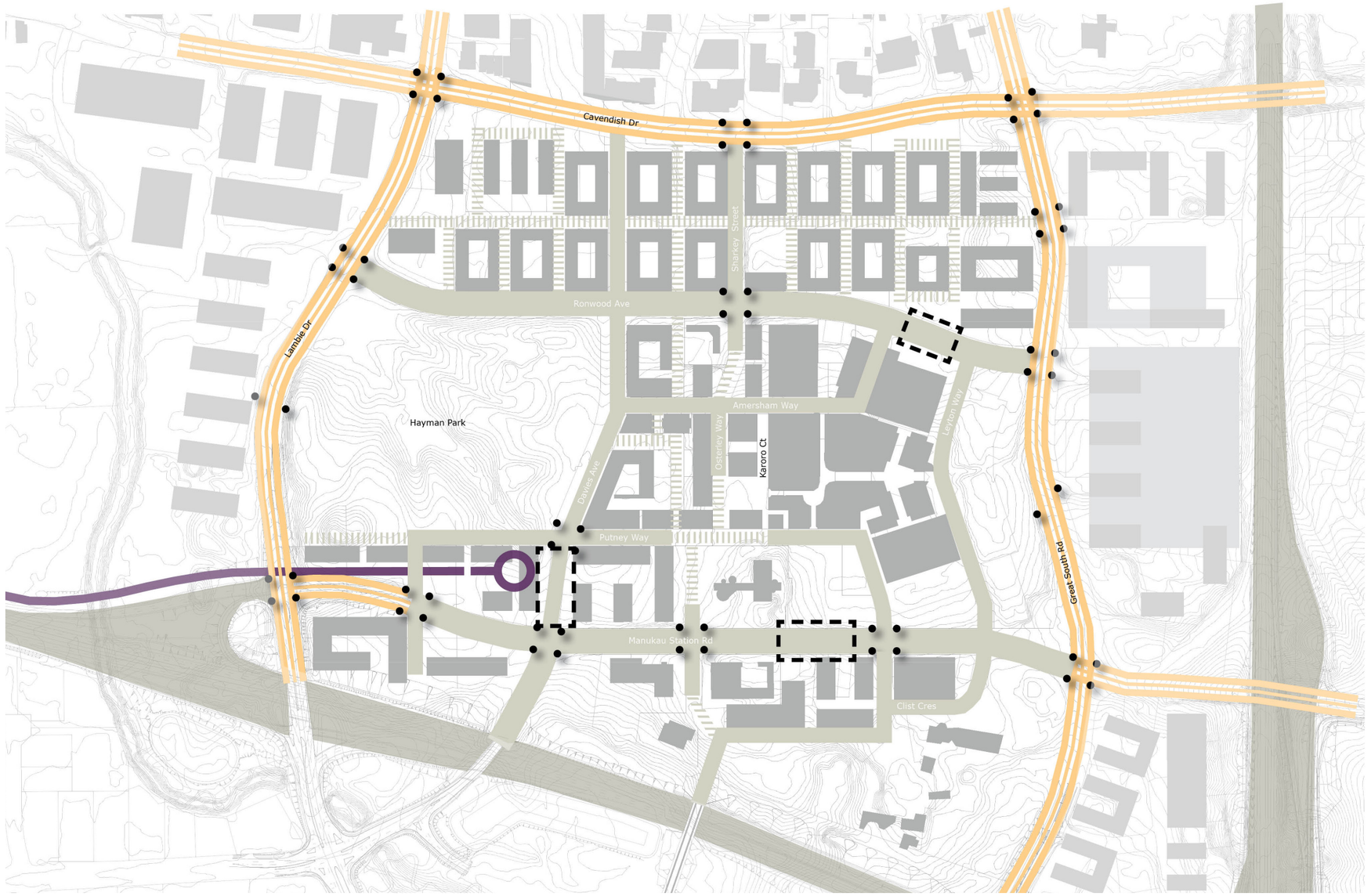


Type 1 Street

Type 1 streets include:

- Cavendish Drive
- Lambie Drive
- Great South Road
- Part of Manukau Station Road (its western connection to Lambie Drive/SH20)

Strategy

Type 1 streets include the east-west link of Cavendish Drive and north-south routes of Lambie Drive and Great South Road. These streets serve regional and multi-use roles as well as feeding into the inner city network. Users include vehicles, buses, cyclists and pedestrians

Future improvement works to these roads are to be based on the Type 1 street section

Objectives

- To support major concentrations of traffic
- To provide primary access points into Manukau City Centre from the surrounding street network
- To separate pedestrian movement from traffic flow
- To provide designated on-road cycle lanes
- To create visually unified and coherent spaces for traffic movement
- To create softer road environments with structured character planting
- To create bio-links and canopy connections to existing vegetation communities both within and surrounding the city centre

Controls

Road Reserve Width

- Existing road reserve is maintained, width varies, typically 30-35m

Alignments

- To follow existing alignments as indicated on the Street Network drawing

Street Definition

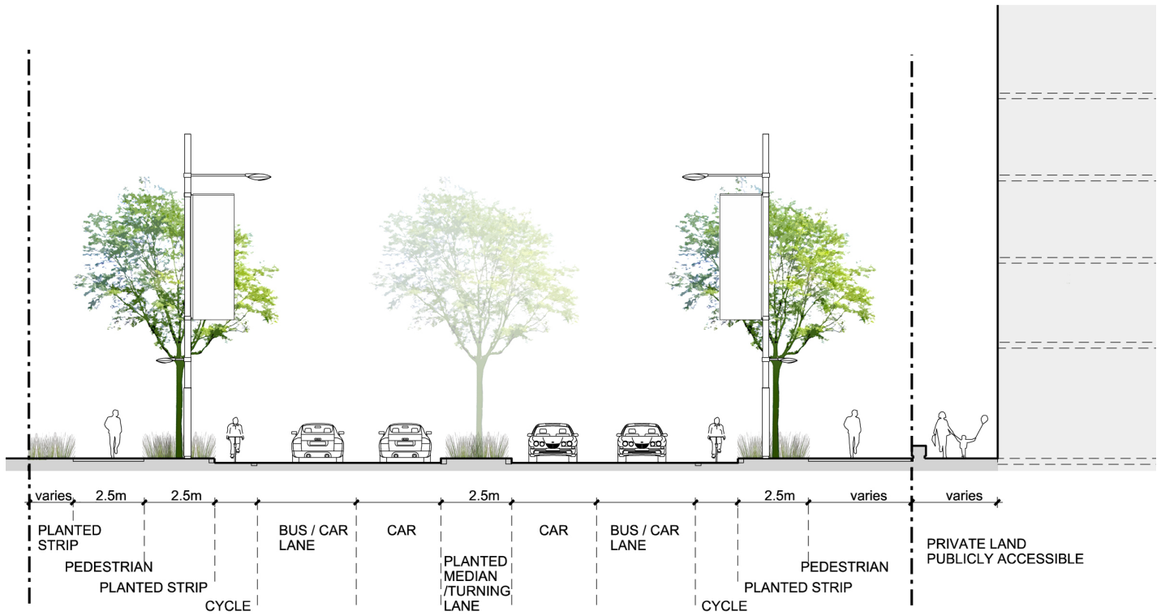
- Type 1 streets are defined by a number of segregated zones within the road corridor. This includes a central median planted with large trees / four lanes of vehicular traffic (two each way) / designated on-road cycle lane each way / planted buffer zones between road and footpath (using groundcovers and large trees) / pedestrian footpath / and landscape setbacks of varying width
- The planted central median is to be 2.5m wide
- The pedestrian footpath is to be 2.5m wide
- Street lighting, paving, furniture and tree planting are to be provided in accordance with the Technical Manual

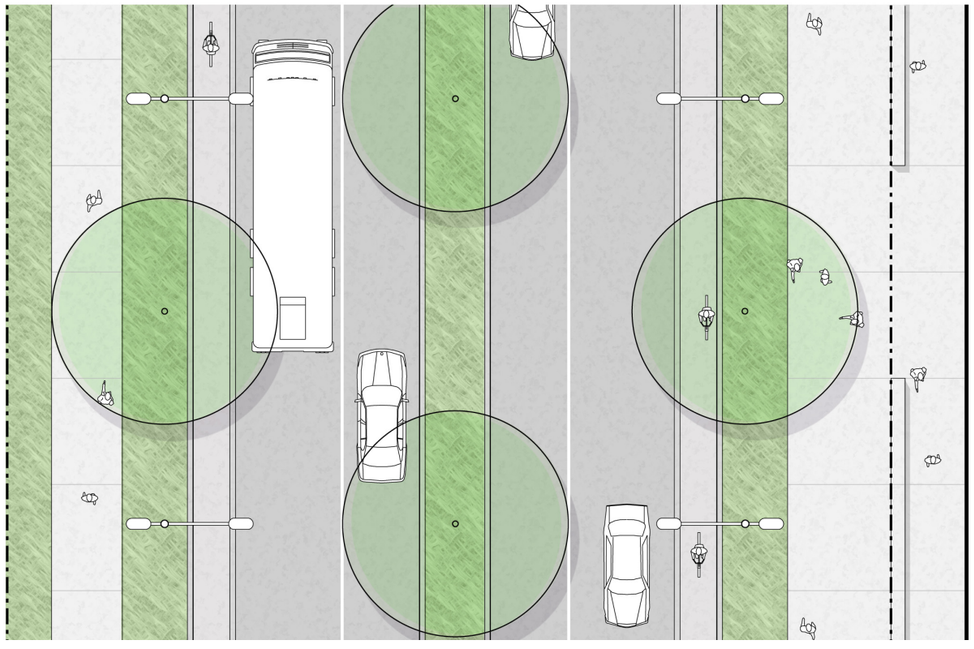
Cycles

- On-road cycle lanes are to be provided

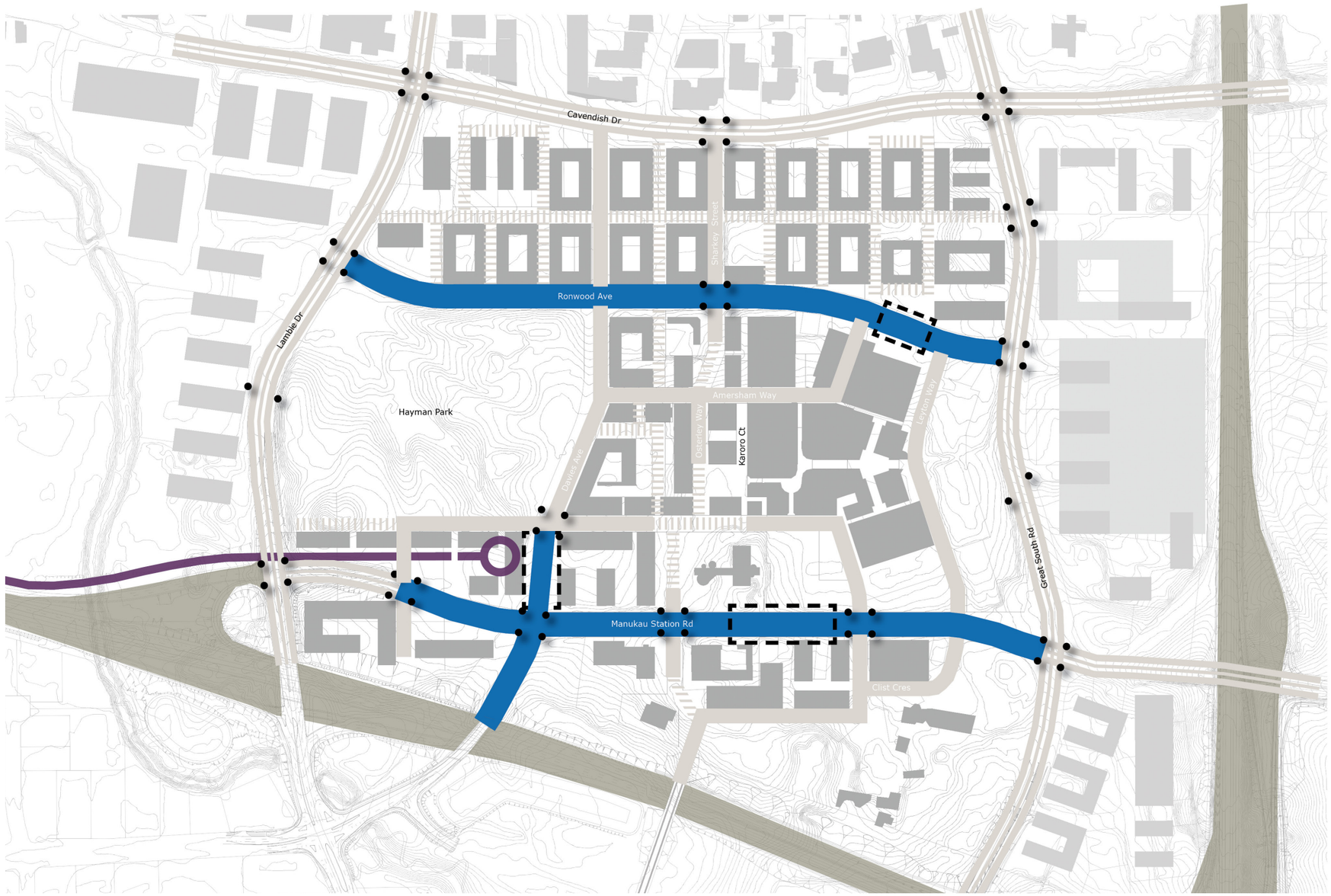
Crossings

- Signalled crossing points are strategically positioned to avoid 'jay walking'. Refer to the Technical Manual for alignment and configuration details





TYPICAL CROSS SECTIONS AND PLANS ARE TO ILLUSTRATE DESIGN INTENT



Type 2 Street

The Type 2 streets include:

- Manukau Station Road
- Ronwood Ave
- Davies Ave (between Manukau Station Road and Putney Way)

Strategy

Type 2 streets provide east–west connections between Great South Road and Lambie Drive (Type 1 streets). Type 2 streets also accommodate the Hollyford to Ronwood Bus Corridor Route.

Type 2 streets are designed as boulevards. Their organization of vehicle space and tree planting create strongly defined and visually unified routes. Existing excessive central median space is transferred to the road edges in order to create safer and more generous pedestrian environments. The Hollyford to Ronwood bus stops are supported by key public spaces adjoining them (Wiri Place, Manukau Station Square and Ronwood Place respectively). Native tree planting along Manukau Station Road strengthens the ecological character of the area while representative planting from Hayman Park is extended eastwards along Ronwood Ave (subject to the Hayman Park Design Competition).

Objectives

- To signal a city environment
- To incorporate the Hollyford and Ronwood Bus Corridor Route and bus superstops
- To accommodate local traffic within the city centre
- To create visually unified and coherent spaces for traffic movement

- To provide generous space for pedestrian movement and facilitate the development of active street edges
- To accommodate private frontage where there is a landscaped setback indicated. Its landscape and paving treatment is to be in accordance with the character and materiality of the streetscape (refer to Technical Manual)
- To respond to topography within the city centre
- To create bio-links and canopy connections to existing vegetation communities both within and surrounding the city centre

Controls

Road Reserve Width

- Existing road reserve is maintained, width varies, typically 33m

Alignment

- To follow existing alignments of Manukau Station Road and Ronwood Ave

Street Definition

- Type 2 streets are typically defined by an undivided vehicle space and wide pedestrian footpaths as indicated on the typical cross section
- Bus lanes are provided on kerbside lanes along Manukau Station Road between Clist Crescent and Davies Ave
- Bus lanes are provided on kerbside lanes along Ronwood Avenue between Amersham Way and Great South Road; otherwise buses, private vehicles and cyclists are mixed along Ronwood Ave
- Bus stops along Manukau Station Road and Ronwood Ave are positioned adjacent to key public open spaces (Wiri Place and Ronwood Place)
- Dedicated cycle lanes are not provided on Type 2 Streets. Cyclists share the kerbside bus lanes
- Street lighting, paving, furniture and tree planting are to be provided in accordance with the Technical Manual

Awnings and Canopies

- Provide covered walkways along active frontages as indicated in each Precinct – Public Domain Interface drawing. Refer to controls for Awnings and Canopies in the General Public Domain Controls section

Cycles

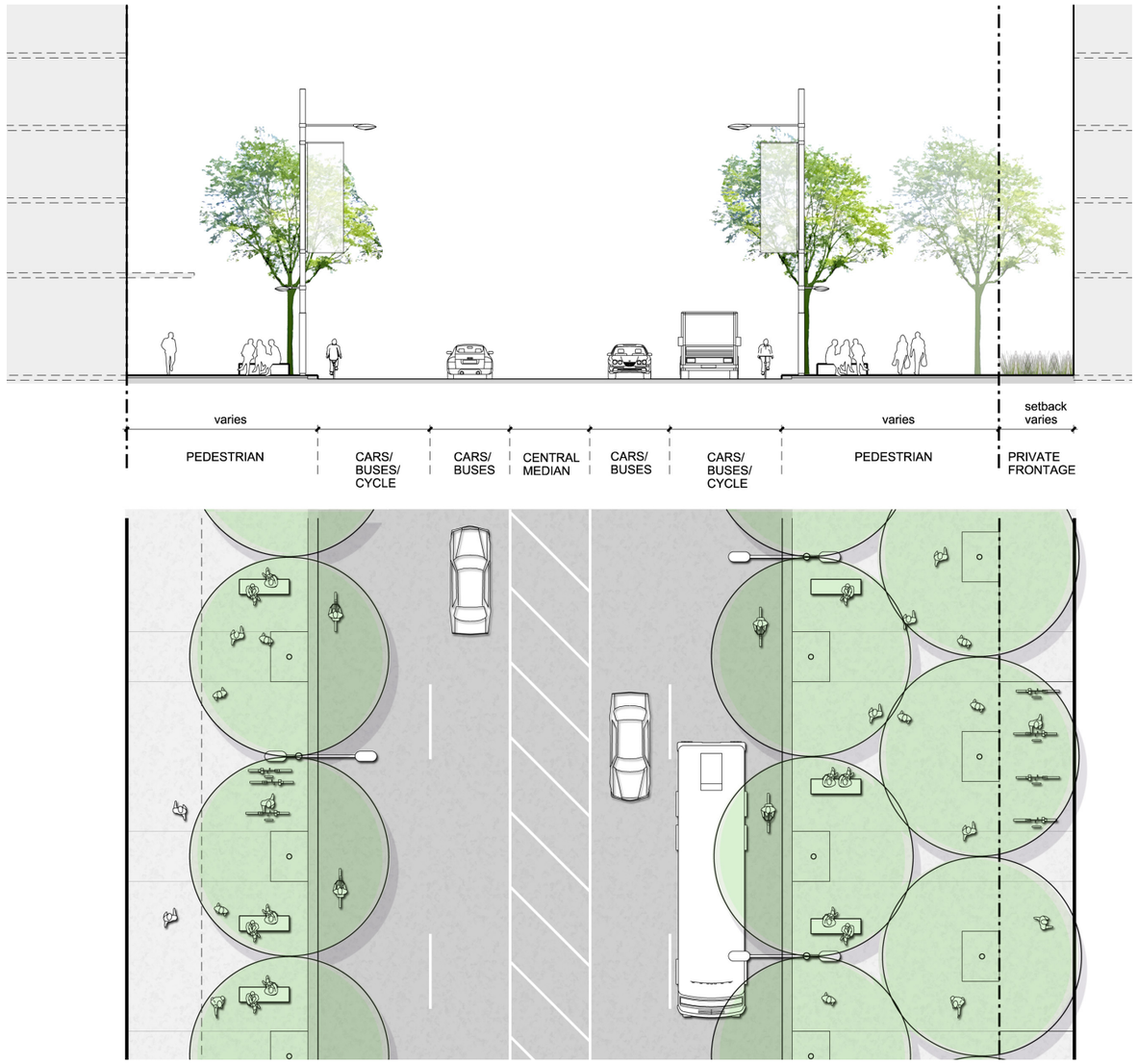
- Cycling space is incorporated within the wider kerbside lanes of Manukau Station Road and Ronwood Ave

Crossings

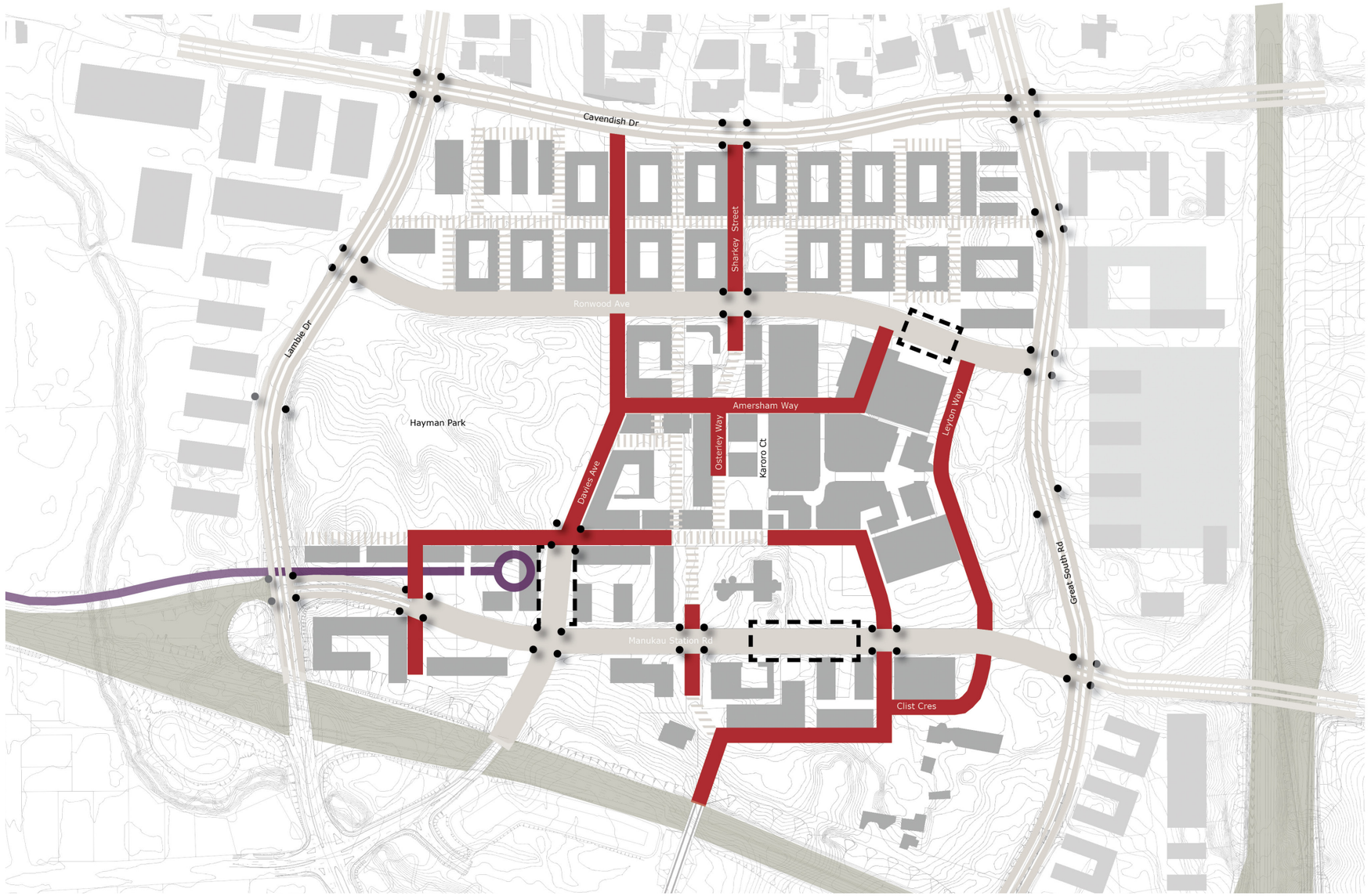
- Signalled intersections and pedestrian crossings are strategically positioned to avoid 'jay walking'. Refer to the Technical Manual for their alignment and configuration details

Car Parking

- No on-road car parking is provided along Manukau Station Road
- On-road car parking is provided along Ronwood Ave west of Amersham Way only



TYPICAL CROSS SECTIONS AND PLANS ARE TO ILLUSTRATE DESIGN INTENT



Type 3 Street

The Type 3 streets include:

- Sharkey Street
- Osterley Way
- Davies Ave
- Leighton Way
- Putney Way / Putney Way Extension
- Amersham Way
- Clist Crescent
- Barrowcliffe Place
- New streets in the Ronwood Precinct as indicated
- New streets in the Campus Precinct as indicated

Strategy

Type 3 streets provide access to sites within the city centre. The scale, definition and character of these streets relate more to the pedestrian (human) environment and therefore allow ease of movement across the city centre by foot. The Type 3 streets shown on the Street Network drawing represent the number of streets to be provided.

Major pedestrian connections through the city centre are typically on Type 3 streets. Sharkey Street and Davies Ave create strong north-south pedestrian movement, linking Cavendish Drive with the Civic Square and Manukau Train Station respectively. Amersham Way and Leighton Way disperse bus passengers alighting at Ronwood Place/Westfield Shopping Centre. Putney Way Extension and Barrowcliffe Place allow crucial future connections for pedestrians travelling to/from Wiri Rata Vine and the Te Araroa Trail.

Objectives

- To provide city streets that focus on pedestrian walkability and permeability within the city centre
- To provide localised connections to sites within the larger street network
- To improve east-west and north-south links
- To increase public access and active frontage/ pavement retail opportunities for business
- To increase on-street parking opportunities
- To create bio-links and canopy connections to existing vegetation communities both within and surrounding the city centre

Controls

Road Reserve Width

- Existing road reserve is maintained, width varies, typically 21.5m

Alignment

- Extend along alignments shown on the Street Network drawing

Street Definition

- Type 3 streets are defined by pedestrian footpaths directly adjacent to development
- The road carriageway is single lane in each direction and is shared with cyclists
- There are options for pavement retail and street furniture in the zone parallel with on-street parking (see Pavement Retail / Public Seating section in General Public Domain Controls)
- Street lighting, paving, furniture and three planting are to be provided in accordance with the Technical Manual

Awnings and Canopies

- Provide covered walkways along active frontages as indicated in each Precinct–Public Domain Interface drawing. Refer to controls for Awnings and Canopies in the General Public Domain Controls section

Cycles

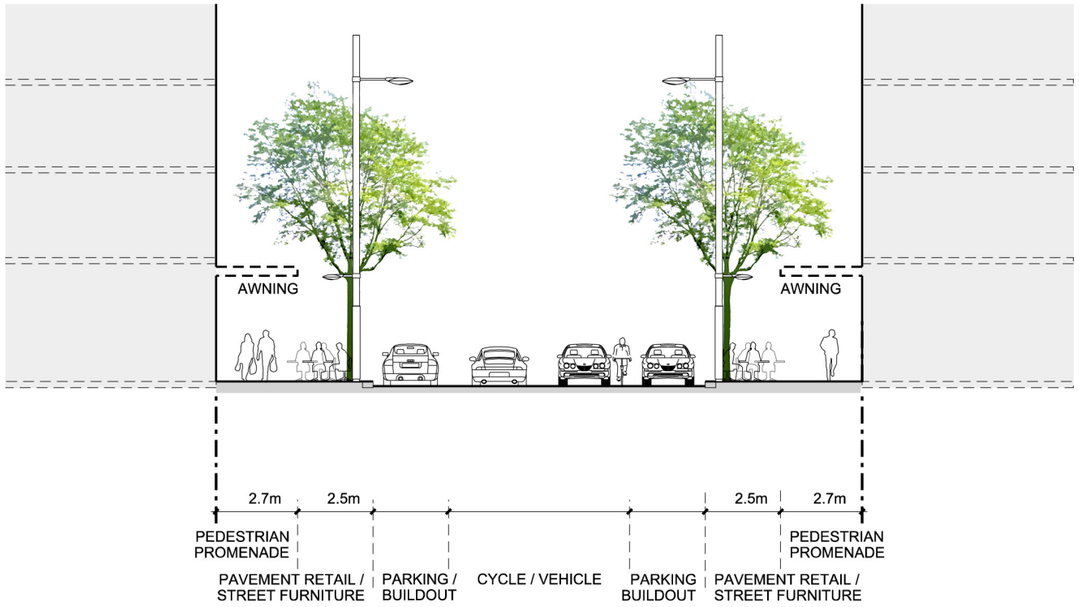
- No cycle lanes are to be provided. Cyclists are encouraged to share the road carriageway with vehicles

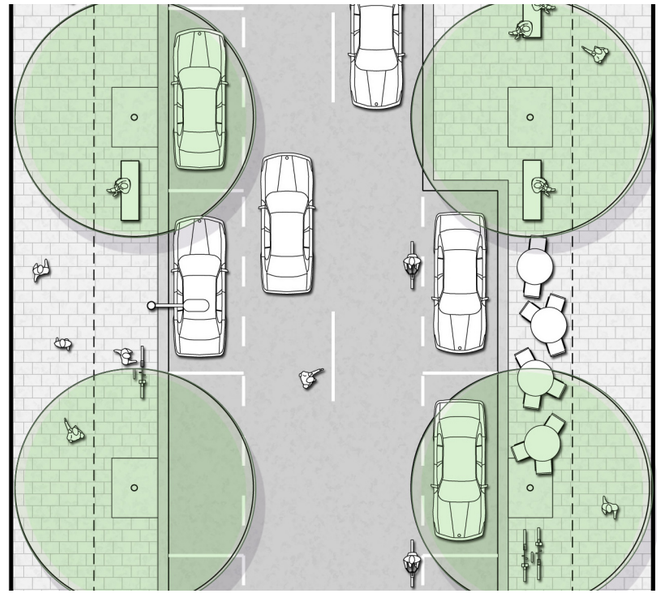
Crossings

- Signalled crossing points are only provided at key intersections (Cavendish Drive, Ronwod Ave, Putney Way and Manukau Station Road respectively). Otherwise 'jay walking' is accepted on Type 3 Streets. Refer to the Technical Manual for alignment and configuration details

Car Parking

- On-road car parking is provided on all Type 3 Streets





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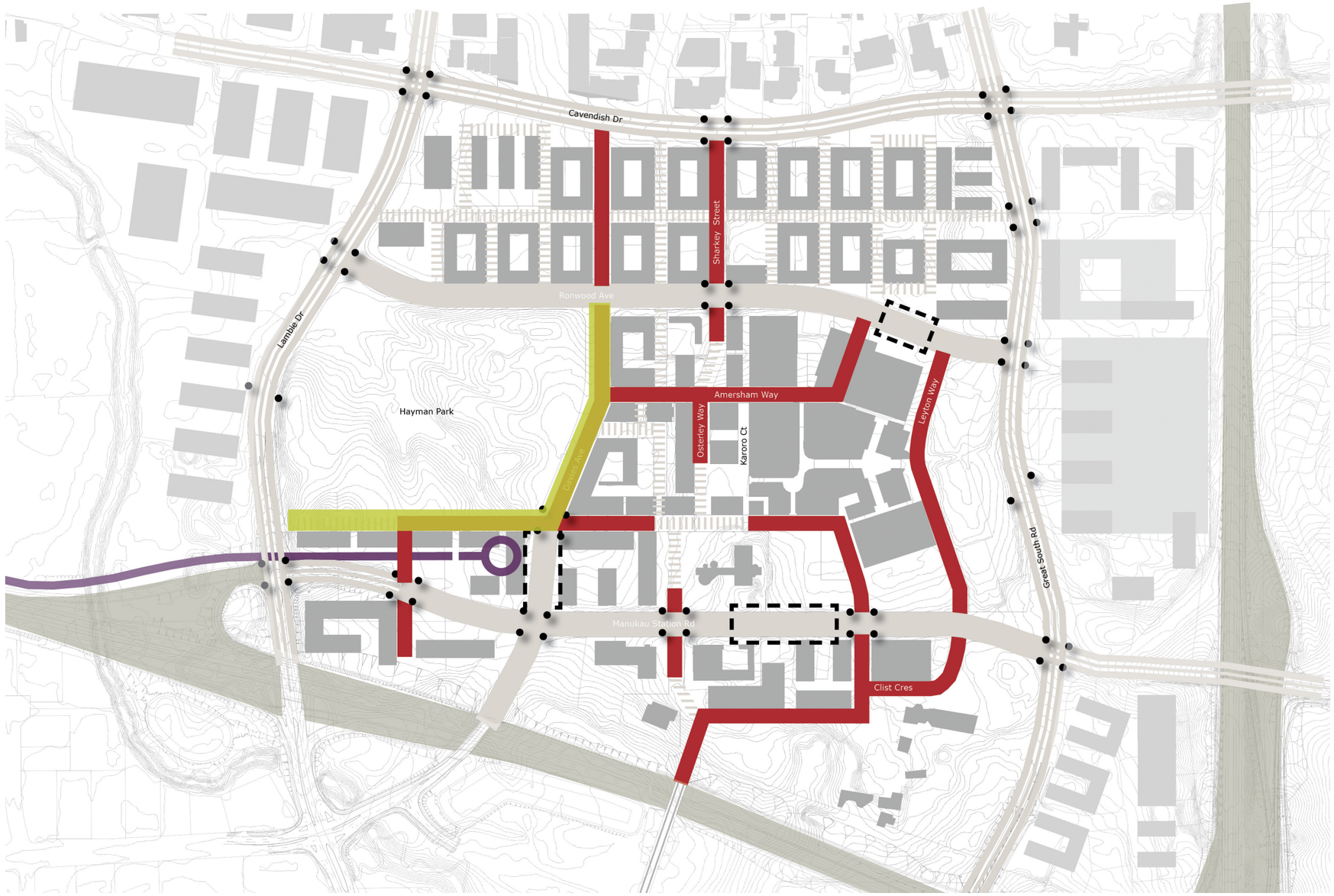


Type 3 – City Park Edge

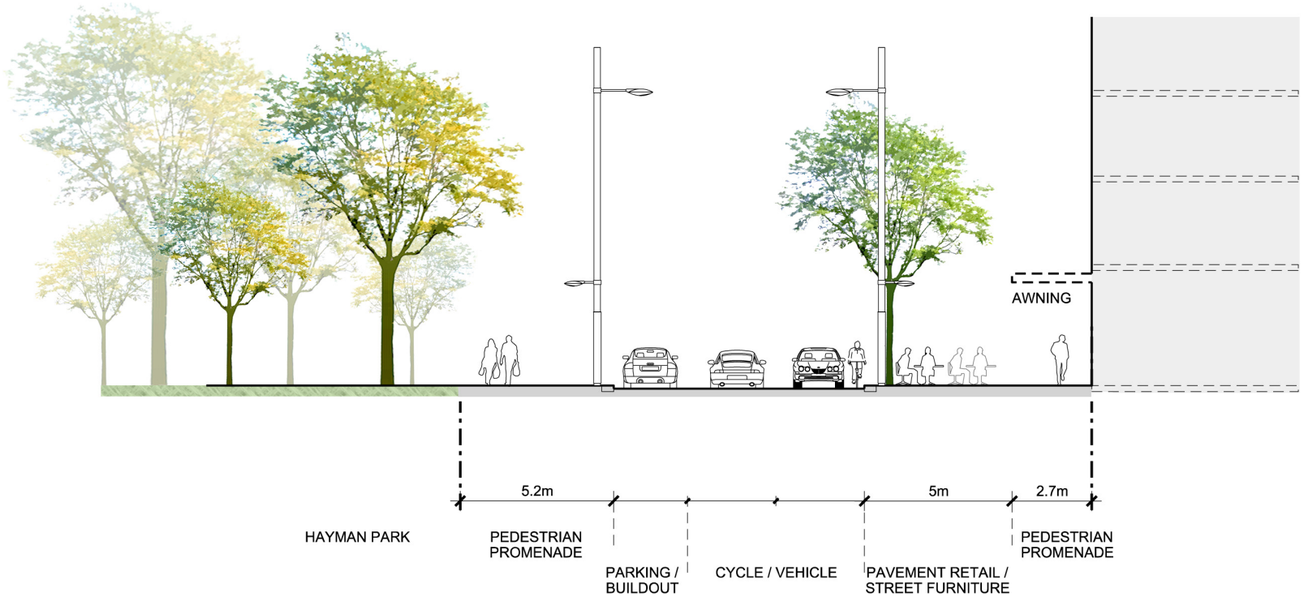
The Type 3 City Park Edge Streets include:

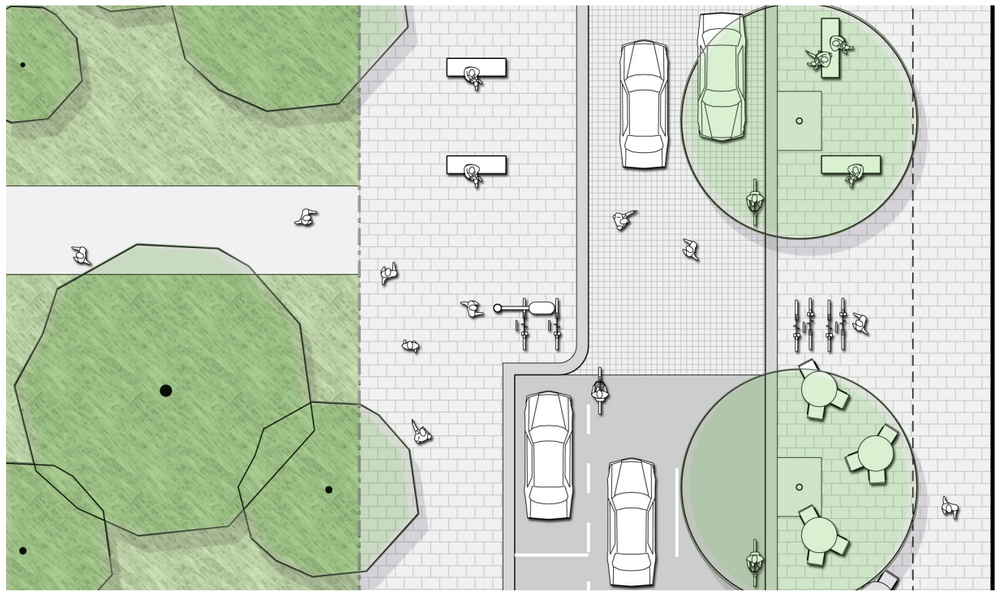
- Davies Ave
- Putney Way Extension

Type 3 City Park Edge Streets provide an important interface between Hayman Park and the city centre. The design of these streets requires care to enhance experience of the park edge whilst optimising social and business activity for surrounding development.

Additional Objectives

- To define and enhance the park edge
- To provide a larger public domain area, increase public access and active frontage opportunities





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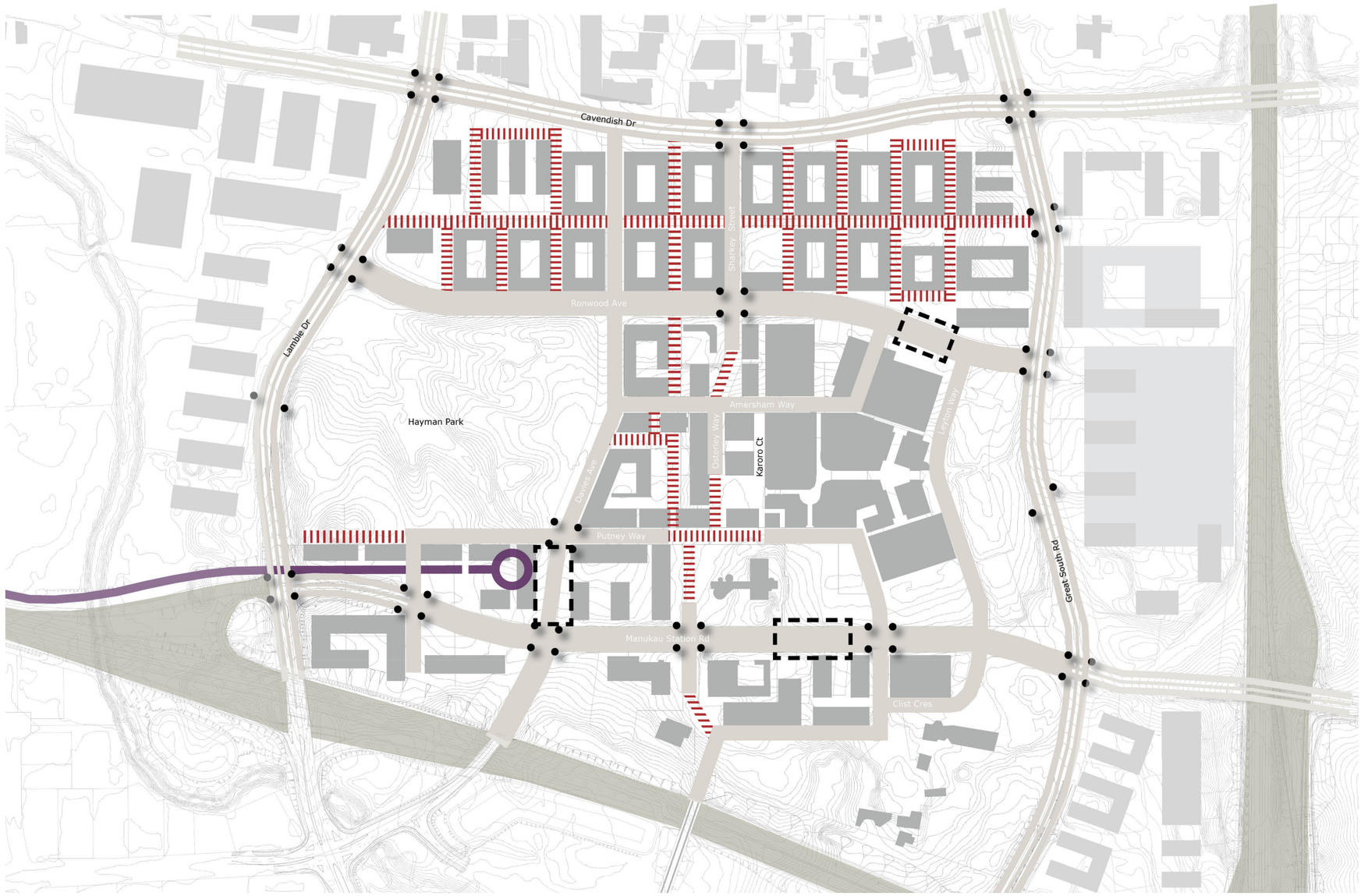


Type 4 Street

The Type 4 shared streets include:

- Ronwood Lane (new central east-west spine in the Ronwood Precinct)
- 9 new unnamed north-south streets in the Ronwood Precinct
- 2 new unnamed streets in the Davies Precinct
- Putney Way Extension
- 2 new unnamed streets in the Campus Precinct
- streets within and bordering Civic Square
- Barrowcliffe Place

Strategy

Type 4 Streets are predominantly found in the Ronwood Precinct where they permeate the whole precinct. Type 4 Streets also extend southwards into the Davies and Campus Precincts where they pass through public open spaces (e.g. Civic Square) and arrival points in the city centre (e.g. Putney Way Extension and Barrowcliffe Place).

Type 4 Streets have been designed as shared streets. Shared streets are designed to give priority to pedestrians and significantly reduce the dominance of vehicles. Typically, in these streets vehicles are slowed to very low speeds through a reduced speed limit, traffic calming, signage, furnishings, use of shared materials and other visual cues in the street that encourage drivers to travel with increased caution. Street users generally negotiate right of way co-operatively rather than relying on traffic controls, allowing pedestrians to dominate the street. Roads are thus effectively integrated seamlessly with the public domain.

Within the Ronwood Precinct Type 4 streets also incorporate stormwater management within the organisation of public space and traffic movement. Rain gardens improve the quality of water leaving the city centre and contribute towards the amenity and sense of place for this precinct.

Objectives

- To provide pedestrian, cyclist and vehicular shared streets
- To increase permeability throughout the precincts
- To provide for a flexible space that encourages social interaction
- To provide a high quality public domain which includes roads
- To increase public access to active frontage opportunities
- To utilise the public domain for on-site stormwater management and contribute to the diversity of native vegetation communities within the city centre

Controls

Road Reserve Width

- The road reserve is maintained for existing streets, width varies, typically 14-16m. New street widths vary, some are incorporated within public open spaces (e.g. Civic Square)

Alignment

- Extend along alignments where shown on Street Network drawing

Street Definition

- Often referred to as a "shared zone", a shared street is a low-speed, typically kerbless roadway designed as a single shared surface between pedestrians, cyclists and low-speed motor vehicles
- On-street car parking and road carriageway is shared with pedestrians and cyclists
- Street lighting, paving, furniture and tree planting are to be provided in accordance with the Technical Manual

Awnings and Canopies

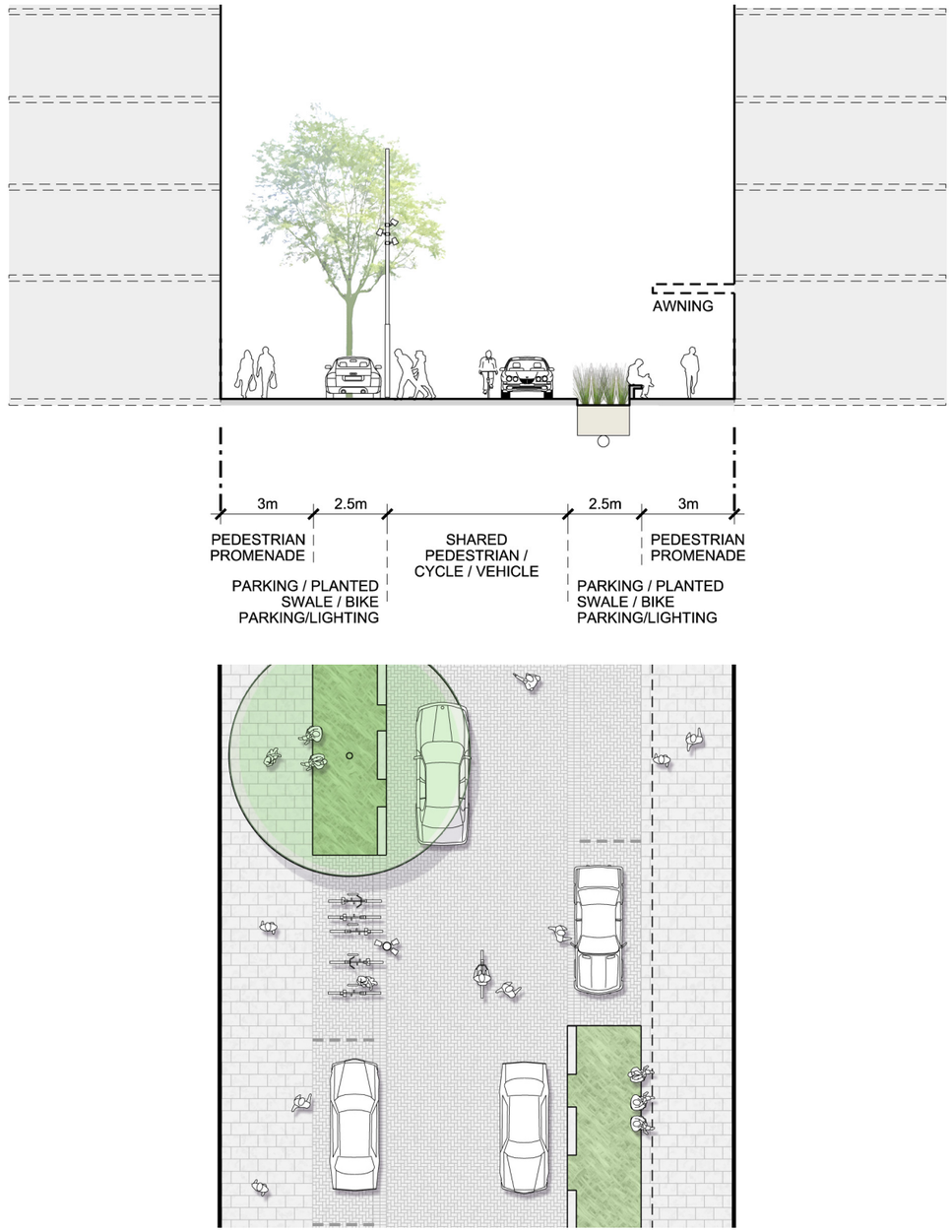
- Provide covered walkways along active frontages as indicated in each Precinct – Public Domain Interface drawing. Refer to controls for Awnings and Canopies in the General Public Domain Controls section

Cycles

- No cycle lanes are to be provided. Cyclists are encouraged to share the street with vehicles and pedestrians

Crossings

- No signalled or pedestrian crossings are provided. Pedestrians are encouraged to share the street with vehicles and cyclists



TYPICAL CROSS SECTIONS AND PLANS ARE TO ILLUSTRATE DESIGN INTENT

Manukau City Centre Public Domain Manual

Public Open Space

Public Open Space

Introduction

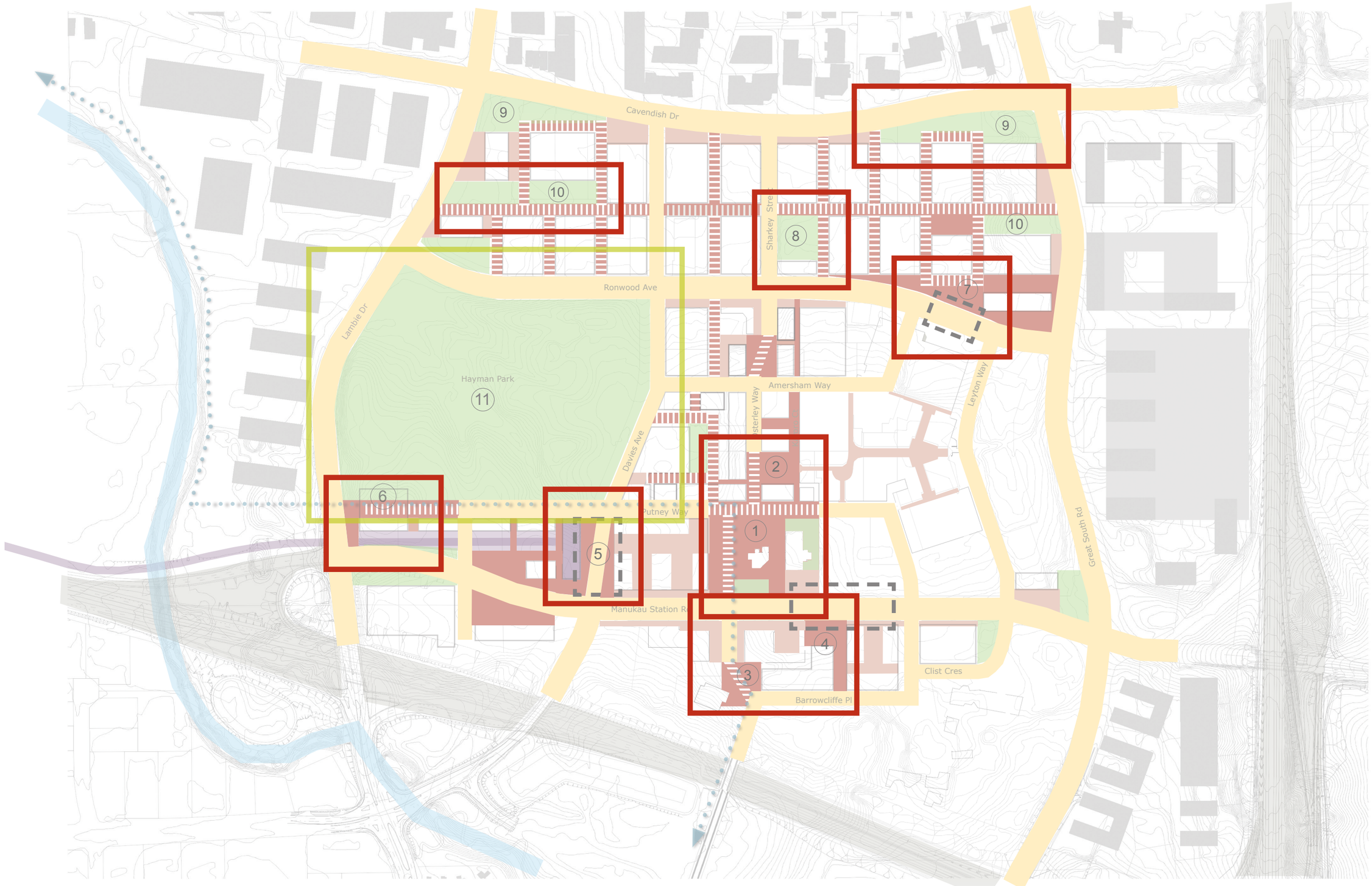
This section identifies key public open spaces in the city centre and outlines objectives and controls for each of them.

The key public open spaces are:

1. Civic Square
2. Manukau Plaza
3. Barrowcliffe Place
4. Wiri Place
5. Manukau Station Square
6. Putney Place
7. Ronwood Place
8. Sharkey Park
9. Cavendish Corner(s)
10. Ronwood Lane Swale Park
11. Hayman Park

Summary of objectives

- To clarify and strengthen the public domain of the city centre
- To create civic focal points within the public domain
- To define north-south and east-west urban spines
- To provide public open spaces adjoining the Hollyford to Ronwood Bus Corridor Route bus stops
- To provide gateway spaces at critical entry points into the city centre
- To define and strengthen the centre's corners
- To increase active and passive recreational opportunities with the city centre
- To highlight the Te Araroa Walking Trail through the city centre
- To utilise the public domain for on-site stormwater management in ways consistent with the street treatment
- To contribute to the diversity of native vegetation communities within and surrounding the city centre



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1 – Civic Square

Objectives

- To provide a significant civic public open space on the junction of the key north–south and east-west urban spines
- To provide an urban focal point for the Te Araroa Trail
- To provide a flexible area of public domain that can be used for civic and community events (such as markets, performances, entertainment)
- To highlight topography within the city centre and address level changes by creating a series of terraces and/or grassed banks that tie into adjoining footpath levels
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian focused street environment
- To provide active frontages within building developments surrounding the Civic Square
- To create bio-links and canopy connections to existing vegetation communities within and surrounding the city centre

Controls

- Provide a public open space as shown on the Civic Square drawing
- Provide street and building alignments as shown on the Civic Square drawing and Structure Plan–Built Form Network drawing
- Provide Type 3 and 4 Streets as shown on the Civic Square drawing and Structure Plan-Street Network drawing. Refer to the Streets section for more detail. The space for vehicles is delineated from exclusively pedestrian space through the use of street furnishings. The street must read as part of the Civic Square and foster a shared city environment
- Provide active frontages as shown. Refer to General Public Domain Controls for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Paving

- Provide unified paving treatments in accordance with the Technical Manual

Vegetation

- Provide street trees as shown on the Civic Square drawing and in accordance with the Technical Manual

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins along thoroughfares around the edge of the public open space and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating areas in sunny and shaded areas
- Maximise potential for informal seating areas, such as terraces, retaining walls and flat areas

Signage

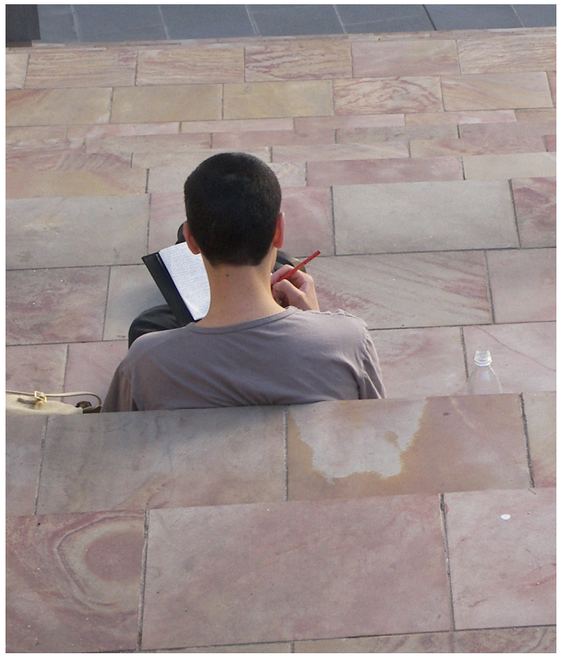
- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

Car parking

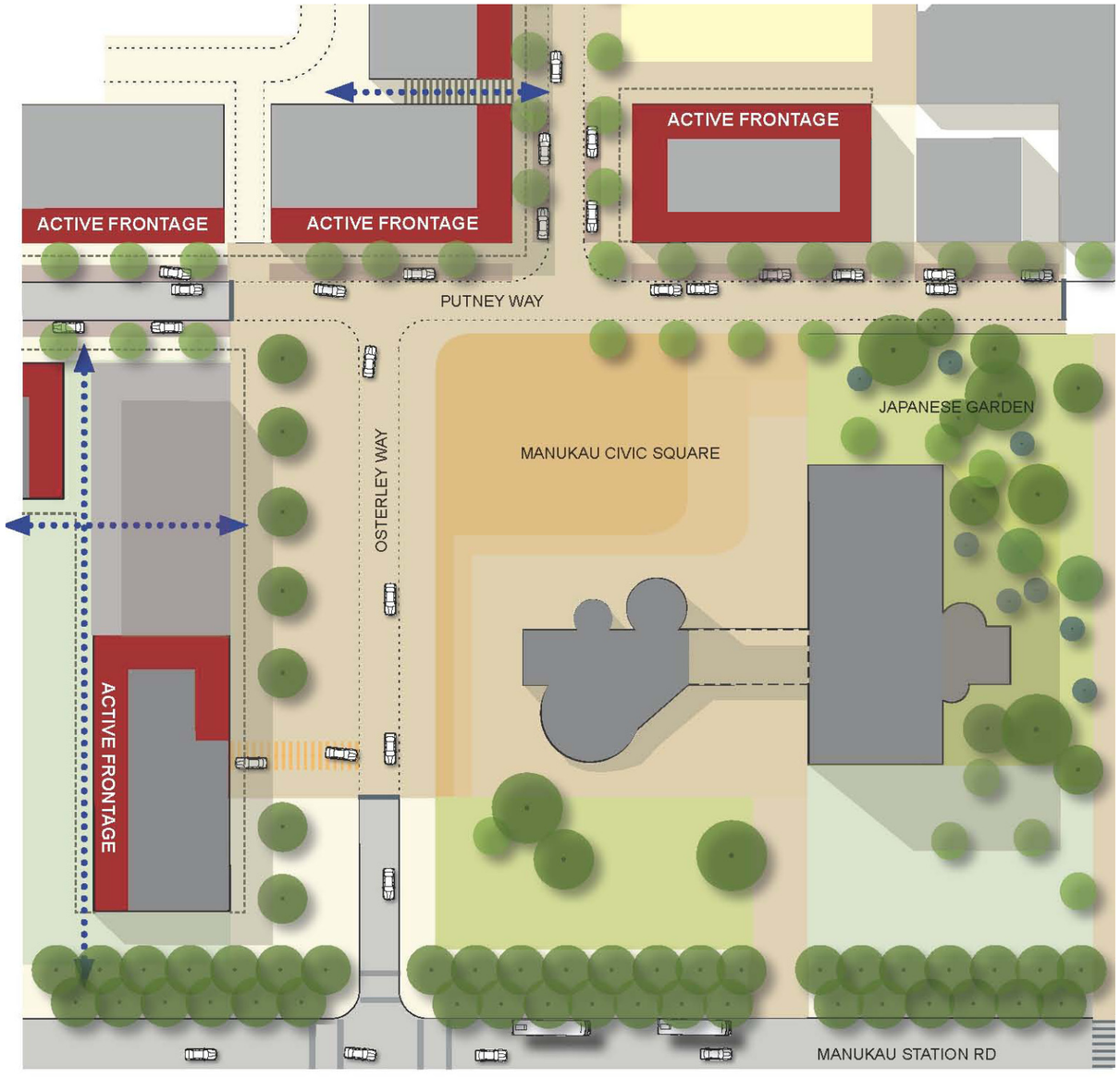
- No car parking space is to be provided on Osterley Way between Putney Way and Manukau Station Road

Piazza del Campo Siena, Italy (from website: http://www.skyscrapercity.com/showthread.php?t=167981&page=14)

Federation Square, Melbourne Australia (photo BML Simon van Wijnen)



Federation Square, Melbourne Australia (photo BML Simon van Wijnen)



Civic Square, Illustrative Plan Only

2 – Manukau Plaza

Objectives

- To provide a significant public open space on the key north–south urban spine adjacent to Westfield Shopping Centre
- To integrate Westfield Shopping Centre into the public domain
- To create a multifunctional and flexible area that can also be used for civic and community events (children's playground, market, performance, entertainment)
- To provide active frontages around the Plaza
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian focused street environment without level changes

Controls

- Provide a public open space as shown on the Manukau Plaza drawing
- Provide street and building alignments as shown on the Manukau Plaza drawing and Structure Plan–Built Form Network drawing
- Provide Type 4 Streets as shown on the Structure Plan-Street Network drawing. Refer to the Streets section for more detail
- Provide active frontages as shown. Refer to General Public Domain Controls section for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Paving

- Design unified paving treatments in accordance with the Technical Manual
- Select paving treatments which encourage recreational use of the Plaza

Vegetation

- Provide street trees as shown on the Manukau Plaza drawing and in accordance with the Technical Manual

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins at entry/exit points and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating in sunny and shaded areas around the periphery of the space
- Provide pavement retail space on the south side of Manukau Plaza

Signage

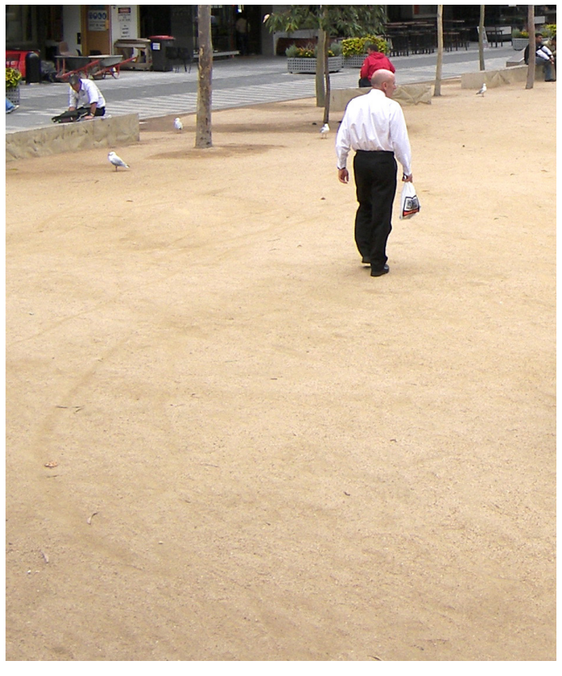
- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

Car parking

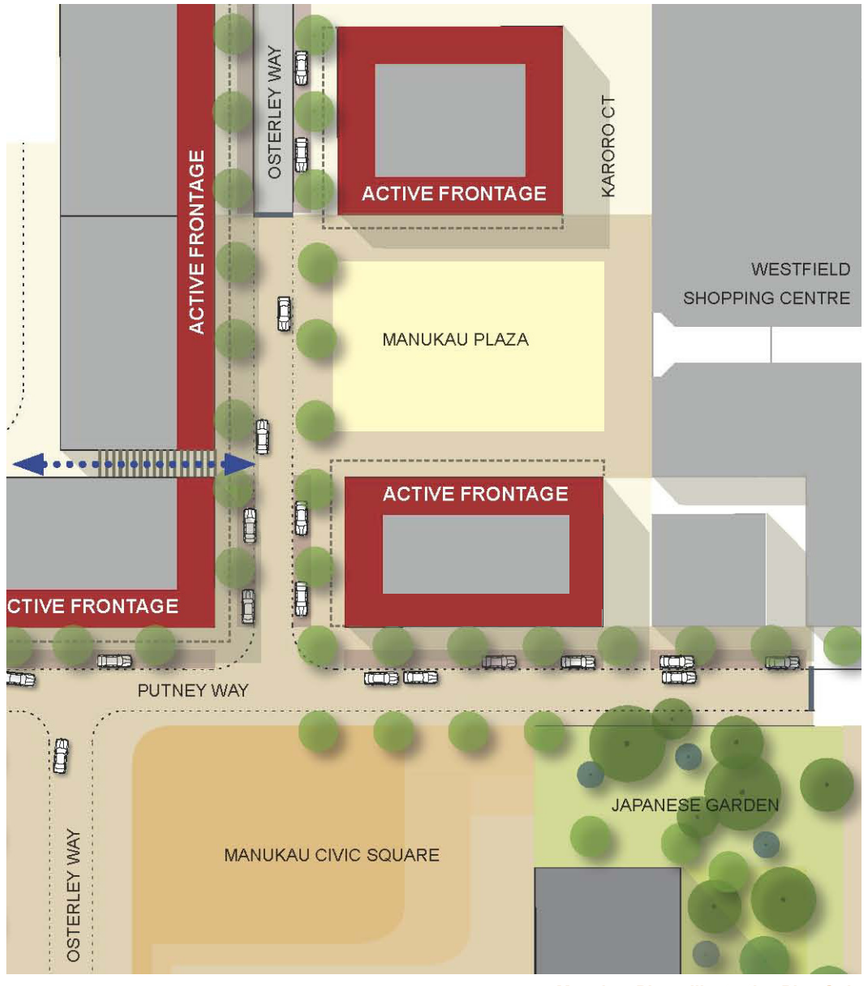
- No car parking space is to be provided on Osterley Way adjacent to the open space of Manukau Plaza

Placa Del Sol, Gracia Barcelona Spain (Source: http://www.flickr.com/photos/ikkoskinen/)

Sloane Square, London UK (photo BML Tim Church)



Swanston Street Walk, Melbourne Australia (photo BML Simon van Wijnen)



Manukau Plaza, Illustrative Plan Only

3 – Barrowcliffe Place and

4 - Wiri Place

Objectives for Barrowcliffe Place

- To provide a gateway arrival space into the city centre from Wiri Rata Vine
- To strengthen the key north-south urban spine
- To provide an active street frontage to activate the area south of the Justice Precinct and increase safety and passive surveillance
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian focused street environment
- To extend the bio-link and canopy connections of Puhinui Stream Corridor into the city centre

Objectives for Wiri Place

- To provide a public open space at street level between the bus stop on Manukau Station Road and the Justice Court extension
- To align Wiri Place and both bus stops on Manukau Station Road with a pedestrian connection to Westfield Shopping Centre and public thoroughfare to Rainbows End
- To provide active frontages at ground level as shown. Refer to General Public Domain Controls section of this manual for details on Active Frontages

Controls

- Provide a publicly accessible open space for Barrowcliffe Place and a public open space for Wiri Place as shown on the drawing opposite
- Provide street and building alignments as shown on the Barrowcliffe Place and Wiri Place drawing and Structure Plan–Built Form Network and Street Network drawings
- Provide Type 2, 3 and 4 Streets as shown on the Structure Plan-Street Network drawing. Refer to the Streets section for more detail
- Active Frontages are to be provided at street level as shown. Refer to General Public Domain Controls section of this manual for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Paving

- Provide unified paving treatments in accordance with the Technical Manual

Vegetation

- Provide street trees as shown on the drawing opposite and in accordance with the Technical Manual

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins at entry/exit points and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating in sunny and shaded areas around the periphery of the spaces

Signage

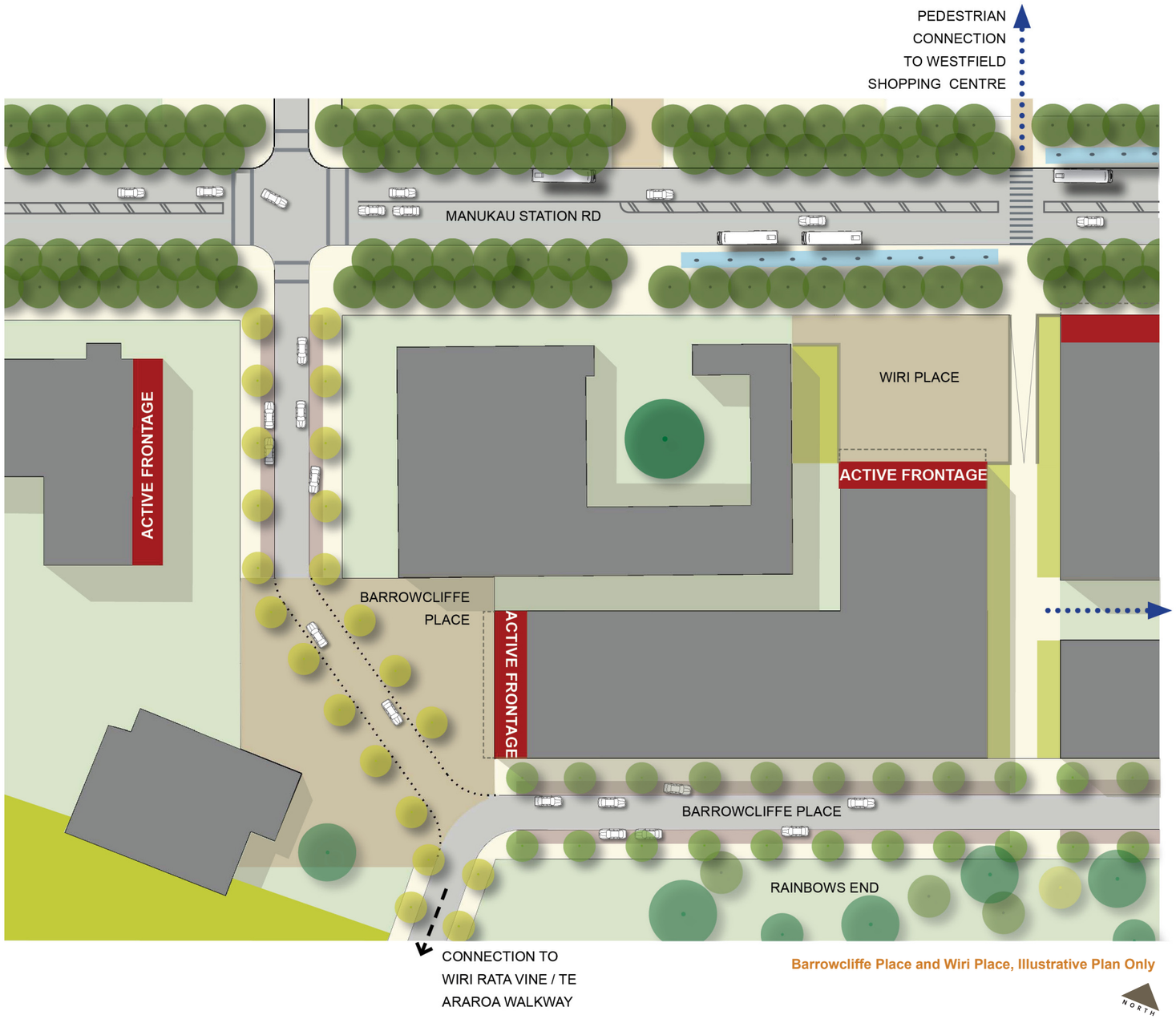
- Incorporate signage into light columns
- Provide multilingual directional/information signage at key zones/nodes

Car parking

- No car parking space is to be provided in the area defined as Barrowcliffe Place or on Manukau Station Road

Britomart, Auckland (photo BML Simon van Wijnen)

Kereru in Kowhai Tree (photo BML Phil Millar)



Barrowcliffe Place and Wiri Place, Illustrative Plan Only

5 – Manukau Station Square

Objectives

- To create an arrival gateway public space to Manukau City Centre which incorporates both sides of Davies Ave
- To accommodate a bus interchange on both sides of Davies Ave
- To provide clear, unimpeded views and access
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian-friendly street environment

Controls

- Provide a public open space as shown on the Manukau Station Square drawing
- Provide street and building alignments as shown on the Structure Plan-Built Form Network and Street Network drawings
- Provide Type 2 Street as shown on the Structure Plan-Street Network drawing. Refer to the Streets section for more detail
- Provide active frontages as shown. Refer to General Public Domain Controls section for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Bus Interchange Canopies

- Provide bus shelter/canopies at locations indicated on the Manukau Station Square drawing and in accordance with the Technical Manual

Paving

- Provide unified paving treatments in accordance with the Technical Manual

Vegetation

- Ensure all forms of planting do not clutter or fill Manukau Station Square

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins clear of all pedestrian movement. Refer to the Technical Manual

Seating

- Provide seating outside areas of pedestrian movement

Signage

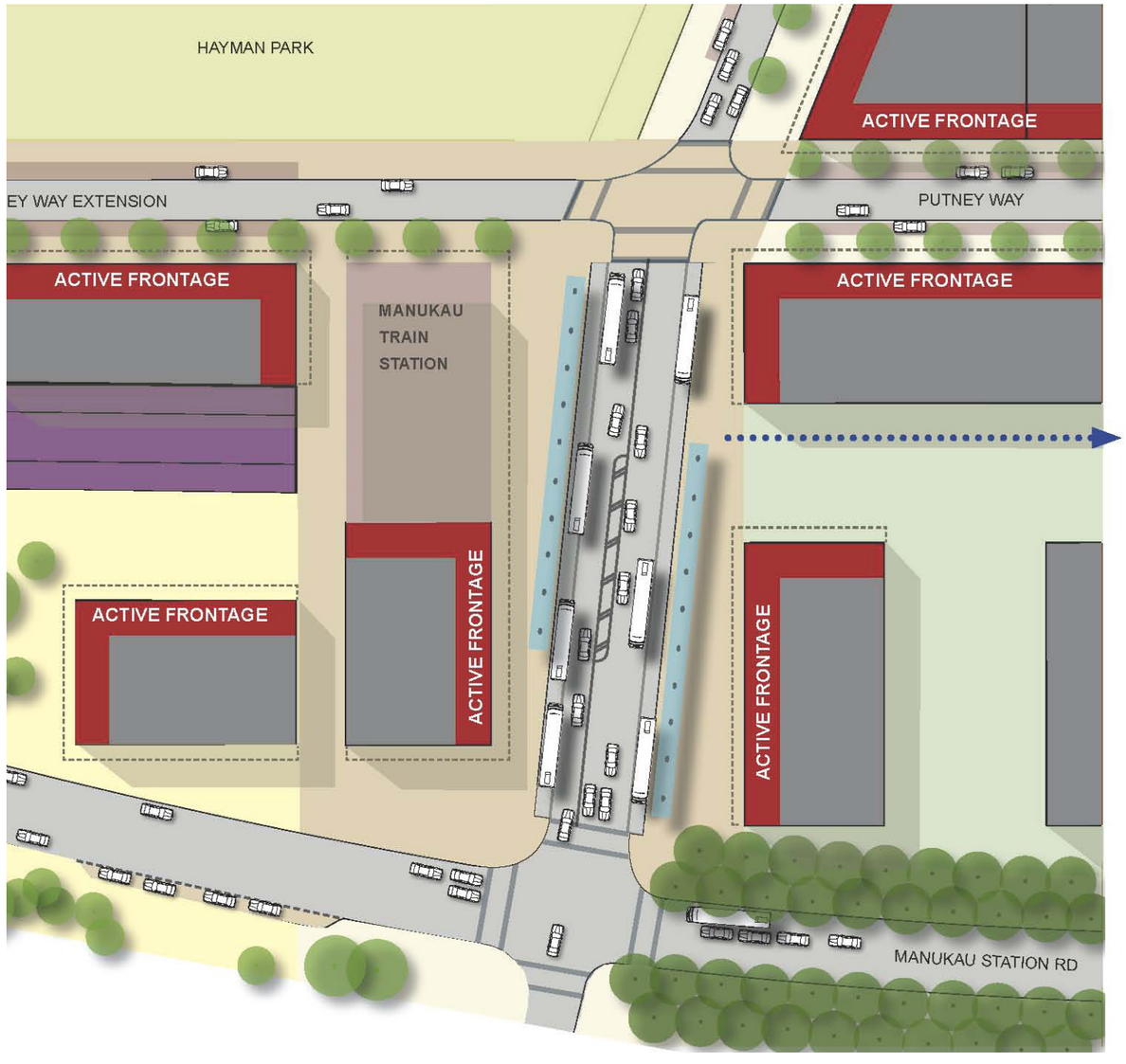
- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

Car parking

- No car parking is to be provided in Manukau Station Square

Musee du Quai Branly, Paris France (photo BML Stuart Houghton)

Lee St - bus station, Sydney Australia (photo BML Simon van Wijnen)



Manukau Station Square, Illustrative Plan Only

6 – Putney Place

Objectives

- To provide a public open space at the western end of Putney Way Extension adjacent to both Hayman Park and Lambie Drive
- To provide a gateway arrival space to the city centre from Lambie Drive and SH20
- To provide access between Lambie Drive and Putney Way Extension (including disabled access)
- To provide active frontages on Putney Way and Lambie Drive at street level
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian-friendly-and-focused street environment

Controls

- Provide public open space on Putney Way Extension and Lambie Drive as shown on the Putney Place drawing
- Provide street and building alignments as shown on the Structure Plan-Built Form Network and Street Network drawings
- Provide Type 4 Street as shown on the Structure Plan-Street Network drawing. Refer to the Streets section for more detail
- Provide active frontages as shown. Refer to General Public Domain Controls section for details on Active Frontages
- Provide a staircase and disabled ramp from Lambie Drive to Putney Way Extension
- Refer to the Technical Manual for detail design controls

Paving

- Design unified paving treatments in accordance with the Technical Manual

Vegetation

- Planting is subject to the outcome(s) from the Hayman Park Design Competition
- Trees are not provided in the Lambie Drive section of Putney Place in order to create a gateway arrival space which is separate from the planting on Lambie Drive

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins at entry/exit points and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating in sunny and shaded areas
- Maximise the potential for informal seating areas and furniture arrangements which foster social activity

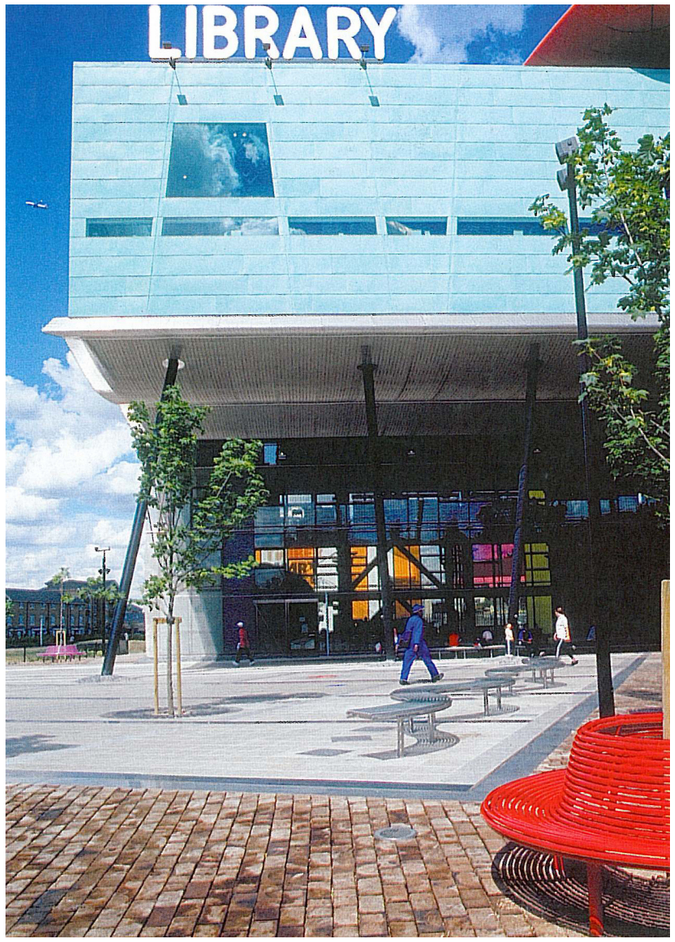
Signage

- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

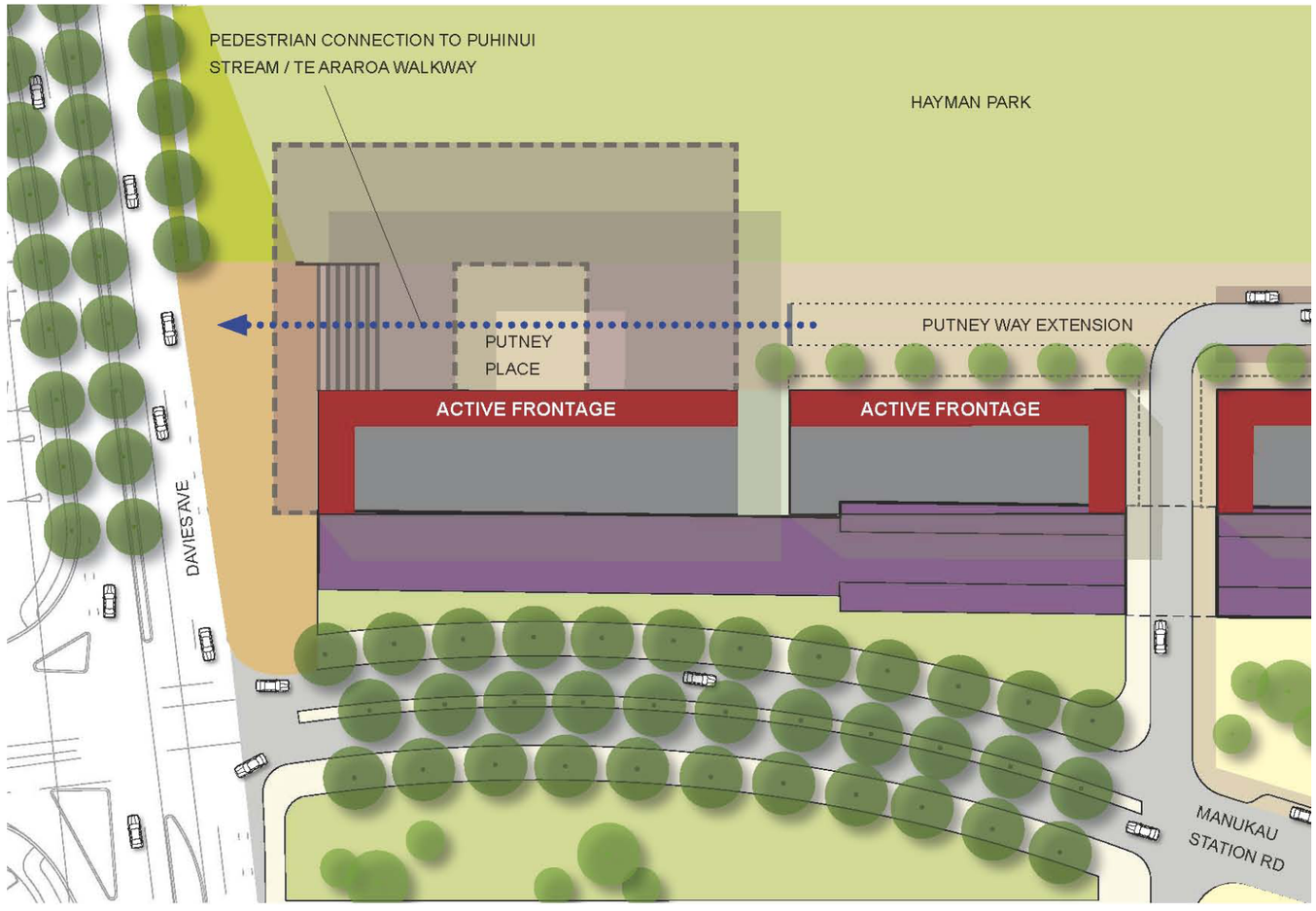
Car parking

- No car parking is to be provided on Putney Way Extension within the area of Putney Place or on Lambie Drive

Peckham Library (Source: http://www.thelightingquotient.com/elliptipar/images/OutdoorProj/SculpturePark/SculpturePark.jpg)



Peckham Library (Source: http://www.thelightingquotient.com/elliptipar/images/OutdoorProj/SculpturePark/SculpturePark.jpg)



Putney Place, Illustrative Plan Only

7 – Ronwood Place

Objectives

- To provide a public open space on Ronwood Avenue between Leighton Way and Amersham Way
- To incorporate both sides of Ronwood Avenue into the public open space
- To incorporate the Hollyford to Ronwood Bus Corridor Route bus stop
- To create a flexible public open space that can be used for pavement retail and public seating (e.g. markets and outdoor dining)
- To provide active frontages within building developments surroundings the public space
- To encourage strong links between AUT Campus and other destinations within the city centre
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian focused street environment

Controls

- Provide a public open space as shown on the Ronwood Place drawing
- Provide street and building alignments as shown on the Structure Plan-Built Form Network drawing
- Provide Type 2 and 4 Streets as shown on the Structure Plan-Street Network drawing. Refer to the Streets section for more detail
- Provide active frontages as shown. Refer to General Public Domain Controls section for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Bus Interchange Canopies

- Provide bus shelter/canopies in locations indicated on the Ronwood Place drawing and accordance with the Technical Manual

Paving

- Provide unified paving treatments in accordance with the Technical Manual

Vegetation

- Provide street trees as shown on the Ronwood Place drawing and in accordance with the Technical Manual

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins at entry/exits and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating outside areas of pedestrian movement

Signage

- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

Car parking

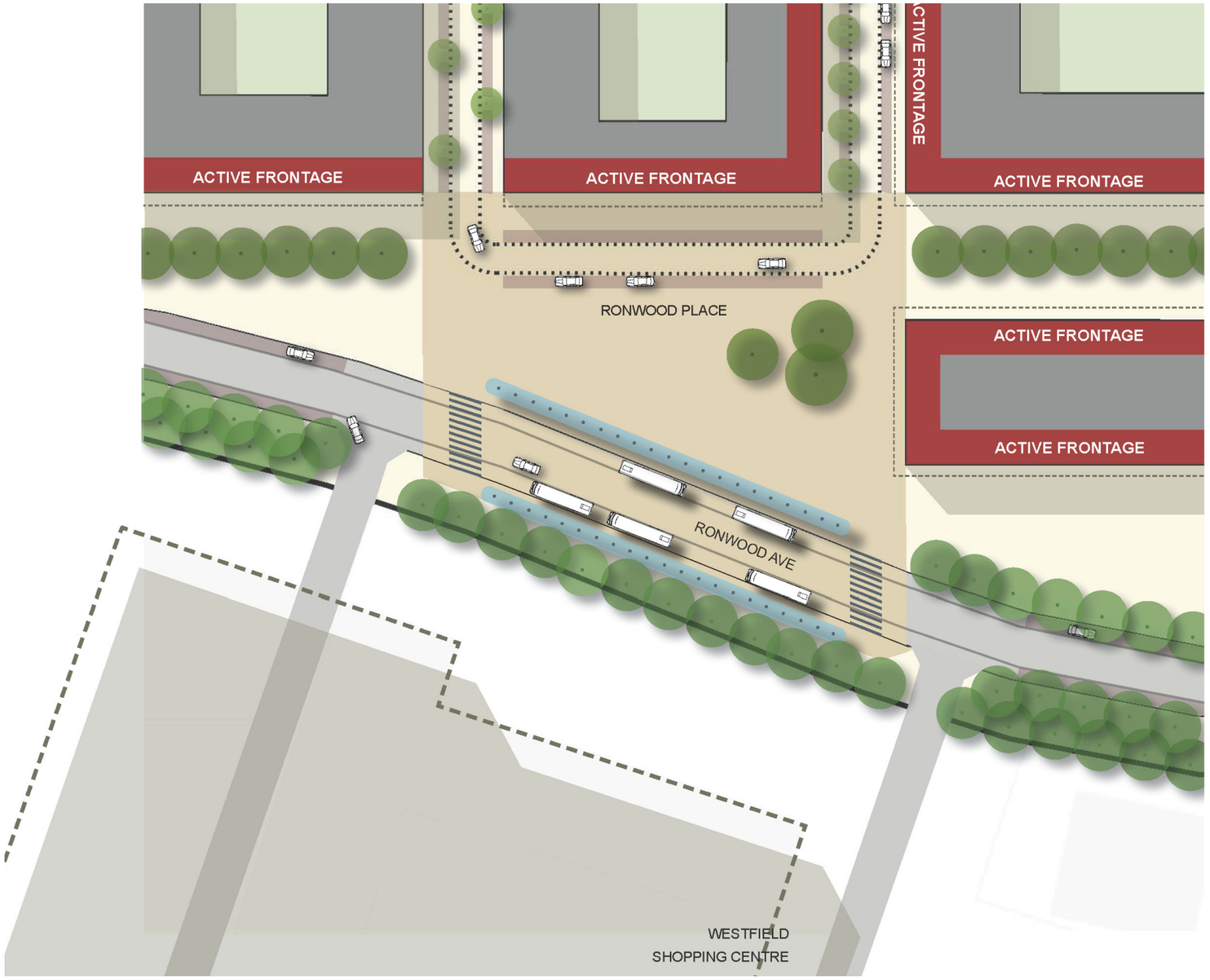
- No car parking is to be provided within Ronwood Place

Stormwater

- Investigate opportunity to provide stormwater management and connect with the Ronwood Precinct stormwater management system
- Ensure any stormwater management within the public space is consistent with the street treatment

Swanston Streetwalk, Melbourne (Photo BML Simon van Wijnen)

Otara Market, Manukau City (Photo BML Simon van Wijnen)



Ronwood Place, Illustrative Plan Only

8- Sharkey Park

Objectives

- To provide a public open space at the intersection of Sharkey Street and Ronwood Lane
- To create a multifunctional park that provides passive recreational space with trees, shaded seating and paved areas
- To provide a diagonal pathway across the park to enable crossing opportunities for pedestrians
- To provide an area to retain and convey local stormwater/runoff (i.e. swale)
- To provide an active frontage on the south side of the park with space for pavement retail
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian focused street environment
- To create bio-links and canopy connections to vegetation communities within and surrounding the city centre

Controls

- Provide a public open space as shown on the Sharkey Park drawing
- Provide street and building alignments as shown on the Structure Plan-Built Form Network drawing
- Provide Type 4 Streets as shown on the Sharkey Park drawing and Structure Plan-Street Network drawing. Refer to the Streets section for more detail
- Active Frontages are to be provided as shown. Refer to General Public Domain Controls section for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Paving

- Provide unified paving treatments in accordance with the Technical Manual
- Install permeable paving where possible within the public open space to allow maximum water infiltration and soften the urban environment

Vegetation

- Provide street trees as shown on the Sharkey Park drawing and in accordance with the Technical Manual
- Provide a combination of native and exotic trees for the park. Provide trees near seating which shade in summer and light in winter
- Provide native vegetation for the planted swale

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins at park entry/exits and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating in sunny and shaded areas
- Maximise potential for informal seating areas

Signage

- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

Stormwater

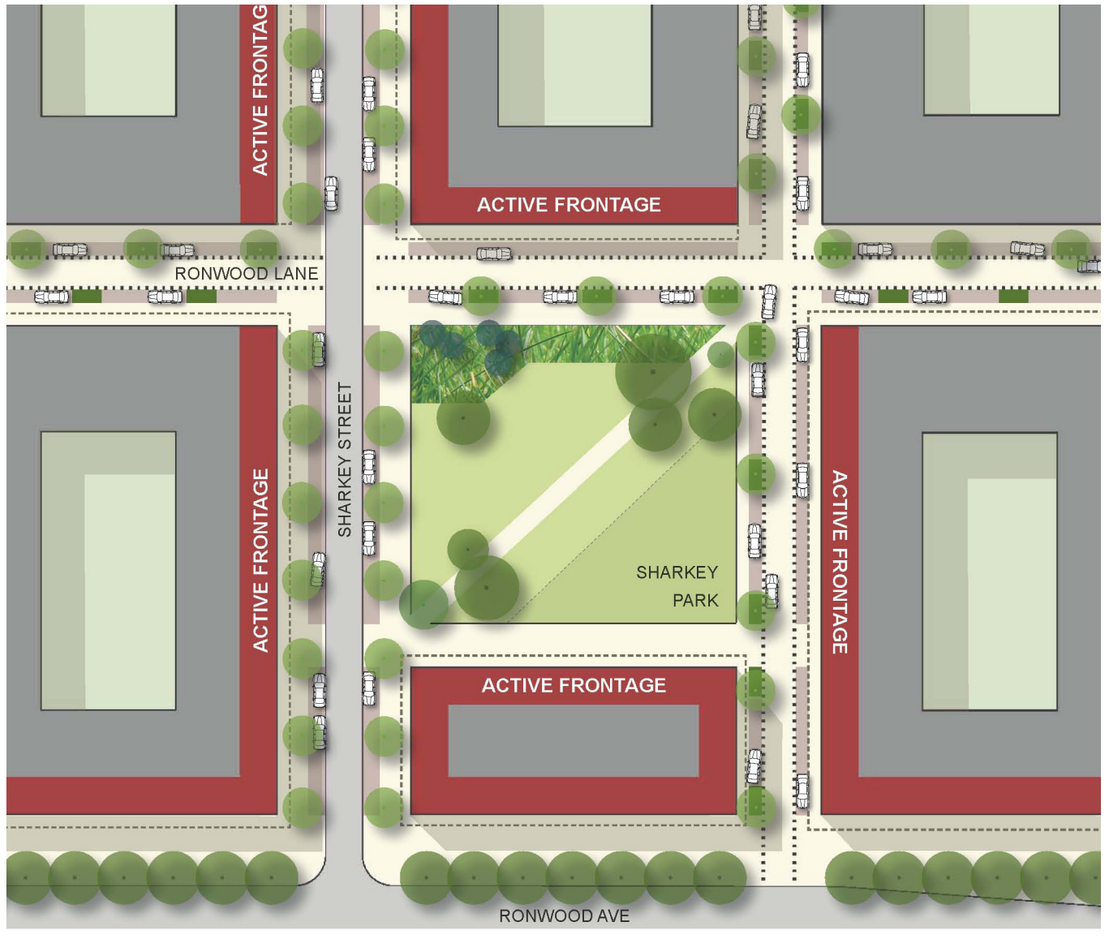
- Provide a vegetated swale to retain and convey stormwater

Car parking

- Car parking is to be provided on the Type 3 and 4 Streets surrounding Sharkey Park as shown on the drawing

Bryant Park, New York (Source: http://commondatastorage.googleapis.com/static.panoramio.com/photos/original/16246514.jpg)

Victoria Park, Sydney (photo: BML Rachel de Lambert)



Sharkey Park, Illustrative Plan Only

9 – Cavendish Corner(s)

Objectives

- To provide a landscaped public open space on the corner of Cavendish Drive and Great South Road/ Lambie Drive
- To provide an area to retain and convey local stormwater/runoff (i.e. swales)
- To provide active frontages adjacent to the public open space and opportunity for a kiosk within it
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian focused street environment
- To create bio-links and canopy connections to vegetation communities within and surrounding the city centre

Controls

- Provide public open space as shown on the Cavendish Corner(s) drawing
- Provide street and building alignments as shown on the Structure Plan-Built Form Network drawing
- Provide Type 4 Shared Streets in locations shown on the Cavendish Corner drawing and Structure Plan-Street Network drawing. Refer to the Streets section for more detail
- Active Frontages are to be provided as shown. Refer to the General Public Domain Controls section for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Paving

- Provide unified paving treatments in accordance with the Technical Manual
- Install permeable paving/timber boardwalks where possible within the public open space(s) to allow maximum water infiltration and soften the urban environment

Vegetation

- Provide native vegetation for the planted swale(s)
- See the Technical Manual for recommended trees for Type 1 and 4 Streets. These can be contrasted within the recreational areas with a selection of exotic trees which provide shade in summer and open sky in winter

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins at park entry/exits and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating in sunny and shaded areas
- Maximise potential for informal seating areas

Signage

- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

Stormwater

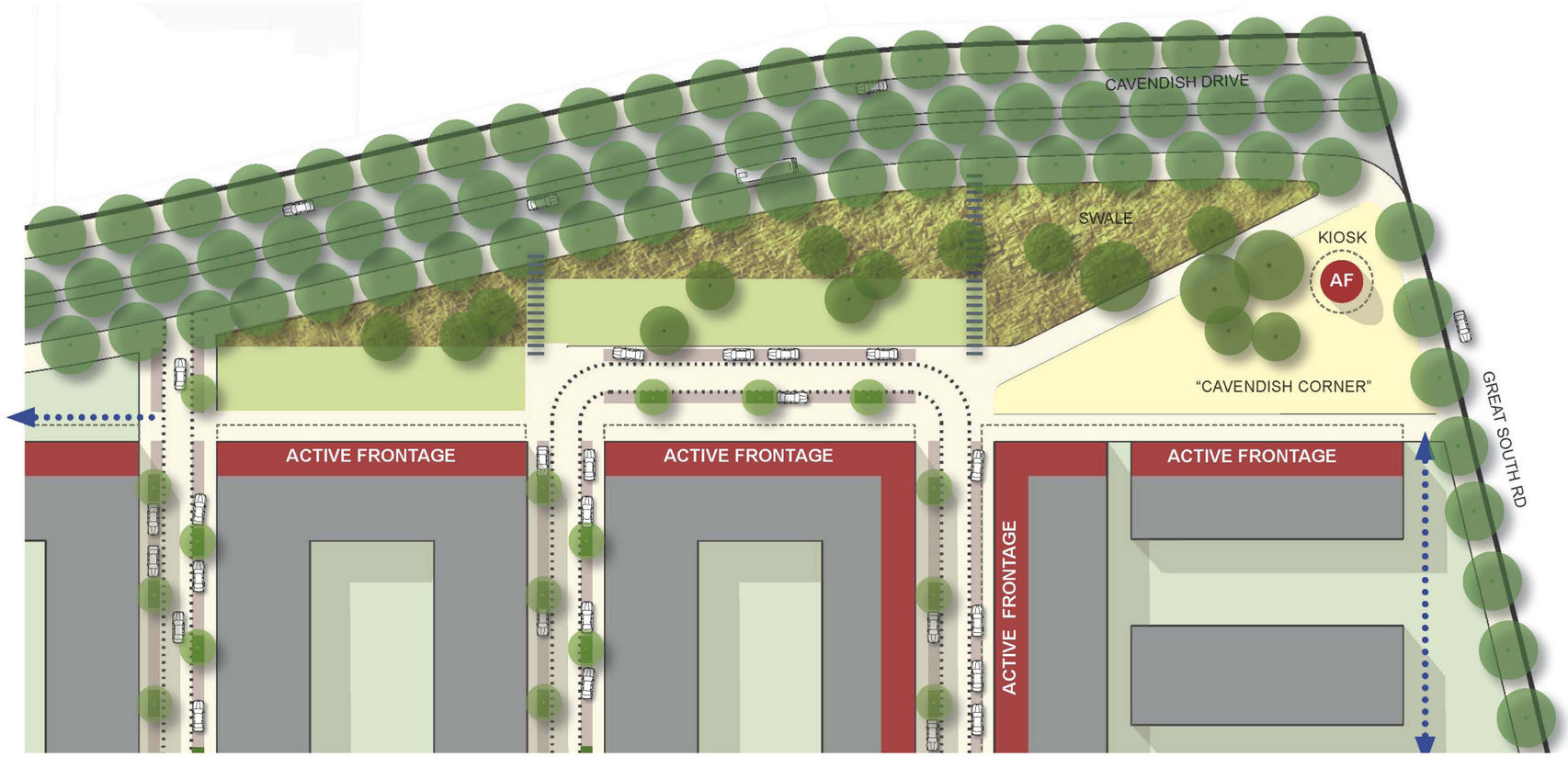
- Provide a vegetated swale to retain and convey stormwater

Car parking

- Car parking is to be provided on the Type 4 Streets as shown on the Cavendish Corner(s) drawing

Victoria Park - vegetated swale, Sydney Australia (photo BML Rachel de Lambert)

Swanston Street Walk - Melbourne Australia (photo BML Simon van Wijnen)



Cavendish Corner, Illustrative Plan Only

10 – Ronwood Way Swale Park

Objectives

- To provide a public open space at the western end of Ronwood Lane
- To create a multifunctional park that provides recreational space (e.g. playground) with trees, shaded seating, paved and grassed areas
- To provide an area to retain and convey local stormwater/runoff (i.e. swales)
- To provide active frontage along Ronwood Lane adjacent to the public open space
- To promote a shared city environment which encourages co-operation between street users for a safe, pedestrian focused street environment
- To create bio-links and canopy connections to vegetation communities within and surrounding the city centre

Controls

- Provide public open space as shown on the Ronwood Lane Swale Park drawing
- Provide street and building alignments as shown on the Structure Plan-Built Form Network drawing
- Provide Type 3 and 4 Streets as shown on the Ronwood Lane Swale Park drawing and Structure Plan-Street Network drawing. Refer to the Streets section for more detail

Waitangi Park, Wellington (Photo: BML Chris Punt)

- Active Frontages are to be provided as shown. Refer to General Public Domain Controls section for details on Active Frontages
- Refer to the Technical Manual for detail design controls

Paving

- Provide unified paving treatments in accordance with the Technical Manual
- Install permeable paving/timber boardwalks where possible within the public open space to allow maximum water infiltration and soften the urban environment

Vegetation

- Provide native vegetation for the planted swale(s)
- See the Technical Manual for recommended trees for Type 4 Streets. These can be contrasted within recreational areas with a selection of exotic trees which provide shade in summer and open sky in winter

Lighting

- Install street lighting along key pedestrian routes
- Reduce visual clutter by incorporating light fittings on built elements where possible. Refer to the Technical Manual

Bins

- Locate bins at park entry/exits and not directly next to benches/seating areas. Refer to the Technical Manual

Seating

- Provide seating in sunny and shaded areas
- Maximise potential for informal seating areas

Signage

- Incorporate signage into light columns
- Provide directional/information signage at key zones/nodes

Stormwater

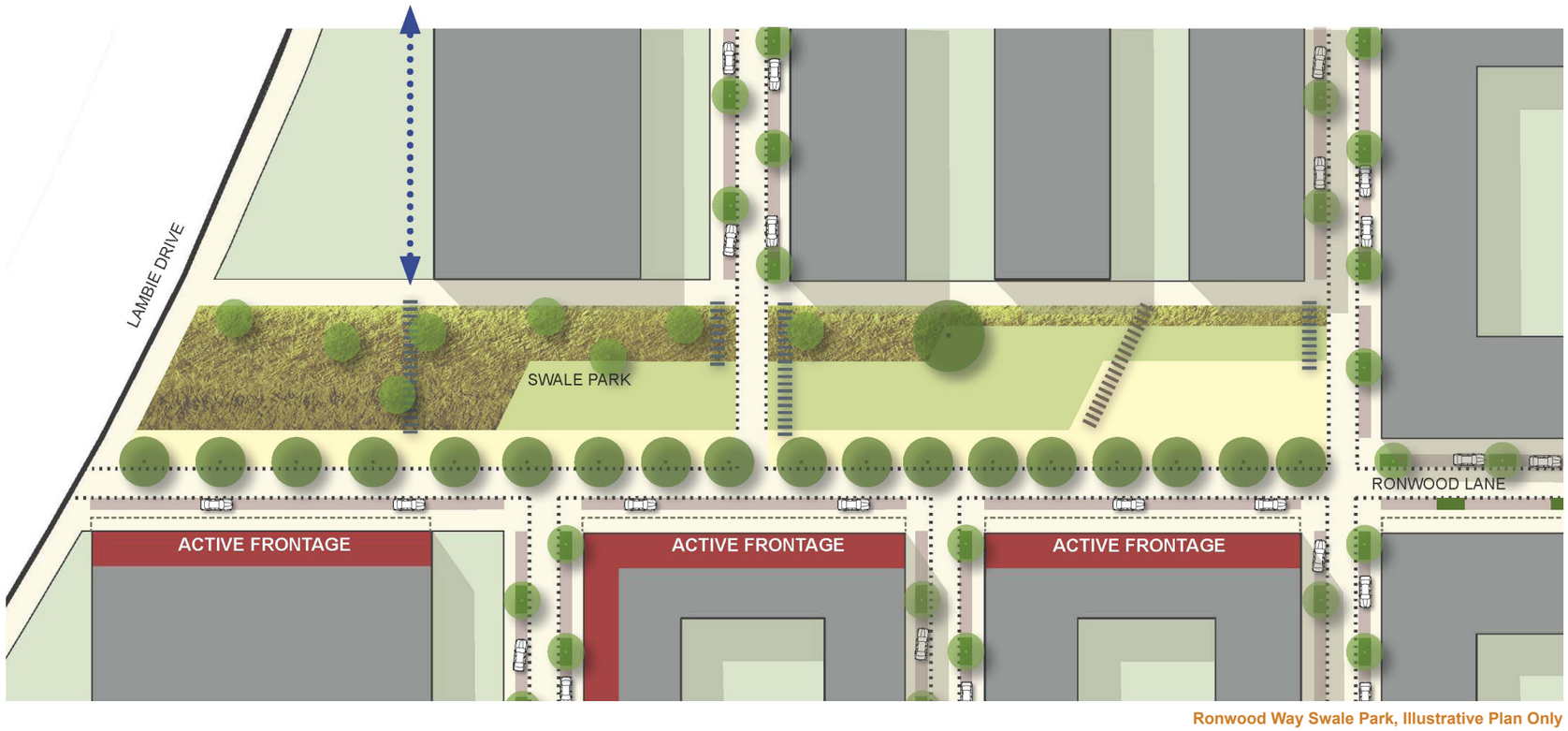
- Provide a vegetated swale to retain and convey stormwater

Car parking

- Car parking is to be provided on Ronwood Lane as shown on the drawing

Barry Curtis Park, Flat Bush Manukau City (photo BML Simon van Wijnen)

Verdon beach - swale, Martigues France (Source: "Territories" design Agence Ter)



Ronwood Way Swale Park, Illustrative Plan Only

11 – Hayman Park

Area: 10 hectares

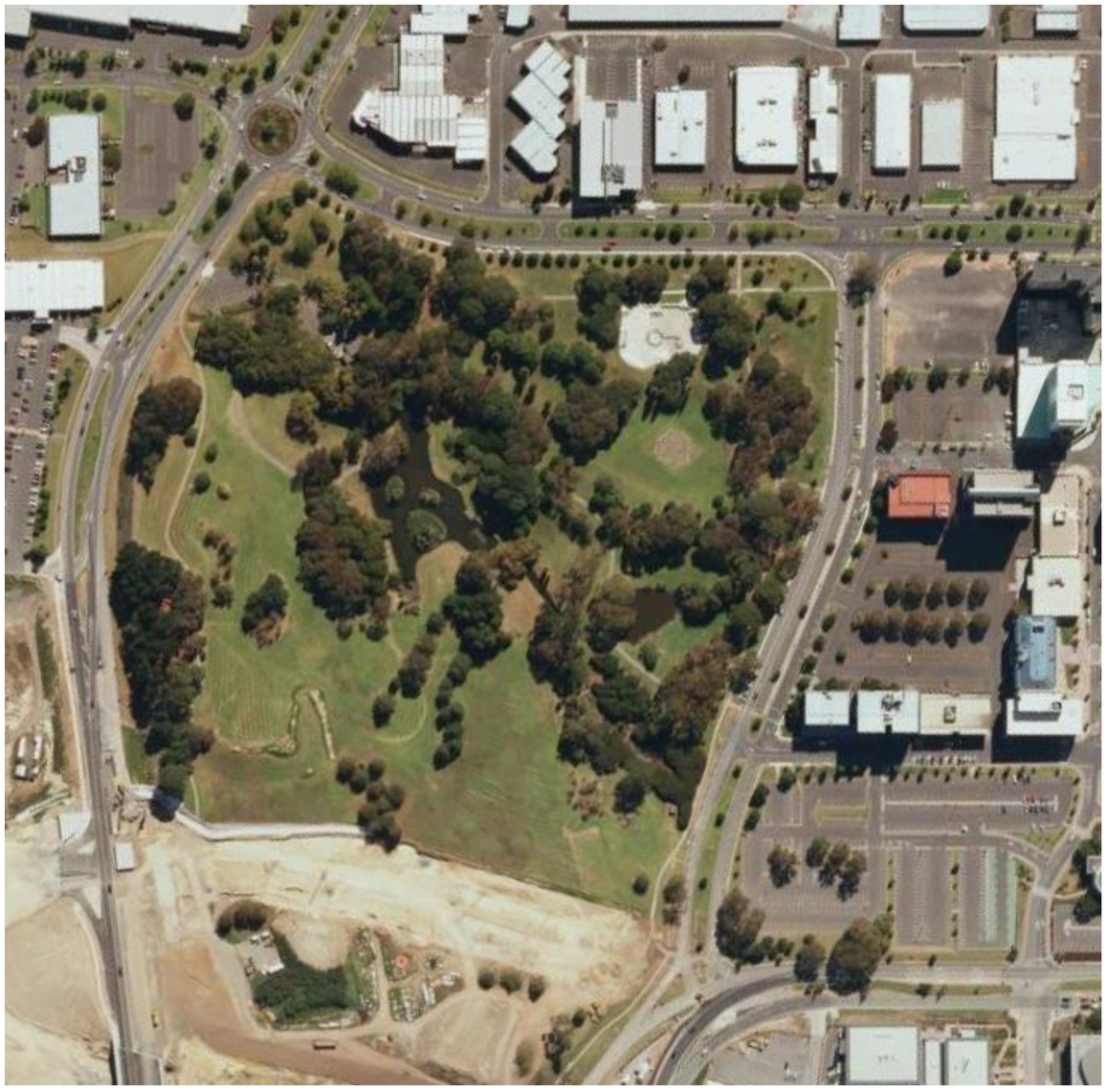
The design of Hayman Park is being progressed by means of a design competition.

Objectives of Hayman Park Design Competition

- To envisage the park's transition from the periphery of an urban context undergoing city-scale re-development towards a unique place at the heart of the Manukau CBD
- To provide defined treatments for key park uses, events and large scale gatherings
- To provide refined transitions between the park and its physical boundaries and surrounding contexts, including Putney Way Extension and the potential impact of the MIT Campus on the park
- To provide identification of functional/activity spaces and uses
- To provide movement and circulation within and around the site
- To recognise the specific outcomes required by stormwater / transport / roading / urban design and parks
- To provide a clear understanding of the park's relationship to its regional, local and city centre context
- To increase public safety within the park based on CEPTED principles

Controls

- Controls and Requirements subject to the outcome(s) from the design competition and further discussion with council and stakeholders



Hayman Park, Manukau City Centre (Source Google Earth)

General Public Domain Controls

Pedestrian and Cycling Strategy

Strategy

Human behaviour in social space is characterised by movement which is not guided by a pre-determined uniform programme, but by what people feel like from one moment to the next. The movements are unfocused, unpredictable and relatively slow. People's behaviour in social space is largely determined by the physical environment and by the behaviour of others, and eye contact plays an important role.

The Pedestrian and Cycling Strategy is designed to accommodate this behaviour. The space of the city centre is defined as a shared city environment. The aim is a design and layout of streets, public spaces and buildings where traffic, people, and any other spatial function are in balance with each other.

The pedestrian network aims to link public open spaces along the north-south and east-west urban spines and maximise the potential connections from the three new bus interchanges. Key public open spaces that enhance the quality of the pedestrian connections and consolidate places as "slow space" destinations are located within the city centre.

Dedicated cycle lanes are to be provided along Type 1 Streets as shown on the Pedestrian and Cycling drawing and indicated in the Streets section. Wider kerbside lanes are to be provided in Type 2 Streets to accommodate space for cyclists within the general flow of traffic. Elsewhere, Type 3 and 4 Streets are designed for slower vehicular traffic and increasing priority is given to the movement of cyclists and pedestrians.

The integrated Pedestrian and Cycling Strategy maximises the opportunities for pedestrian and cycle circulation within the city centre and provides additional connectivity to surrounding areas. The pedestrian and cycling network also maximises interchange opportunities with bus and rail public transport. The strategy is supported by the provision of end-of-trip facilities.

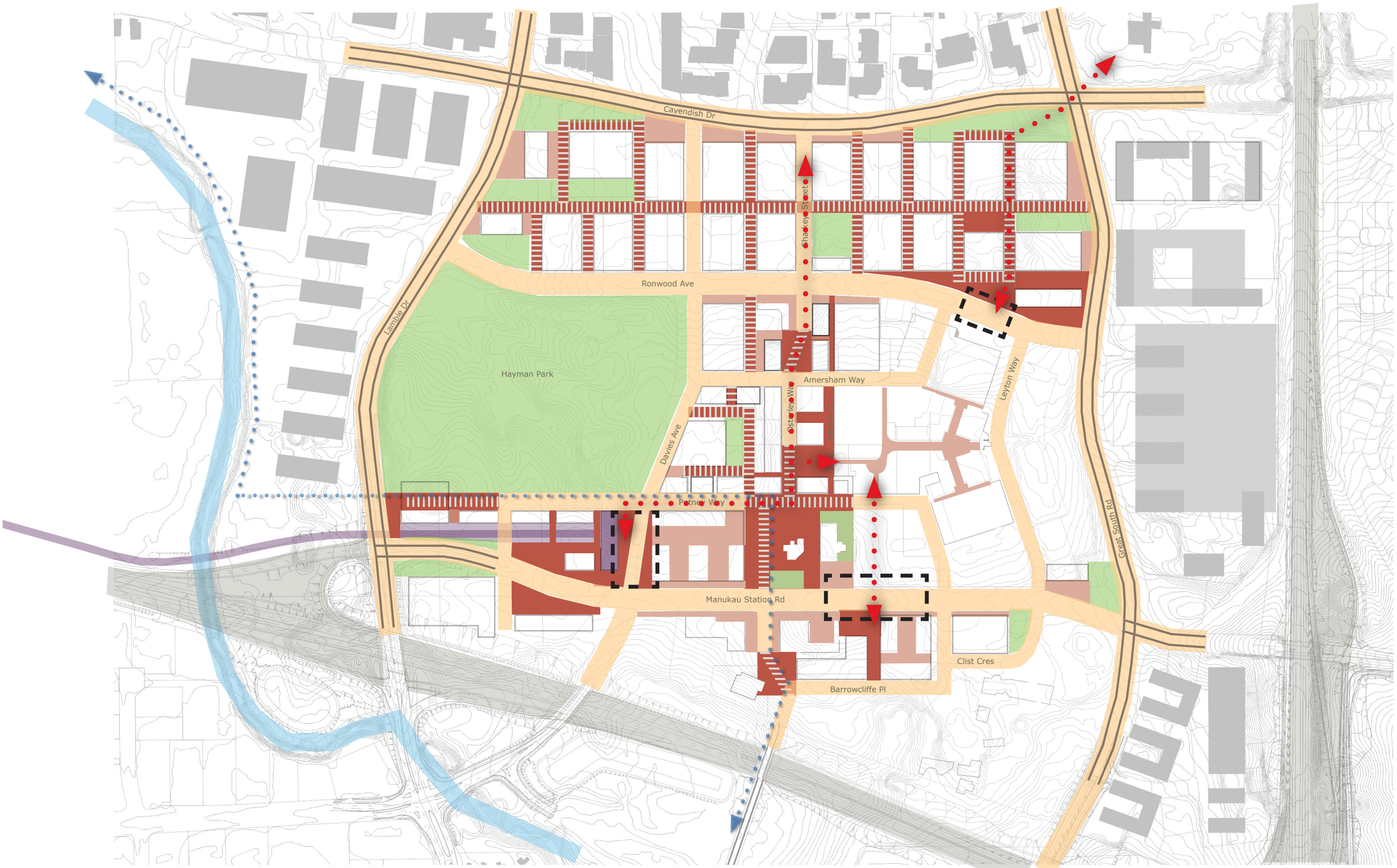
Objectives

- To maximise pedestrian and cycle connections through and around the city centre
- To maximise cycle and pedestrian permeability within the city centre
- To create a safe, high quality pedestrian and cycle network
- To maximise interchange opportunities with public transport
- To support cycle use by providing appropriate storage and end-of-trip facilities
- To encourage diverse pedestrian activities within the city centre, including both active and passive recreation
- To provide active frontages along key pedestrian routes, enabling economic and social well-being from investment in the network

Controls

1. Provide dedicated cycle lanes along Type 1 Streets
2. Provide kerbside traffic lanes for Type 2 Streets which incorporate space for cyclists
3. Provide lockable bicycle storage and end-of-trip facilities at train stations, bus stops and within developments
4. Provide pedestrian footpaths on all streets defined as Types 1, 2 and 3 Streets
5. Provide pedestrian orientated shared streets for Type 4 Streets

Swanston Street Walk - Melbourne (photo BML Simon van Wijnen)



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Active Frontage

Strategy

Active uses at ground level are encouraged within Manukau City Centre. Active Frontages have been identified where active street level uses need to be consolidated and developed, creating vibrant streetscapes in all areas with pedestrian traffic. Transparency and openings to the street are to be maximised; and blank walls, fire exits and building service elements are to be minimised.

Objectives

- To create vibrant streetscapes along pedestrian routes and around public open spaces
- To encourage activity within the city centre outside commercial business hours
- To provide a mix of uses to support an increasing employment and residential population over time
- To enhance pedestrian safety, security and amenity within the city centre
- To ensure all entrances and foyers to residential properties establish clear sightlines and address the street

Otara Mall - shop frontages, Otara Manukau City (photo BML Simon van Wijnen)

Controls

1. Continuous street level active uses must be provided where active frontages are shown on Precinct Public Domain drawings and Public Open Space drawings
2. Active uses are defined as one or a combination of the following:
    a. shop fronts
    b. retail/service facilities with a street entrance
    c. café or restaurants with street entrance
    d. community and civic uses with a street entrance
    e. recreation and leisure facilities with a street entrance
    f. commercial or residential lobbies with a street entrance
    g. commercial and residential lobbies must not occupy more than 20% of the total length of the building's street frontage for primary active frontages and 30% for secondary active frontages
3. Entries to active frontage tenancies are to be accessible and at the same level as the adjacent footpath
4. Active uses must occupy the street frontage for a depth of at least 10m
5. On sloping sites, the maximum level change between ground floor tenancies and the adjacent footpath is 600mm
6. A minimum of 90% of the building frontage is to be occupied by windows and glazed doors
7. Clear glazing is to be provided to windows and doors. The sill height must be max. 600mm above the internal finished floor level
8. Active frontage facades are to be punctuated by columns/vertical elements to provide vertical articulation. The maximum spacing between columns must not exceed 10m
9. Continuous awnings are to be provided to active frontages. Refer to Awnings and Canopies in this section
10. Vehicular access points are not preferred where active frontages are indicated
11. Provide minimum one door per 10m within active frontages

Sloane Square - activated public domain, London (photo BML Tim Church)

"More London" Tooley Street - retail frontage, London UK (photo BML Tim Church

Victoria Street west - evening street frontages, Auckland City (photo BML Simon van Wijnen)

Pavement Retail / Public Seating

Strategy

Pavement Retail/Public Seating is a designated flexible zone at the edge of footpaths/open spaces where activity relating to adjacent active frontage can take place, or publicly accessible seating shall be positioned. Activities include outdoor dining or retail/ sale stalls.

These pavement retail/public seating zones are proposed to activate the public domain at key locations throughout the city centre. The activity will add to the vibrancy of the shared city environment and the overall character of streets and precincts.

Care needs to be taken that public open space and pedestrian movement is not compromised by pavement retail/public seating zones.

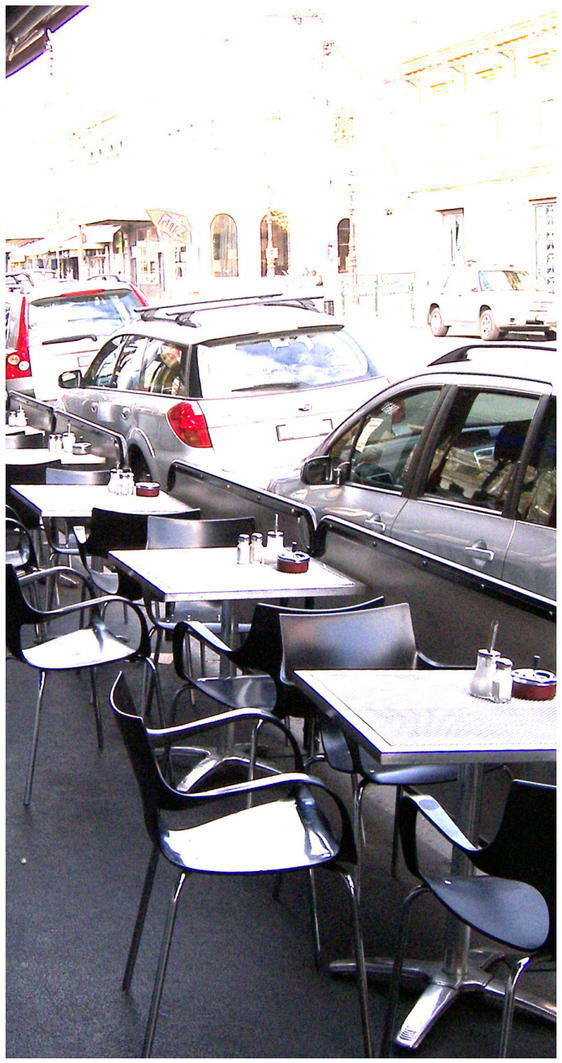
Objectives

- To maximise social interaction within the city centre
- To support economic opportunities adjacent to active frontages
- To clearly define areas for public seating and street furniture

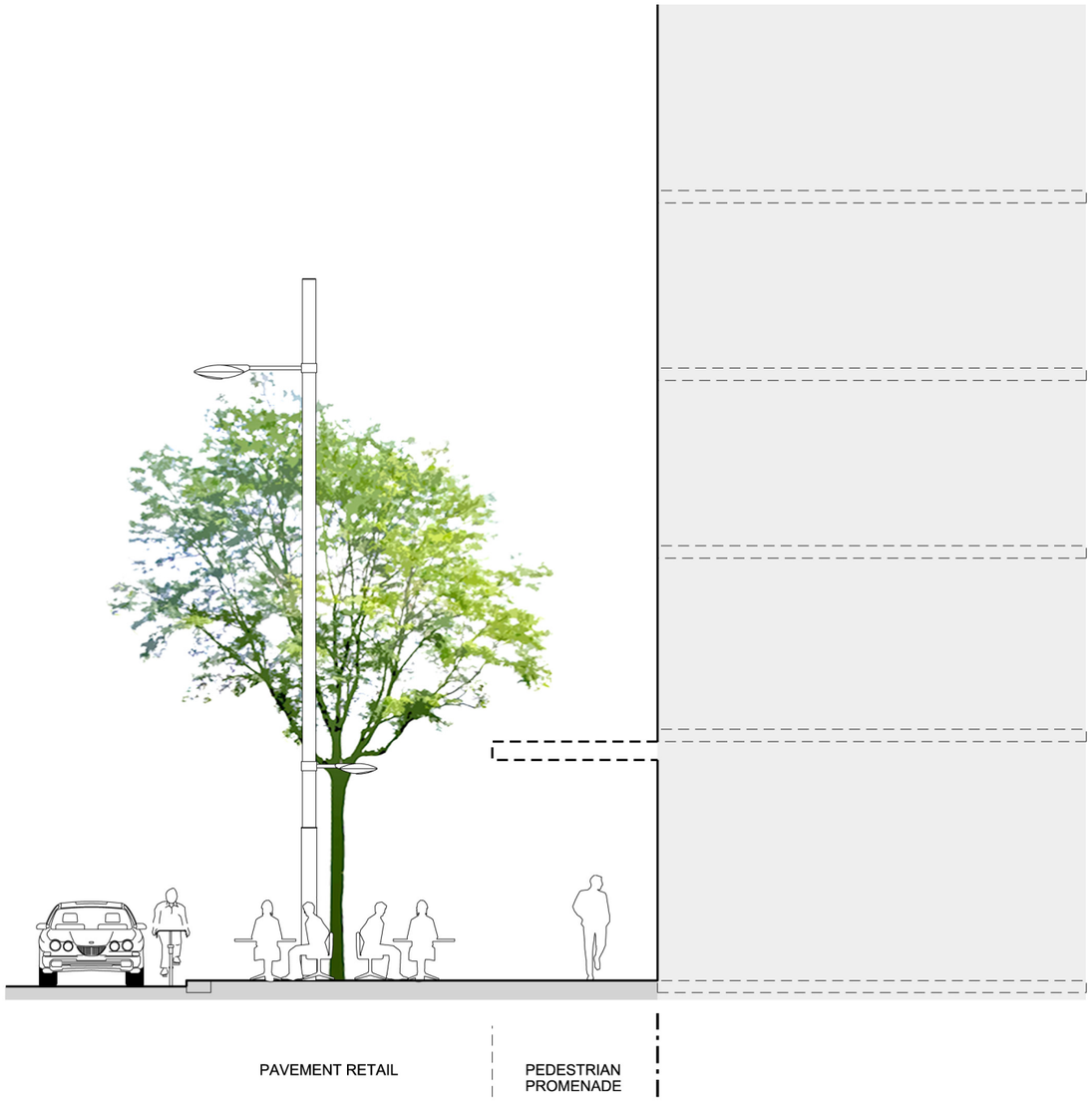
Controls

1. Provide a mix of Pavement Retail and Public Seating adjacent to active frontages
2. Provide public seating in accordance with the Technical Manual
3. Maximise potential for Pavement Retail, such as outdoor eating areas on streets or along the edges of public open space

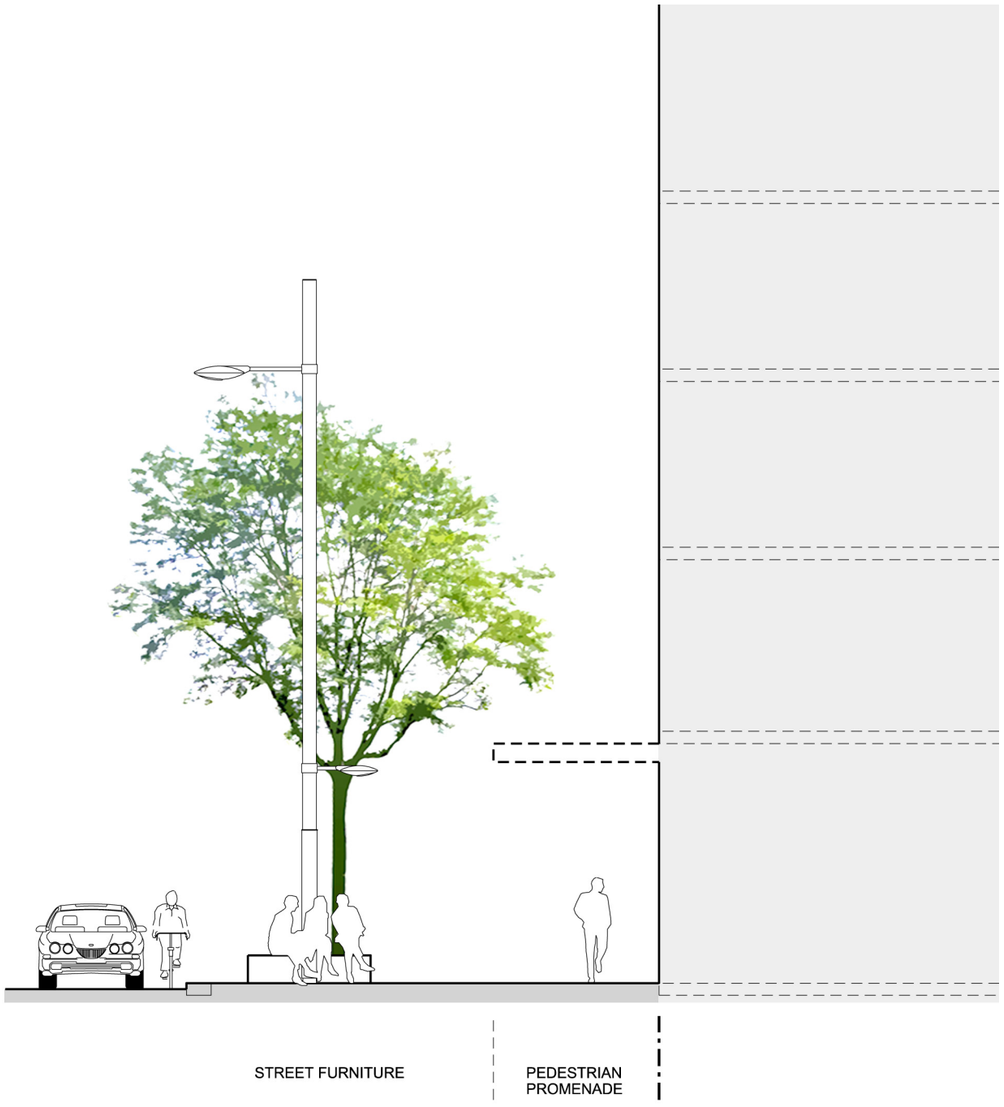
Otara Mall - public seating, Otara Manukau City (photo BML Simon van Wijnen)



Brunswick Street - outdoor seating, Melbourne Australia (photo BML Simon van Wijnen)



Pavement Retail

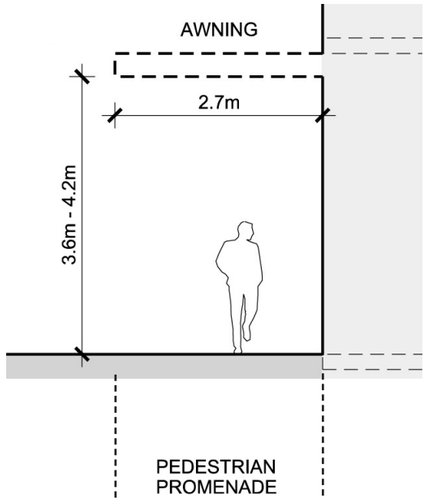


Public Seating

Awnings and Canopies

Strategy

Awnings increase pedestrian amenity by providing shelter and enclosure at a pedestrian scale. They encourage pedestrian activity along streets and in conjunction with active edges such as retail frontages, support and enhance the vitality of the local area. Awnings and entry canopies provide a public presence and interface with the public domain and contribute to the identity of developments.



Nuffield Street - awning, Newmarket Auckland (photo: Simon Devitt)

Objectives

- To unify the streetscape
- To provide weather protection, safety and security for pedestrians
- To demarcate building entries and contribute to the image and identity of developments

Controls

- Continuous awnings must be provided where awnings are shown in each Precinct Public Domain Interface drawing. Entry canopies and discontinuous awnings are permitted elsewhere in the city centre

Continuous Awnings

- Awning width is to be a minimum 2.7m
- Provide awnings with a soffit height of 3.6m above the finished ground floor level. On sloping sites, awning soffit height may vary from 3.6m - 4.2m
- Awning heights are to be co-ordinated with adjoining properties
- Where the topography slopes along the street, awnings are to step to provide a regular height over the footpath. Steps in awnings should not exceed 600mm
- Stepped awnings must be detailed to provide continuous weather protection
- Under-awning lighting is to be provided to achieve appropriate luminance levels (refer to relevant NZ Standards). This should be recessed into the soffit of the awning

Entry Canopies

- Entry canopies and discontinuous awnings may be provided to building entries not located along Active Frontages
- Entry canopies may be glazed or solid and are to be co-ordinated with the overall facade design
- Provide canopies with a soffit height of 3.6m - 4.2m

Landscaping and communal courtyards

Strategy

Landscaped courtyards and communal open spaces are to be provided in consolidated areas, and configured and designed to be useable, attractive and safe. Communal landscaped areas should incorporate a deep soil area to accommodate tree growth. Landscaping is to be designed for water efficiency and is to retain existing significant and native trees.

Objectives

- To provide occupants with passive recreational opportunities
- To provide an area on-site for soft landscaping and deep soil planting
- To improve stormwater quality and minimise water consumption through implementation of water sensitive urban design guidelines
- To provide a pleasant outlook and contribute to the landscape character of the city centre
- To enhance solar access into buildings

Controls

1. A minimum % of the developable area of the site is to be provided as a Landscaped Area. The % will be determined through a future Plan Change for Manukau City Centre. This Manual recommends 35%. 'Landscaped Area' is defined as an area on the site not occupied by any buildings except for swimming pools or open air recreation facilities; which is landscaped by way of gardens, lawns, shrubs or trees; and is available for use and enjoyment by the occupants of the building, excluding areas used for driveways, parking areas or drying yards
2. Solar access to communal open spaces is to be maximised. Communal courtyards must receive a minimum of 3 hours direct sunlight between 9am and 3pm on the 21st of June
3. Communal open spaces are to incorporate primary deep soil area where possible. The landscaping of courtyard spaces is to provide for the growth of mid-to-large sized trees
4. Landscaped areas are to incorporate trees, shrubs and ground covers with native vegetation where appropriate
5. Landscaping is to contribute to water efficiency and effective stormwater management. Landowners are to consult with Council for requirements to address stormwater quality and quantity

Borneo Sporenburg Eiland - building "the Whale" landscaped courtyard, Amsterdam The Netherlands (photo BML Simon van Wijnen)

Vehicular Access

Strategy

Vehicular access is defined as the ability for cars, maintenance and service vehicles to access the development. The location, type and design of vehicle access points into a development will have significant impact on the streetscape, the site layout and the building façade design. It is important that vehicle access is integrated into site planning from the earliest stages to balance any potential conflicts with streetscape requirements and traffic patterns, and to minimise potential conflicts with pedestrians.

Friedrichstrasse - carpark entrance, Berlin Germany (photo BML Simon van Wijnen)

Objectives

- To integrate adequate car parking and servicing access without compromising street character, landscape or pedestrian amenity, and safety
- To encourage the active use of street frontages

Controls

1. Vehicular access is not preferable along streets identified as Active Frontage
2. Where practicable, vehicle access is to be from secondary streets
3. Potential pedestrian/vehicle conflict is to be minimised by:
    a. limiting the number and width of vehicle access points
    b. ensuring clear sightlines at pedestrian and vehicle crossings
    c. utilising traffic calming devices
    d. separating and clearly distinguishing between pedestrian and vehicular accessways
4. The appearance of car parking and service vehicle entries is to be improved by:
    a. locating or screening garbage collection away from the street
    b. locating loading and servicing areas away from the street
    c. locating car park entries parallel to the main façade line
    d. avoiding black holes in the façade by providing security doors to car park entries
5. Where doors are not provided, ensure that the visible interior of the car park is incorporated into the façade design and material selection.
6. Ensure that building service pipes and ducts are concealed, and return the façade material into the car park entry recess for the extent visible from the street as a minimum
7. The width of driveways is to be determined in accordance with the requirements of the relevant NZ Standards
8. Ramps to basements, including transition spaces, are to be located within the property boundary and are to avoid effects on the functioning of the street and it's visual qualities
9. Security gates shall be located within property boundaries to ensure queuing vehicles can wait within the property, maintaining uninterrupted pedestrian, cyclist and vehicle movements along the street and footpath
10. Security gates and entrances to car parks shall be provided with sufficient lighting and designed to be properly overlooked from the street (diagonal overview)

Through Site Links

Cafe Federation Square, Melbourne (photo Tracey Moore)

Strategy

Through-site connections provide a fine-grained overlay to the built form structure and street network of the city centre. Pedestrian through-site links are to be provided where they contribute to the walkability and permeability of the city centre and are a useful addition to the street network. The design of through-site links is to maximise pedestrian accessibility, amenity and safety.

Through-site links are separately defined, continuous and clearly identifiable public walkways taking the most direct route. Through-site links should be designed specifically to traverse a site to connect roads or other public open spaces, or other through-site links. Through-site links should be of substantial public benefit by providing a shorter and more convenient route than any alternative.

Objectives

- To expand and enhance the pedestrian network and increase pedestrian permeability throughout the Manukau City Centre

- To ensure that through-building-zone connections are accessible, continuous, well lit, safe and supported by active uses
- To provide equitable access for all

Controls

1. Provide through-site links with free public access and be available for public use when the site is open for business or for its principle purpose
2. Provide a minimum unobstructed width of the through-site link of 4m
3. Provide clearly visible signage to identify the link and the times that it is available
4. Provide sufficient lighting with lighting levels over the through-site link of 100 lux and 150 lux above stairs/ escalators, at a minimum uniformity of 0.6
5. Pedestrian through-site links must be provided:
    a. within the precincts, where pedestrian through-site links are shown in the Precinct Public Domain and Public Open Space drawings
    b. as determined by Council on a site-by-site basis. Requirements for pedestrian through-site links are to be discussed with Council prior to lodging a Development Application
6. Pedestrian through-site links are to be straight and with clear views from end to end
7. Pedestrian through-site links can either be open or enclosed. Enclosed pedestrian links must have a minimum ceiling height of 3.6m
8. Where pedestrian through-site links are adjacent to a courtyard or public space, the design of the pedestrian link is to be integrated with the design of the open space, and access is to be provided between the two spaces
9. Where pedestrian through-site links are provided b etween buildings, a high level of transparency is to be provided between the internal ground floor space of the building and the pedestrian link
10. Active ground level uses are encouraged along pedestrian through-site links. Refer to Active Frontages for appropriate active uses
11. Provide access in accordance with the relevant NZ Standard for accessibility of the mobility impaired

Oostelijke Handelskade precinct - through site link, Amsterdam The Netherlands (photo BML Simon van Wijnen)

Hydrology

Strategy

The quality and quantity of stormwater runoff and inundation directly affects the function of Manukau City Centre, and indirectly the Puhinui Stream. Development of the city centre provides an opportunity to integrate stormwater management systems within landscape and urban design objectives. Stormwater design should seek to reduce and treat stormwater runoff, while also raising awareness of naturally occurring processes in the catchment. It is anticipated that low impact design approaches in the developed landscape will contribute significantly to the amenity of the built environment and create a unique sense of place.

Objectives

- Attenuate and treat stormwater before it enters reticulated systems to reduce downstream effects on infrastructure and flooding, and to minimise potential effects on the receiving environment
- Utilise public domain and landscape amenity features for on-site stormwater management, also providing opportunities for public enjoyment and interpretation of water in the environment
- Encourage systems that use stormwater in place of potable water, such as passive irrigation to landscape areas
- Provide above-ground detention areas to minimise the nuisance from stormwater inundation
- Promote development types that respond to flood potential through appropriate freeboard, free passage of overland flow, and avoidance of downstream inundation
- Promote landscape amenity and ecology outcomes from stormwater management approaches
- Control potential contaminant spills prior to entering the receiving environment
- Promote development with appropriate freeboard and overland flow paths to accommodate flooding

Victoria Park water sensitive design Sydney, Australia (McGreggor Coxal design photo: BML Rachel de Lambert)

Controls

1. All stormwater leaving a site is to be managed in accordance with council guidelines and technical publications for urban stormwater management
2. Post-development hydrology should be equivalent to pre-development hydrology based on a forested catchment, including total quantities and peak flows up to a 2 year storm event (i.e. hydrologically neutral)
3. At least 90% of the water requirement for irrigation of public landscape areas should be sourced from on-site rainwater collection or recycled site water
4. An LID approach to stormwater design is proposed, led by landscape, ecology, and urban design objectives to meet stormwater controls
5. Roofing, guttering and down pipes should avoid the use of zinc or copper
6. All built structures should collect rainwater for general use
7. Water supply tanks should be designed as part of the overall building structure
8. Flat roofs are encouraged to accommodate a green roof treatment for the majority of its surface area

Scaniaparken - Wetland park, Malmo Sweden and Verdon beach - watercourse, Martigues France (Source: design Agence Ter)

Scaniaparken streetscape - water sensitive design, Malmo Sweden (photos BML Simon van Wijnen)

Pirrama Park - raingardens Pyrmont Sydney, Australia (photos BML Simon van Wijnen)

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Credits

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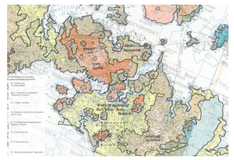
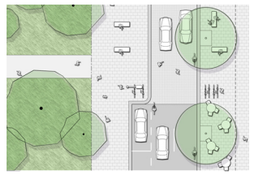
Manukau City Centre Public Domain Manual

Appendix: Technical Manual

Public Domain Manual: Appendix

Contents



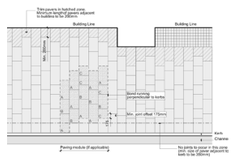


Character

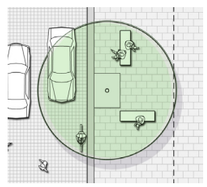
Strategy

Typical Arrangements

Technical Details

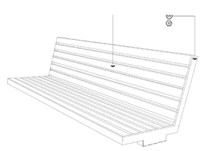


Hardworks



Street Trees

Street Lighting



Furniture

= Structure of the Technical Manual

Introduction

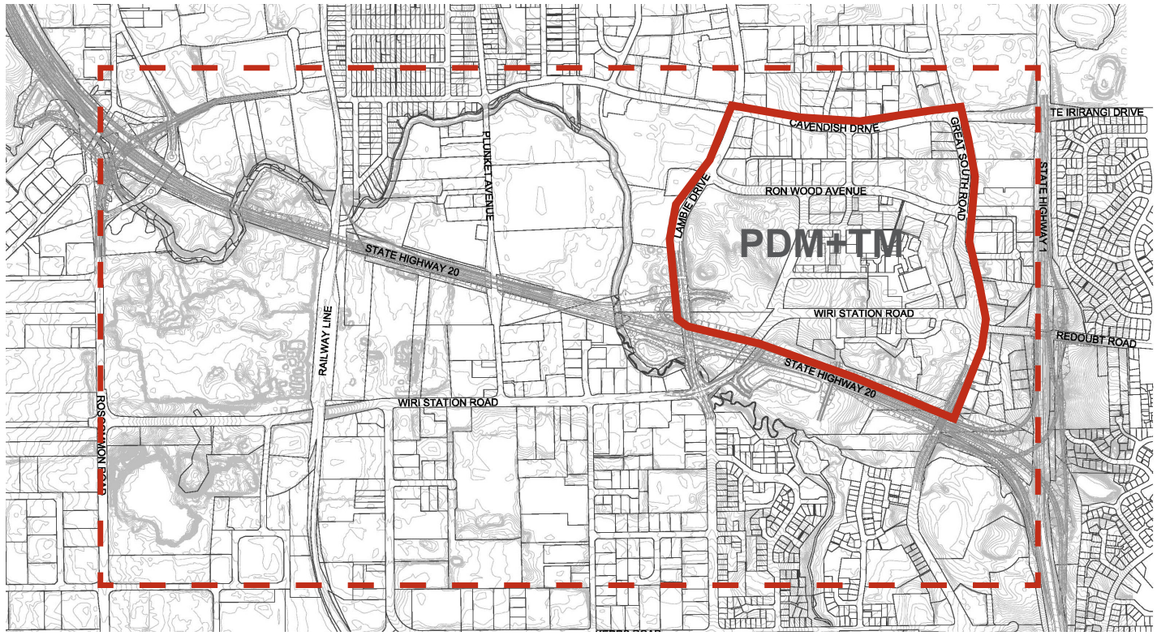
Purpose of the Technical Manual

This document has been produced in conjunction with the Manukau City Centre Public Domain Manual.

The purpose of the Technical Manual is to provide urban design guidelines and technical information to assist developers and council in constructing public domain works. A standard kit of hard and soft streetscape design elements will make it easier for designers to focus on the fundamentals of good, detailed urban design rather than on selection of decorative effects and bespoke character. Consistent application of the Manual's recommendations will lead over time to enhanced urban legibility in the city centre and an improvement in the overall quality of the public realm.

The Technical Manual (TM) applies to all public realm development in the area covered by the Manukau City Centre Public Domain Manual (PDM), as illustrated opposite. Manukau City also encourages developers of private land within the area covered by the Technical Manual to adopt the guidance provided by the Manual in the design of hard and soft landscape within their sites.

The Technical Manual has been prepared for Manukau City Council by Boffa Miskell Ltd.



Use of the manual

The Manual comprises the following sections:

Character

The character section provides general discussion of the landscape character of the region and its relevance to the outcomes and objectives for the city centre public domain

Strategies

Key objectives and strategies are outlined for street paving, trees, furniture and fixtures.

Typical arrangements

The recommended arrangements provide information regarding the typical arrangement of streets with reference to streetscape elements including pavement, trees, lighting and furniture.

Technical Details

The technical details for all public domain elements include:

- Hardworks
- Street Trees
- Lighting
- Fixtures and Furnishings

These details are intended to be used as guidelines to assist in the specification and construction of public domain works. The Technical Manual compliments the Council Engineering Quality Standards (EQS).

Manukau City Centre Public Domain Manual

Technical Manual: Character

Character

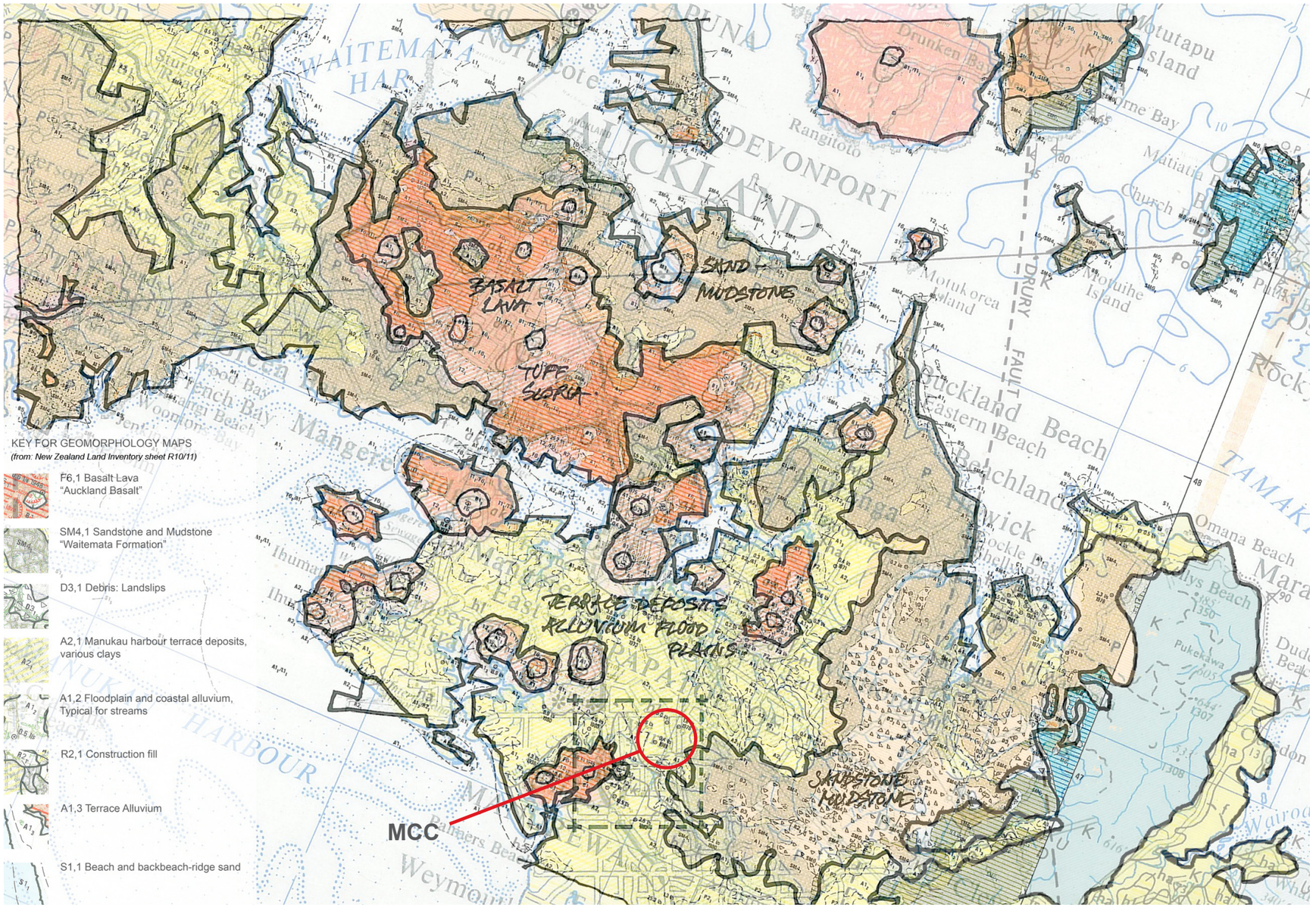
Paving

The underlying geomorphology of Manukau contrasts with that of the Auckland Isthmus. Where the Auckland Isthmus landscape is mainly composed of volcanic tuff rock deposits, basalt, lava and scoria, the Manukau flatlands are mainly clay alluvial plains with volcanic pockets.

An understanding of this geomorphology informs the palette of paving materials proposed for Manukau City Centre. The palette builds on the local environment and establishes a specific ‘sense of place’.

The dominant street paving material for the city centre palette will be Clay Pavers. Their materiality, texture and warm cream colour express a strong connection with the clay alluvial plains of Manukau. The clay paving creates an understated ground plane for the streetscape which has the ability to accommodate a range of other material types harmoniously.

The selected palette of materials will distinguish Manukau City Centre from other urban centres in the Auckland Region where different materials, textures and/or colours have been applied (see opposite).



Geomorphology map of the Auckland Region (Source: Manukau City Centre Spatial Structure Plan Vol 2, 2008 Boffa Miskell)

Clay Paver and Basalt Rock at Takutai Square, Auckland City

Concrete Paver, Newmarket Station, Auckland City

Clay pavers, Takutai Square Britomart, Auckland City

Clay Pavers, Quay Street/Viaduct, Auckland City

Concrete in situ, Otara Mall, Manukau City

Clay Pavers, Shirley Rd Papatoetoe, Manukau City

Clay Pavers, Osterley Way, City Centre Manukau

Clay pavers and Asian Basalt, Hibiscus Coast Highway Orewa

Concrete in situ, Beach Front Ln Browns Bay, North Shore City

Clay Paver and concrete, Station Rd Manurewa, Manukau City

Clay Pavers, Tamaki Drive, Auckland City

Asian Basalt, Broadway, Newmarket Auckland City

Concrete Pavers, Atkison Ave Otahuhu, Auckland City

Clay Paver, Great South Rd Manurewa, Manukau City

Clay Pavers, Memorial Drive New Lynn, Auckland City

Asian Basalt, Queen Street, Auckland City

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Precendents: Pavement material Auckland Region

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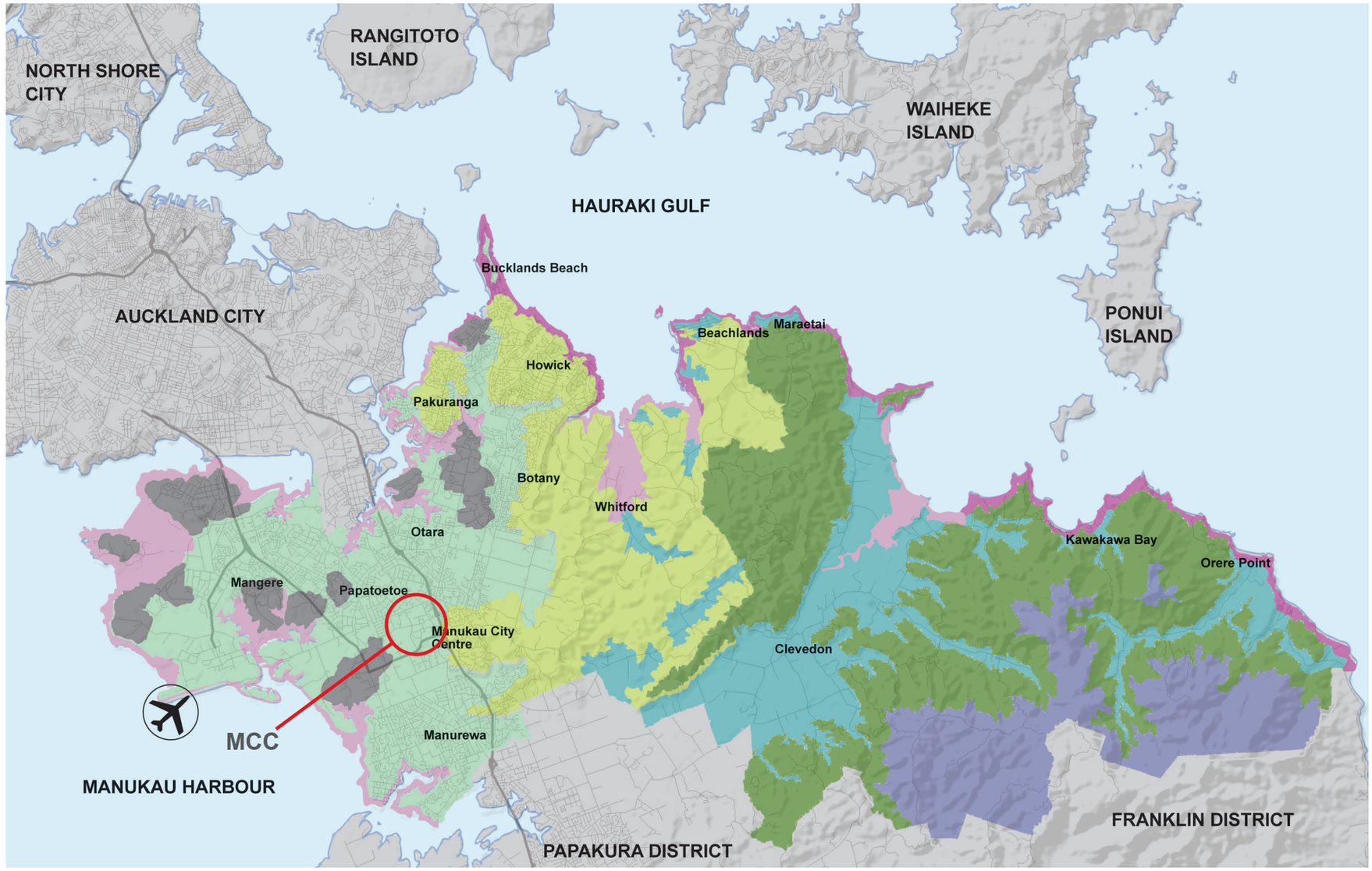
Street Trees

In an urban environment trees provide an important visual and ecological resource, moderating climate, creating shade and giving a scale to mediate between the human and built environments. In particular, Manukau City Council has recognised the importance of native planting in restoring indigenous biodiversity to Manukau City.

The scope of ecological restoration goes beyond existing public parks and reserves. The extension and linking of native vegetation through citywide restoration planting is set out in the Council's 'Native Restoration Planting Guidelines'.

The map overview to the right shows the range of ecosystem zones that originally made up the Manukau landscape. The city centre is identified as an area of 'Flatlands' immediately adjacent to 'Low Lying Undulating Foothills'.

The appropriate tree species for these ecosystems that are also suitable as street trees are identified in the Technical Manual's Street Tree Strategy. The primary principle governing selection is achieving a mixed planting of native trees in order to create an Urban Forest that enhances biodiversity and creates linkages with larger islands of indigenous planting in parks and reserves. A second principle is achieving a uniform planting of deciduous exotic trees in residential contexts in order to provide shade in summer and sunlight in winter.



Character Ecosystem Zones Manukau City (Source: Manukau City Council "Native Restoration Guidelines" 2007 Boffa Miskell)

Totara tree in Auckland Botanical Gardens

Kahikatea Street Trees, Napier City

Totara tree in the Domain, Auckland City

Street with mixed planting of Kauri and Pohutukawa, Auckland City

London Plane trees, Symonds Street, Auckland City

Manukau City Centre Public Domain Manual

Technical Manual: Strategy

Strategy

Paving

Application of a consistent palette of paving materials throughout the city centre will create a seamless and legible public domain. The main strategy for selecting paving materials is to create a clear and coherent structure that provides a unified, recognisable local character.

The paving treatment recommended for each street responds to its specific character, location and scale. All paving materials have been selected for their durability, robustness and easy maintenance. The initial and long term maintenance costs of materials have also been considered to ensure that the recommended materials are affordable in the short and long term.

Key objectives of the paving strategy are to:

- Create a public domain that is unified and visually seamless
- Reinforce the legibility of the street hierarchy and the range of pedestrian environments
- Emphasise the Urban Spines identified in the Public Domain Manual
- Utilise materials with a consistent colour and finish to create a visually consistent ground plane
- Achieve environmental objectives in accordance with the Public Domain Manual
- Utilise robust, affordable and durable materials

The Technical Manual identifies five paving type categories related to the street hierarchy established in the Public Domain Manual. These categories are:

Paving Type A: Arterial Roads

This paving treatment is nominated for public footpaths along arterial roads around the city centre: Lambie Drive, Cavendish Drive and Great South Rd. The paving materials compliment the scale, simplicity and function of the roading environment.

The dominant paving material for type A is in situ concrete with an exposed finish. Specifications and a detailed description of paving type A is discussed in the Technical Details: Hardworks section.

Paving Type B: East-West Boulevards

This paving treatment is nominated for public footpaths along Manukau Station Rd and Ronwood Ave. These boulevards will accommodate the Hollyford to Ronwood Bus Corridor Route.

The dominant paving material for type B is in situ concrete with an exposed finish. Specifications and a detailed description of paving type B is discussed in the Technical Details: Hardworks section.

Paving Type C: Business Streets

This paving treatment is nominated for the significant Civic Streetscape areas within the city centre, including the Urban Spines. This paving treatment encompasses a number of significant Civic Spaces within the Manukau Centre.

The dominant paving material for type C are clay pavers. Specifications and a detailed description of paving type C is discussed in the Technical Details: Hardworks section.

Paving Type D: New Shared Streets

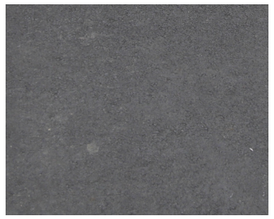
This paving treatment is nominated for streets and public open spaces within the Ronwood and Davies Precincts, predominately where a neighbourhood character and residential activities are suggested as the predominant land uses in the Manukau City Centre.

The dominant paving material for type D are clay pavers. Specifications and a detailed description of paving type D is discussed in the Technical Details: Hardworks section.

Paving Type: Civic Space

Paving in civic spaces should be consistent with streetscape materials. Continuity in materials is critical for public spaces that connect to footpaths. Specific treatments can, however, be incorporated within the design of civic public open space. There is an emphasis on durability and simplicity. Porous and permeable materials should be used where possible.

Paving materials that are included in the palette for Civic Spaces are the basic palette as set out in the Technical Details: Hardworks, with additional options of Hoggin, Asian Basalt, Granites and Timaru Bluestone.


1)


2)


3)


4)


5)


6)


7)


8)

Proposed paving palette: 1) Asphalt, 2) Concrete channel, 3) Concrete Kerb, 4) Exposed Concrete Basalt Chip, 5) Clay paver, 6) Timber, 7) Lime chip Hoggin 8) Resin bound aggregate permeable paving

Paving Type A

Paving Type B

Paving Type C

Paving Type D

Civic Space

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Strategy: Paving

NORTH

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Street Trees

The strategy for new street tree planting is based on providing a native vegetation palette for the city centre. The use of native tree species enables a 'reading' of the area's geology and topography. It also restores indigenous biodiversity and allows for the creation of ecological linkages to existing vegetation communities in Totara Park, the Puhinui Stream Corridor and Manukau Harbour.

The selection is based on Manukau City Council's Tree Policy (2005), Restoring Native Vegetation Strategy (2007) and the Puhinui Stream Restoration Concept Plan (2002).

Key objectives of the street tree planting strategy are to:

- Create signature gateway planting along Manukau Station Road, Lambie Drive, Cavendish Drive and Great South Road (the Urban Forest)
- Reflect and respond to the local environment through the use of predominantly native species
- Recognise the role of street trees in providing biodiversity, creating habitats and ecological linkages
- Introduce signature exotic species to provide seasonal variety
- Utilise species that are of an appropriate scale and form that respond to their urban context

The Technical Manual provides guidelines and recommended species for street tree planting. All street tree species are to be confirmed by the Council arborist.

The Street Trees Strategy Plan identifies three tree planting categories that are derived from Council's Tree Policy. An additional category provides for the alignment of the 'Te Araroa' National Walkway which will pass through the city centre. For the selected species refer to the Technical Details: Street Trees and Planting. The categories are:

Transport Route Trees (Urban Forest)

Creating an 'Urban Forest' using the transport routes around and through the city centre is one of the key elements of the Public Domain Manual. Manukau Station Road, Lambie Drive, Cavendish Drive and Great South Rd will be formally planted with combinations of native tree species to create a strong landscape structure responding to the plateau on which the city centre is located above the Puhinui Stream. It will also assist in reducing the dominance of vehicular traffic along these busy city streets.

Residential Trees (Ronwood Ave & Davies Ave)

Hayman Park will play an increasingly important role as the city centre is redefined and transformed according to the vision and objectives of the Public Domain Manual and other city centre planning documents. Hayman Park will become the heart of the city centre, influencing the character of the surrounding streets as well as the wider landscape. Amenity planting from the park is planned to extend along Ronwood Ave and Davies Ave. These streets will be neighbourly in character and mainly residential in use. The selection of deciduous exotic trees in an avenue arrangement will achieve a more uniform structure and provide shade in summer and sunlight in winter. The Hayman Park competition may offer alternatives.

Residential Trees (Ronwood Precinct)

The trees selected will reveal the low lying character of the terrain and finer grain of the precinct. Native trees will be incorporated with the groundcover planting of raingardens, which are part of the shared street arrangement for the precinct, and within swales on the edges of public space. The trees will assist with recognition of low impact stormwater treatment within an urban environment and contribute to the region's biodiversity and ecological linkages.

Business Trees

The trees selected will play an important role in the legibility of the city centre and the finer grain of the street network. Mixed native tree species along each of these streets are suitably scaled to the narrower corridors of public space and the more concentrated pedestrian activities.

Te Araroa (The Long Pathway)

The walking trail is diverted from the Puhinui Stream Corridor into the heart of the city along Barrowcliff Place and Putney Way. Appropriate tree species selected for the restoration of the Puhunui Stream will be planted along this route to enhance the walkway diversion and ensure it is visually and ecologically connected to the stream corridor.

Open Space

The planting arrangement for public open spaces is not prescribed in the Public Domain or Technical Manual. Planting should be consistent and in line with the civic character of the spaces. The actual planting plan is to be established in conjunction with the specific open space concept design. Planting may vary per open space.

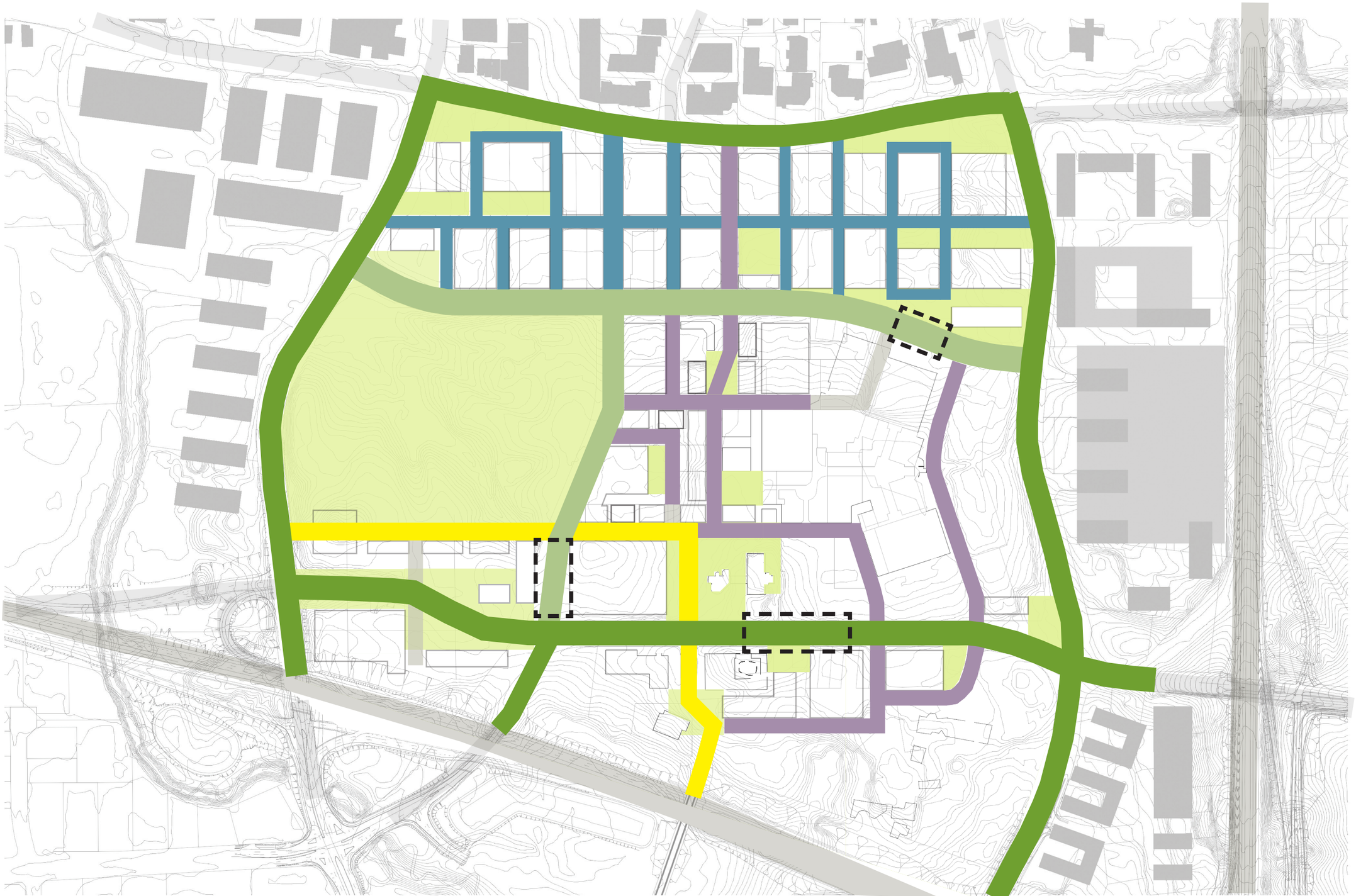
Mixed planting of Kauri and Pohutukawa, Auckland City

Kahikatea Street Trees, Napier City

Kowhai Tree, Auckland City

Titoki Tree, Auckland City

London Plane Trees, Auckland City



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Strategy: Street Trees

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Street Lighting

Lighting design is fundamental for creating “spaces, places and transport networks that are safer, with less crime and fear of crime” (The New Zealand Urban Design Protocol, 2005). It is also important in signalling community investment and improvement in an area (Welsh and Farrington, 2007) and is implicit in Crime Prevention Through Environmental Design (CPTED) best practices.

Good lighting placement can overcome compromises in design, creating safe spaces. Careful placement of lighting fixtures, in combination with planting and street furniture, can generate safer and more versatile urban environments. This allows streets to become activated 24/7, increasing the range of available activities such as supporting alfresco dining, further contributing to a vibrant street and city environment and economy.

The intent of the street lighting strategy is to set out suitable lighting types for use in Manukau City Centre. This should ensure that these installations are attractive, robust, easy to maintain, cost effective, suitable in relation to performance and will minimise obtrusive effects.

Street lights shall be designed in accordance with Manukau City Council’s Public Lighting Design Standard and all applicable New Zealand Standards, including but not restricted to the current AS/NZS 1158 series of standards.

The key objectives of the street lighting strategy are:

- Designing vehicular route lighting for vehicle and pedestrian safety
- Designing pedestrian lighting to minimise crime and enhance the environment
- Design city centre lighting to accommodate 24/7 active streets
- Street lighting is to incorporate signage and traffic control devices
- Designing equipment construction and finishes to retain serviceability and a good standard of appearance for the service life of the equipment.
- Minimising obtrusive effects (to neighbours, traffic and sky glow)

Sustainable energy use is a future goal for the Manukau City Centre. Opportunities for installation of solar collectors on parkland infrastructure such as shade canopies and building roofs in public and private open space should be investigated and implemented.

Type A - Arterial Road Lighting

This lighting arrangement is nominated for the arterial roads around the city centre: Lambie Drive, Cavendish Drive and Great South Rd. Luminance and light output are to be of consistent quality with an emphasis on lighting the vehicular route. Luminaire and lighting columns should be consistent and in line with the vehicular character of the Arterial Roads.

Type B - East-West Boulevard Lighting

This lighting arrangement is nominated for Manukau Station Rd and Ronwood Ave. Luminance and light output are to be of consistent quality with an emphasis on the pedestrian quality of the street space together with the public transport interface with the bus superstops. Luminaire and lighting columns should be consistent and in line with the public transport character and pedestrian and civic quality of the Boulevards.

Type C - Business Street Lighting

This lighting arrangement is nominated for the business streets within the city centre. Luminance and light output are to be of consistent quality that will contribute to vibrant environments with a mix of pedestrians and vehicles. Luminaire and lighting columns should be consistent and in line with the business character of the streets.

Type D - Neighbourhood Street Lighting

This lighting arrangement is nominated for neighborhood streets. Luminance and light output are to be of consistent quality with an emphasis on pedestrian domain lighting. Luminaire and lighting columns should be consistent and in line with the residential character of the streets.

Special Light Area Lighting

This lighting arrangement is nominated for public open spaces as identified in the Public Domain Manual Open Space Network drawing (“hard and soft open spaces”). Luminaire and lighting types should be consistent and in line with the civic character of the spaces. The actual lighting type is to be established in conjunction with the specific open space concept design. Lighting types may vary per open space and are not prescribed in the Public Domain Manual.

Traffic Light column
(image: HUB)

Lighting column
Osterley Way,

Street Lighting Type A

Street Lighting Type B

Street Lighting Type C

Street Lighting Type D

Special Ligh
Area

A08296 MCC 1:5000 @ A3
Strategy: Street Lighting

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Street Furniture and Fixtures

The types of furnishings utilised within an urban area play a significant role in shaping and informing the identity and character of a place. The strategy aims to create continuity through Manukau City Centre while responding to location and urban context, scale and function of each space.

Materials and furnishings have been selected to be durable, easy to maintain, sourced from sustainably managed resources and locally available wherever possible. Although the public domain differs in scale, variety and complexity across the city centre, it is envisaged that a rich and harmonious range of materials and furnishings will be created.

Street furniture has been located in strategic locations in accordance with high pedestrian activity zones. Street furniture should reflect the diversity in activities and cultures in Manukau City Centre. Consistent furniture types are to be installed regardless of the staging of developments or streetscape works. Custom designed and site specific furniture should be incorporated where appropriate into key Civic Spaces. These elements should be designed to be comfortable and robust with a simple, uncluttered profile.

The Technical Manual provides a specific range of furniture for the city centre, with the following elements:

- Seats
- Bollards
- Bicycle racks
- Litter bins
- Tactile indicators
- Signage

Street furniture utilises a simple palette of materials with a combination of hardwood timber, steel or cast iron and concrete. The material arrangement is flexible in its application and can be designed to integrate all urban furnishings such as bike stands, lighting, signage etc. The materials and forms should reflect the urban character of the city centre and have a robust and durable expression.

Bicycle rack (Gehl Architects, image UK landcape Institute) Brighton and Hove,

Seats Otara Mall (Boffa Miskell), Manukau City

Bicycle rack, Malbourne

Handrail Barry Curtis Park (Isthmus) Manukau City

Bollards Cork, Ireland (Photo Tim Church)

Seats Beach Front Ln Browns Bay (Isthmus), North Shore City

Bicycle rack Barry Curtis Park (Isthmus), Manukau City

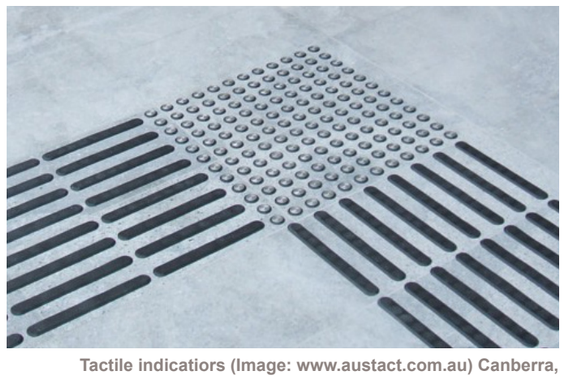
Litter Bin, Manurewa, Manukau City

Retractable bollard (Image: Pilomat Pas)

Seats (Image: Escofet) Barcelona

Bicycle rack (Gehl Architects) Brighton and Hove,

Litter Bin, Auckland City



Tactile indicatiors (Image: www.austact.com.au) Canberra,

A08296 MCC
Precendents: Street Furniture

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Manukau City Centre Public Domain Technical Manual

Typical Arrangements

Typical Arrangements

The following section provides guidelines for the correct placement and configuration of the palette of urban elements in the Manukau City Centre public domain, including street paving, furniture, lighting and trees.

Paving Type A: Arterial Roads

Minimum 2.5m wide footpath.

Lighting

- Located with adequate clearance from street trees
- Face of pole set back 800mm from front of kerb
- Align light poles at an even spacing along the length of the street
- Set out of lighting to Authority/NZ standard requirements

Rubbish Bins

Rubbish Bin location associated with entrances to significant public buildings, plazas, parks, bus stops and the train station

Bike racks

Bike racks/loops located at specific entries to facilities including bus stops

Signage

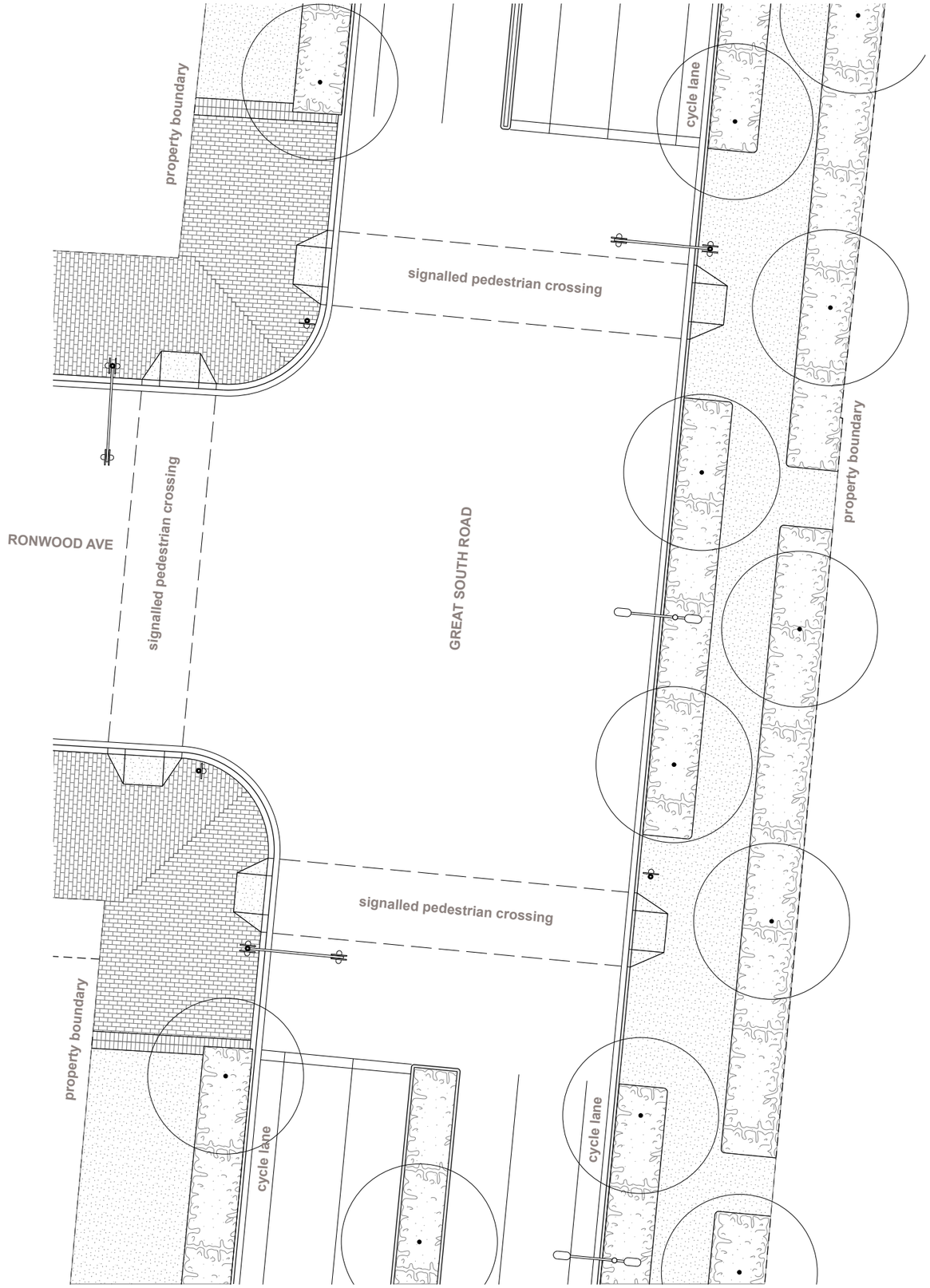
Incorporate signage and traffic control devices on light columns

Street trees

- Trees located at equal spacing of 15m, centred in 2.5m wide planted berms and planted central medians
- Mix of Native species as specified in the street tree strategy section.

Stormwater

Swales in open spaces where indicated in the Public Domain Manual. Planted berms also optimise permeable surfaces along the arterial roads.



KEY

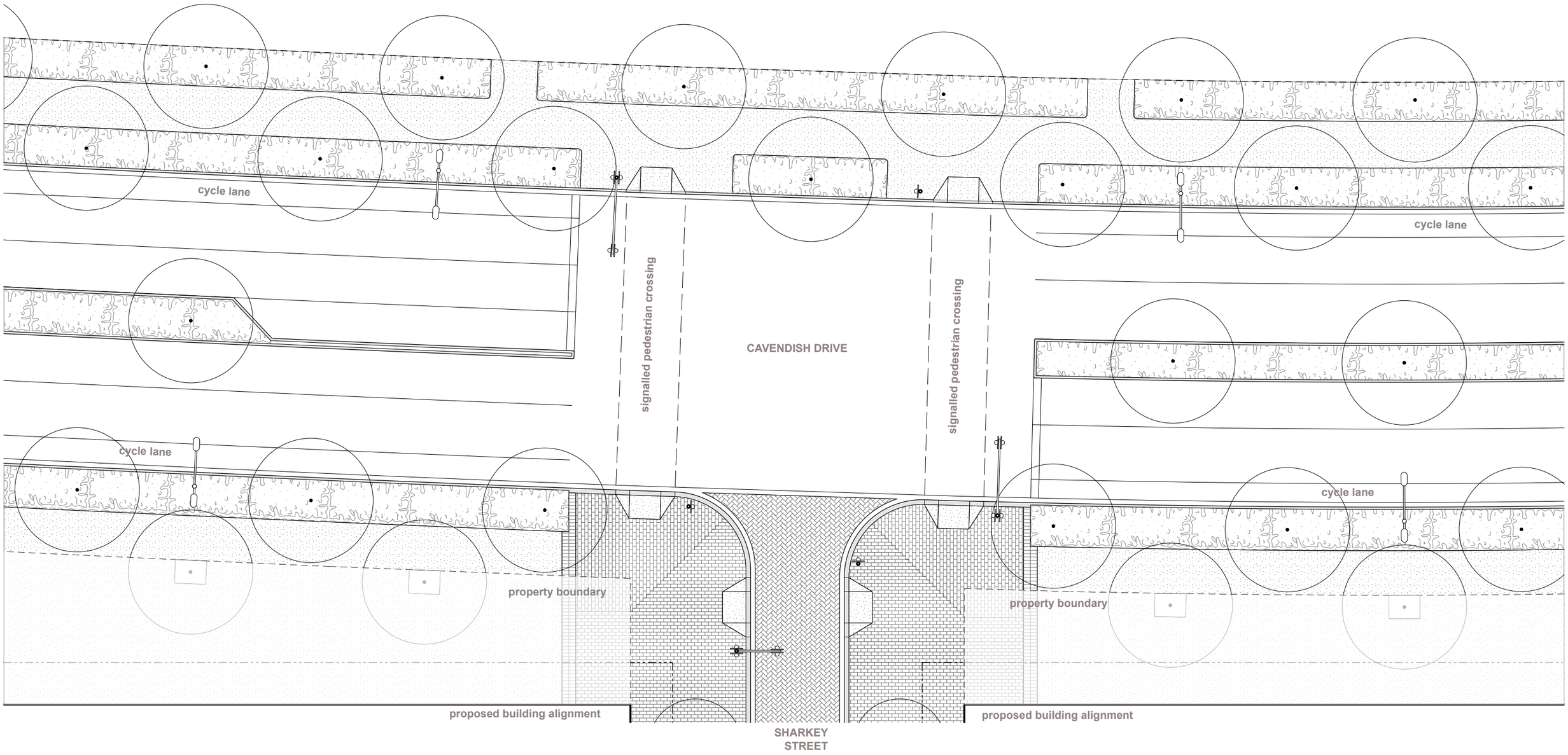
Footpath: In Situ Concrete Exposed Aggregate Basalt Chip

Footpath: Clay Paver Stretcher Bond

Carriageway: Clay Paver Herringbone bond 45 degree

Berm and central median: Low Planting

Awnings



Paving Type B: East-West Boulevards

The footpath width varies adjacent to the property lines on both sides of the street. The minimum width is 5m. Type B is typically an asymmetrical layout due to the landscaped setbacks along Ronwood Ave and Manukau Station Rd.

Lighting

- Located with adequate clearance from street trees
- Face of pole set back 800mm from front of kerb
- Align light poles at an even spacing along length of street
- Set out of lighting to Authority and NZ Standard requirements

Seating + Site furniture

Location limited to entrances to properties and at bus stops, and within public open space boundaries

Rubbish Bins

Rubbish Bin locations associated with seating and at entrances to plazas, parks, bus stops and the train station

Bike racks

Bike racks located at specific entries to facilities including bus stops

Signage

Incorporate signage and traffic control devices on to light columns

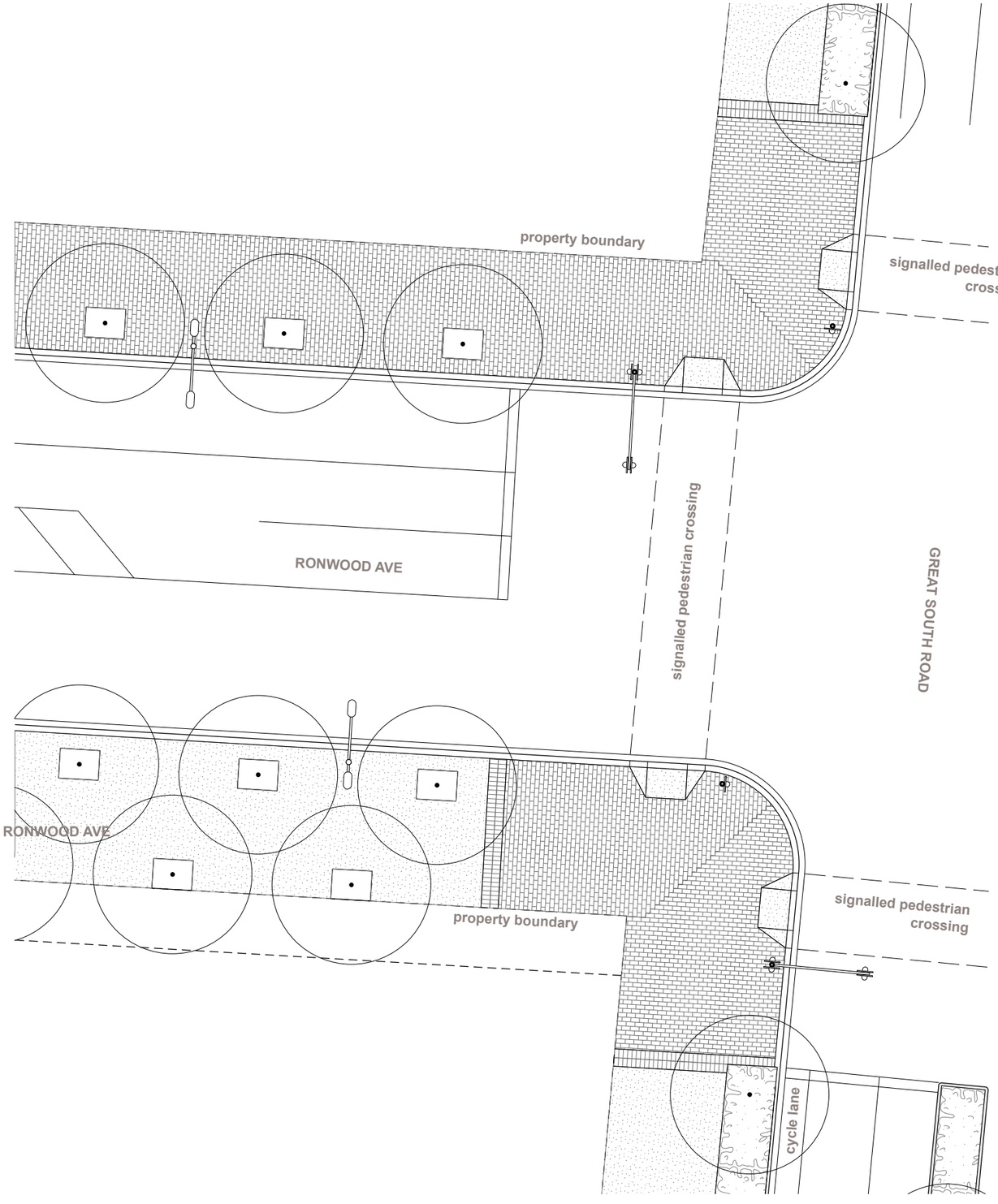
Street trees

Trees located at equal spacings of 10m, centred in 2.5m x 1.5m sized tree pits (hoggin surface)

Native and or exotic species, for types refer to the street tree strategy section.

Stormwater

Permeable paving for tree pits



KEY

Footpath: In Situ Concrete Exposed Aggregate Basalt Chip

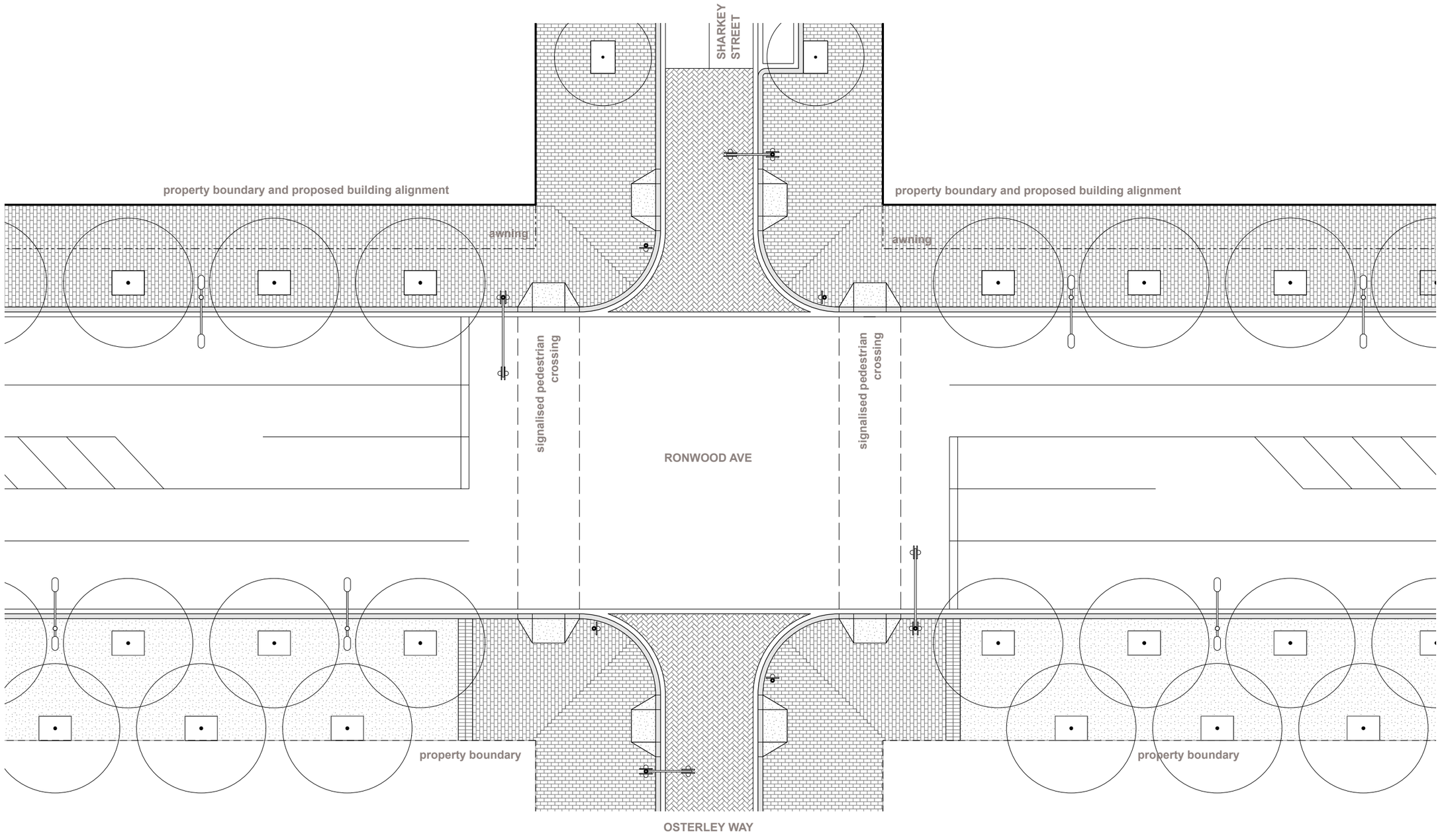
Footpath: Clay Paver Stretcher bond

Carriageway: Clay Paver Herringbone bond 45 degree

Berm and central median: Low Planting

Treepit: resin bound aggregate

Awnings



Paving Type C: Business Streets

Paving

Minimum 5m wide footpath adjacent to property line and building facades

Lighting

- Located with adequate clearance from street trees
- Face of pole set back 800mm from front of kerb
- Align light poles at an even spacing along length of street
- Set out of lighting to authority requirements

Seating + Site furniture

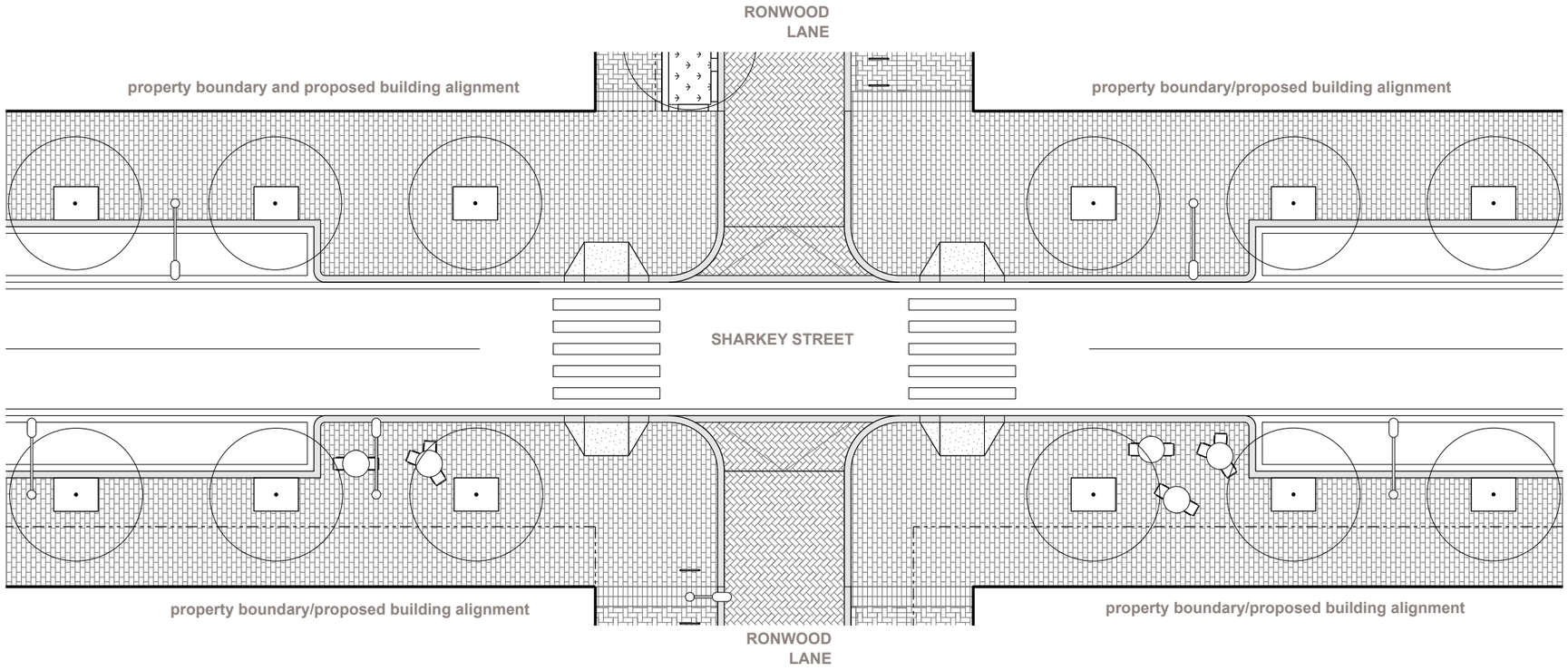
Location limited to entrances to public buildings and at bus stops, and within public open space boundaries. Opportunities for pavement retail, refer to page 122 of the Public Domain Manual.

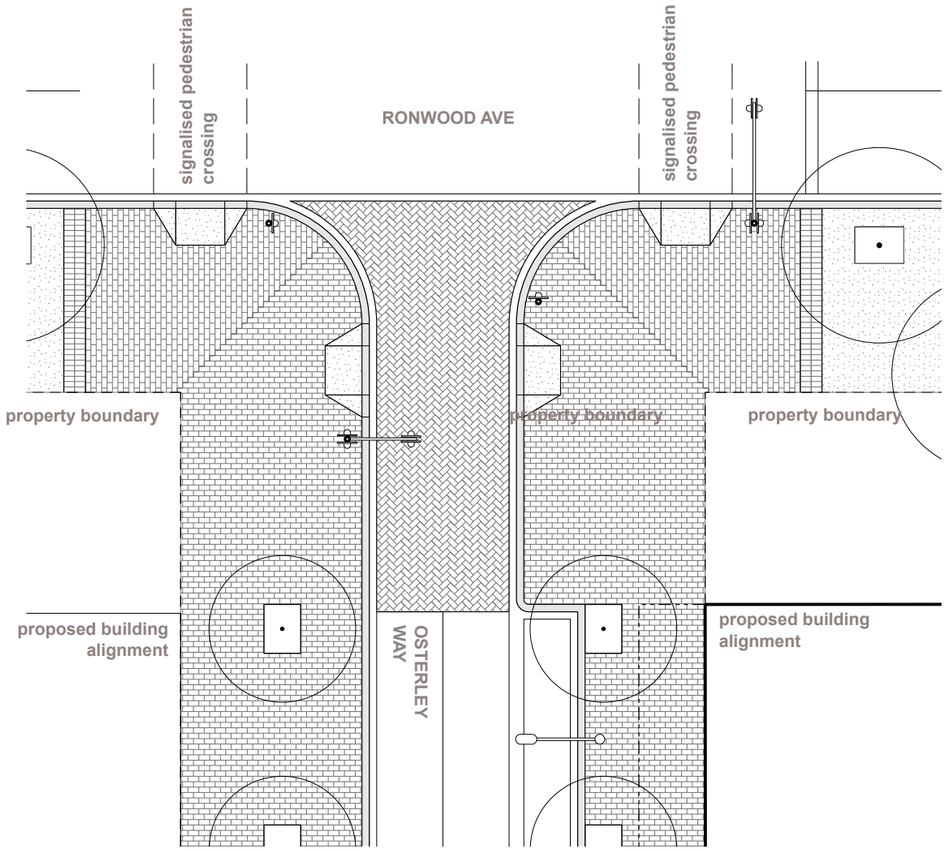
Bins

Bin location associated with seating and at entrances to plazas, parks, at bus stops and the train station

Bike racks

Bike racks located at specific entries to facilities including bus stops





KEY

- Footpath: Clay Paver Stretcher bond
- Carriageway: Clay Paver Herringbone bond 45 degree
- Footpath: Clay Paver Herringbone bond 90 degree
- Treepit: resin bound aggregate
- Raingarden
- Bicycle racks around lighting column
- Awnings

Signage

Incorporate signage and traffic control devices into light columns

Street trees

Trees located at equal spacings of 9m, centred in 2.5m x 1.5m sized tree pits (hoggin surface)

Native and or exotic species, for types refer to the street tree strategy section.

Stormwater

Permeable paving for tree pits

Paving Type D: New Shared Streets

Shared street environment, minimum width 15 meters. Pavement treatment in one material to emphasise pedestrian priority.

Lighting

- Located with adequate clearance from street trees
- Face of pole set back 500mm from back of channel
- Align light poles at an even spacing along length of the street
- Set out of lighting to Authority and NZ Standards requirements

Seating + Site furniture

Location limited to entrances to public buildings and at bus stops, and within public open space boundaries. Seating should be strategically placed in order to prevent car parking where it is not appropriate

Rubbish Bins

Rubbish Bin locations associated with seating and at entrances to plazas, parks, bus stops and train stations

Bike racks

Bike racks located next to light poles

Signage

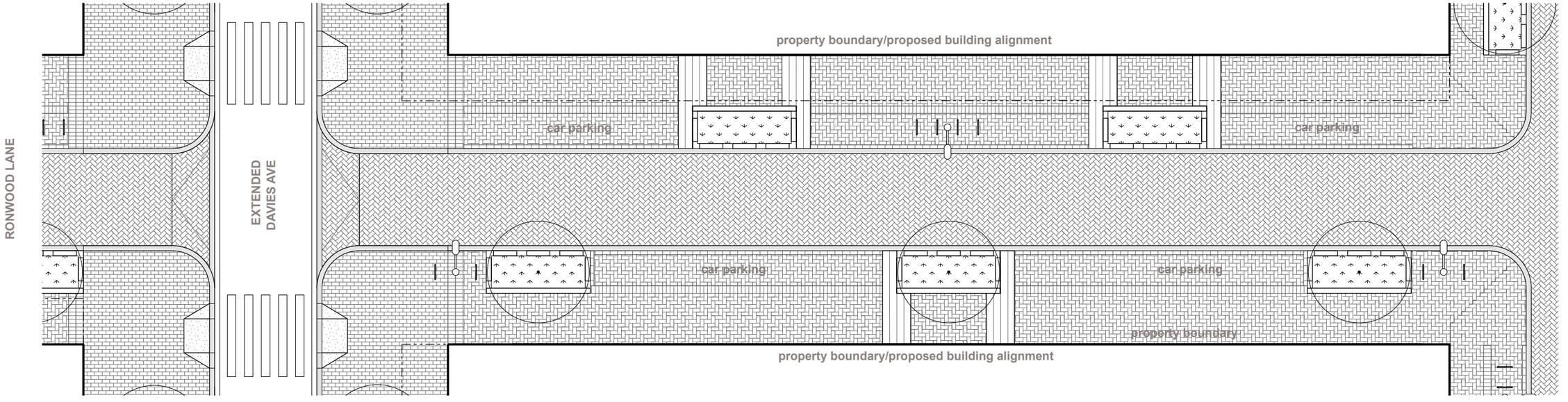
Incorporate signage and traffic control devices on light columns

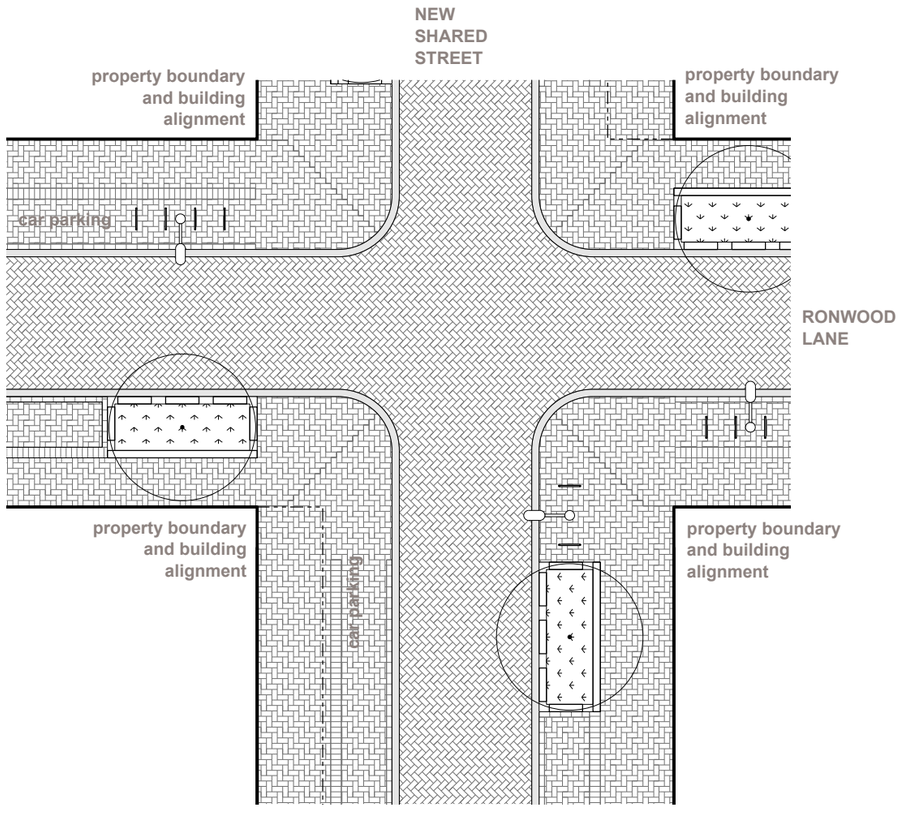
Street trees

- Trees located at equal spacing of 23m, centred in 6m x 2.5m sized planted rain gardens
- Native species, for types refer to the street tree strategy section.

Stormwater

Raingarden Bio Retention





KEY

- Footpath: Clay Paver Stretcher bond
- Carriageway: Clay Paver Herringbone bond 45 degree
- Footpath: Clay Paver Herringbone bond 90 degree
- Raingarden
- Bicycle racks around lighting column
- Awnings

Manukau City Centre Public Domain Technical Manual

Technical Details: Hardworks

Paving type A - Arterial Roads

General Overview + Specifications

Locations :

- **Great South Road**
- **Cavendish Drive**
- **Lambie Drive**
- **Wiri Station Road (connection across SH20 from Manukau Station Road)**

Footpath

- 20MPa 19mm “Special” Concrete (refer NZS 3104:2003)

Carriageway:

- Asphaltic Concrete mix (Asphalt) according to EQS

Channel:

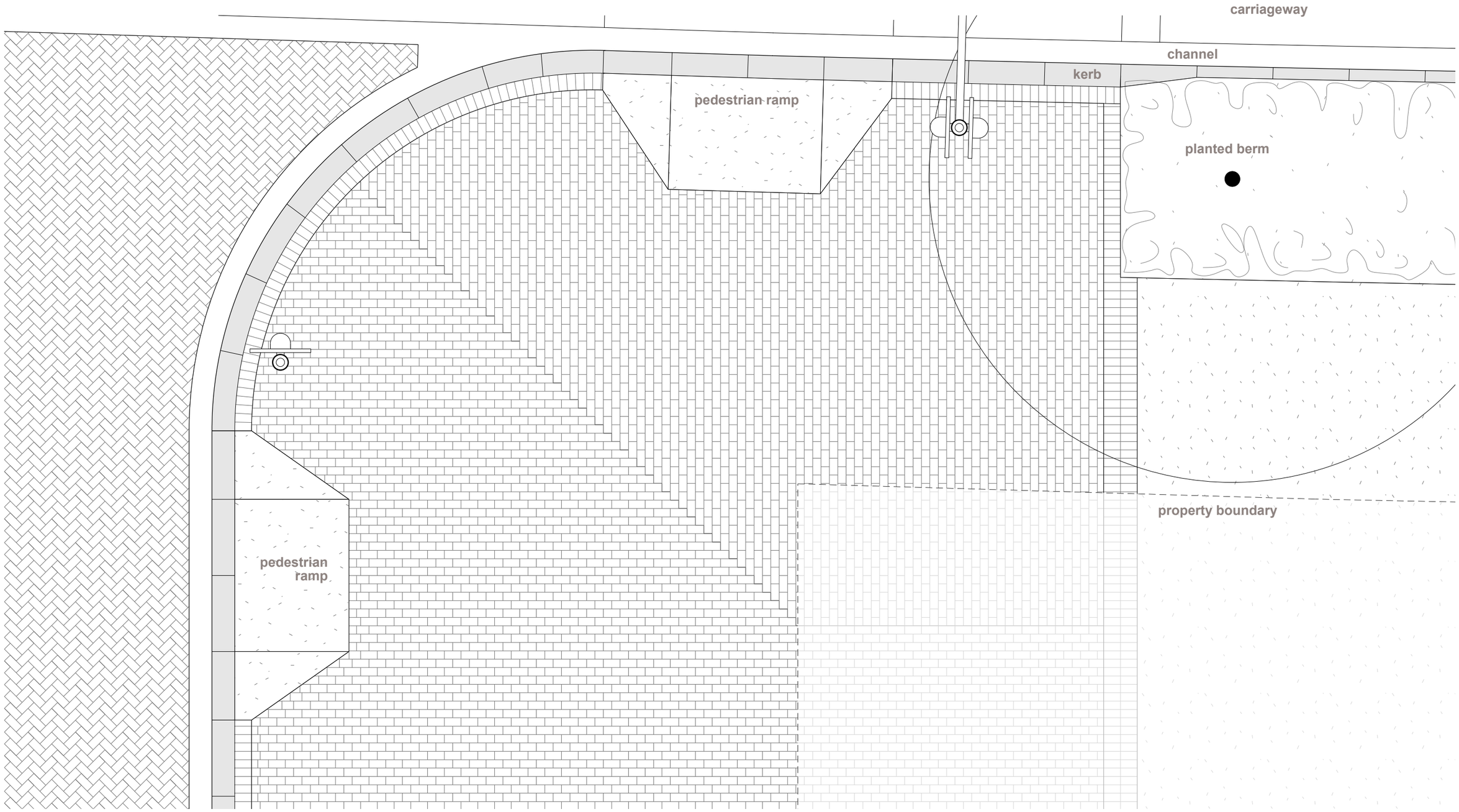
- In situ concrete channel 300mm wide, uncoloured concrete

Kerb:

- Pre-Cast Concrete Kerb 125mm Charcoal oxide, exposed finish

Installation/ construction:

- Install to manufacturer’s instructions and engineers specification
- Lay paving to required falls and levels
- Paving courses Stretcher bond to be at 90 degrees to kerb or channel
- Carriageway Paving courses Herringbone bond to be at 45 degrees to kerb or channel to carriageway
- Footpath and Parking Paving courses Herringbone bond to be at 90 degrees to kerb or channel to carriageway
- Pavers to be set out from kerb, laid perpendicular to the kerb direction and cut to the property boundary
- Where pavers are required to follow a curve, pavers should be faceted
- Kerb: SED require a kerb upstand 150mm where practical
- Where cutting of pavers is required the minimum size of cut paver is to be one third of it’s original size. This may require cutting back into the adjacent paving to more evenly distribute the cut dimension.
- Where practical service covers are to be fitted with paved infill cover lids and filled with full depth pavers to match adjacent paving type and bond.



A08296 MCC 1:50 @ A3
Paving Type A: Technical Details

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Paving type B - East-West Boulevards

General Overview + Specifications

Locations :

- **Manukau Station Road**
- **Ronwood Ave**

Carriageway:

- Asphaltic Concrete mix (Asphalt) according to EQS

Channel:

- In situ concrete channel 300mm wide, uncoloured concrete

Kerb:

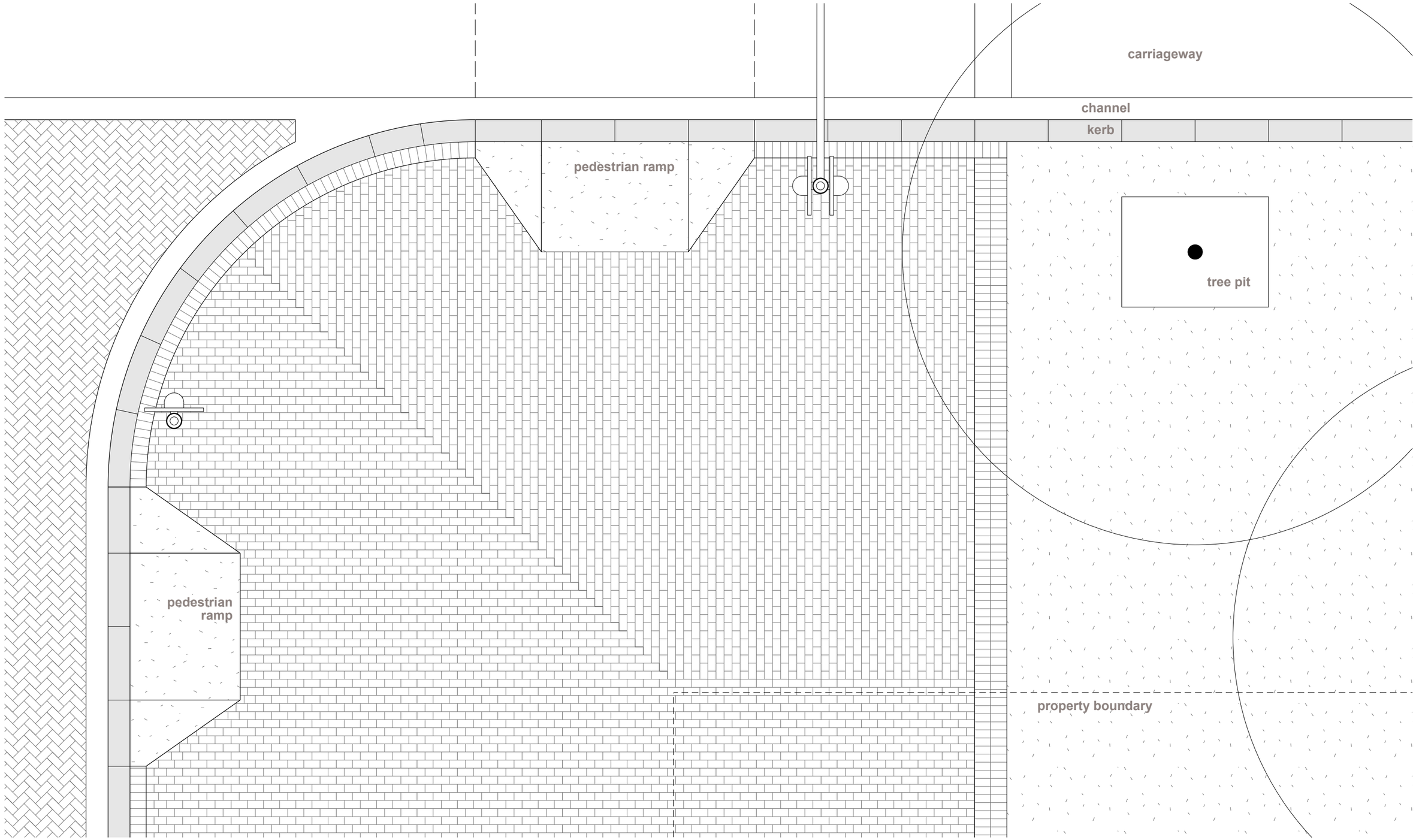
- Pre-Cast Concrete Kerb 300mm Charcoal oxide

Footpath

- Footpath Northside: 20MPa 19mm “Special” Concrete (refer NZS 3104:2003)
- Footpath Southside: Clay paver Nubrik Manukau Cream (or equivalent) 230 x 114 x 50mm , Stretcher bond

Installation/ construction:

- Install to manufacturer’s instructions and engineers specification
- Lay paving to required falls and levels
- Paving courses Stretcher bond to be at 90 degrees to kerb or channel
- Carriageway Paving courses Herringbone bond to be at 45 degrees to kerb or channel to carriageway
- Footpath and Parking Paving courses Herringbone bond to be at 90 degrees to kerb or channel to carriageway
- Pavers to be set out from kerb, laid perpendicular to the kerb direction and cut to the property boundary
- Where pavers are required to follow a curve, pavers should be faceted
- Kerb: SED require a kerb upstand 150mm where practical
- Where cutting of pavers is required the minimum size of cut paver is to be one third of it’s original size. This may require cutting back into the adjacent paving to more evenly distribute the cut dimension.
- Where practical service covers are to be fitted with paved infill cover lids and filled with full depth pavers to match adjacent paving type and bond.



A08296 MCC 1:50 @ A3
Paving Type B: Technical Details

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Paving type C - Business Streets

General Overview + Specifications

Locations :

- **Sharkey Street**
- **Osterley Way**
- **Davies Ave**
- **Leighton Way**
- **Putney Way / Putney Way Extension**
- **Amersham Way**
- **Clist Crescent**
- **Barrowcliffe Place**
- **New street in the Ronwood Precinct as indicated (extention of Davies Ave)**
- **New streets in the Campus Precinct as indicated**

Carriageway:

- Asphaltic Concrete mix (Asphalt) according to EQS

Channel:

- In situ concrete channel 300mm wide, uncoloured concrete

Kerb:

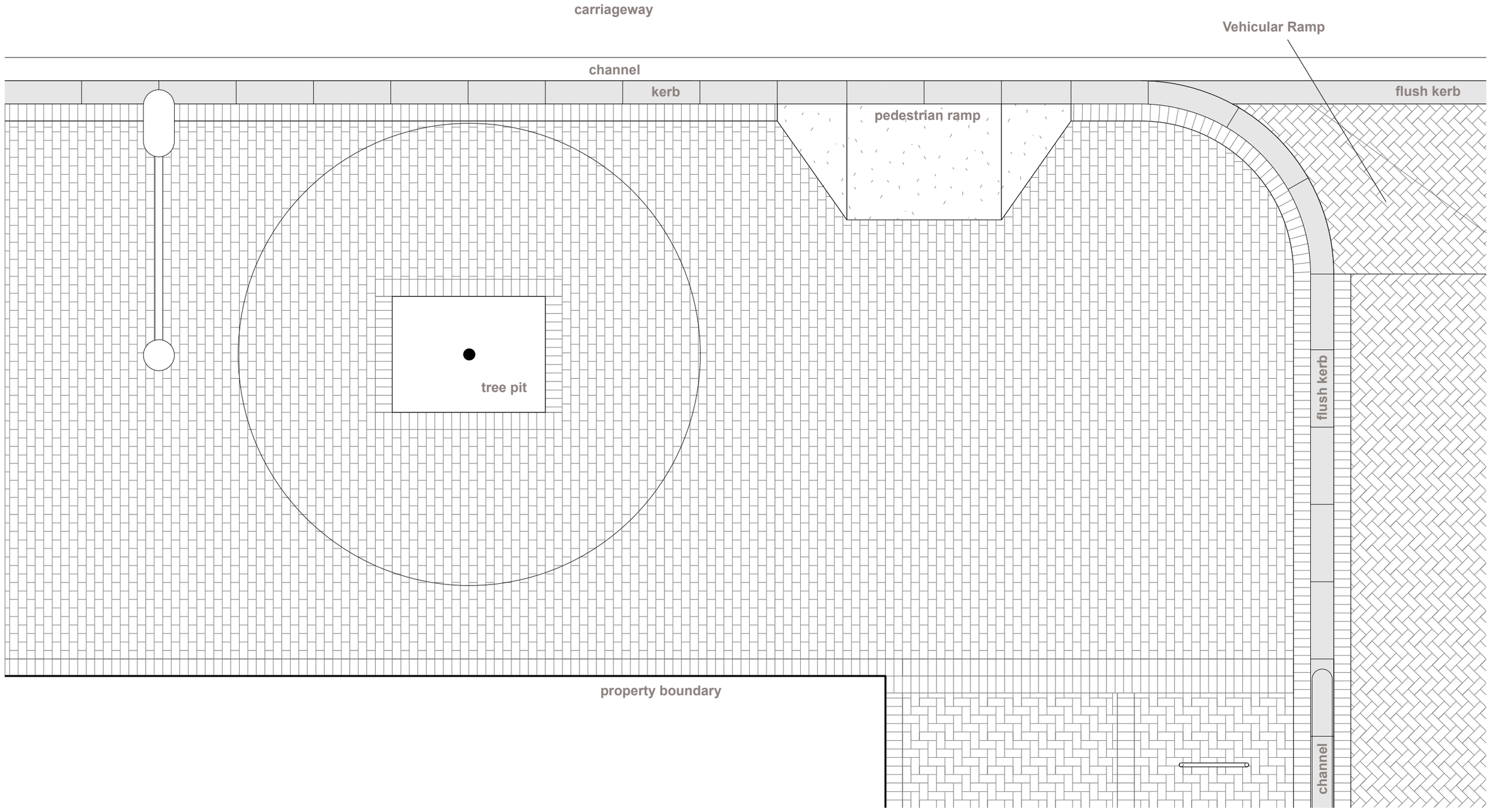
- Pre-Cast Concrete Kerb 300mm Charcoal oxide

Footpath

- Clay pavers Nubrik Manukau Cream (or equivalent) 230 x 114 x 50mm , Stretcher bond

Installation/ construction:

- Install to manufacturer's instructions and engineers specification
- Lay paving to required falls and levels
- Paving courses Stretcher bond to be at 90 degrees to kerb or channel
- Carriageway Paving courses Herringbone bond to be at 45 degrees to kerb or channel to carriageway
- Footpath and Parking Paving courses Herringbone bond to be at 90 degrees to kerb or channel to carriageway
- Pavers to be set out from kerb, laid perpendicular to the kerb direction and cut to the property boundary
- Where pavers are required to follow a curve, pavers should be faceted
- Kerb: SED require a kerb upstand 150mm where practical
- Where cutting of pavers is required the minimum size of cut paver is to be one third of it's original size. This may require cutting back into the adjacent paving to more evenly distribute the cut dimension.
- Where practical service covers are to be fitted with paved infill cover lids and filled with full depth pavers to match adjacent paving type and bond.



A08296 MCC 1:50 @ A3
Paving Type C: Technical Details

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Paving type D - New Shared Streets

General Overview + Specifications

Locations :

- **Ronwood Lane (new central east-west spine in the Ronwood Precinct)**
- **9 new unnamed north-south streets in the Ronwood Precinct**
- **2 new unnamed streets in the Davies Precinct**
- **Putney Way Extension**
- **2 new unnamed streets in the Campus Precinct**
- **streets within and bordering Civic Square**
- **Barrowcliffe Place**

Carriageway:

- Clay pavers colour Nubrik Manukau Cream (or equivalent) 230 x 114 x 65mm with “waffle” back. Herringbone bond 45 degree.

Parking:

- Clay pavers Nubrik colour Nubrik Manukau Cream (or equivalent) 230 x 114 x 65mm with “waffle” back. Herringbone bond 90 degree.

Channel:

- Basalt Chip/Charcoal Oxide Pre-Cast Concrete Channel Unit 300mm wide, exposed finish

Kerb:

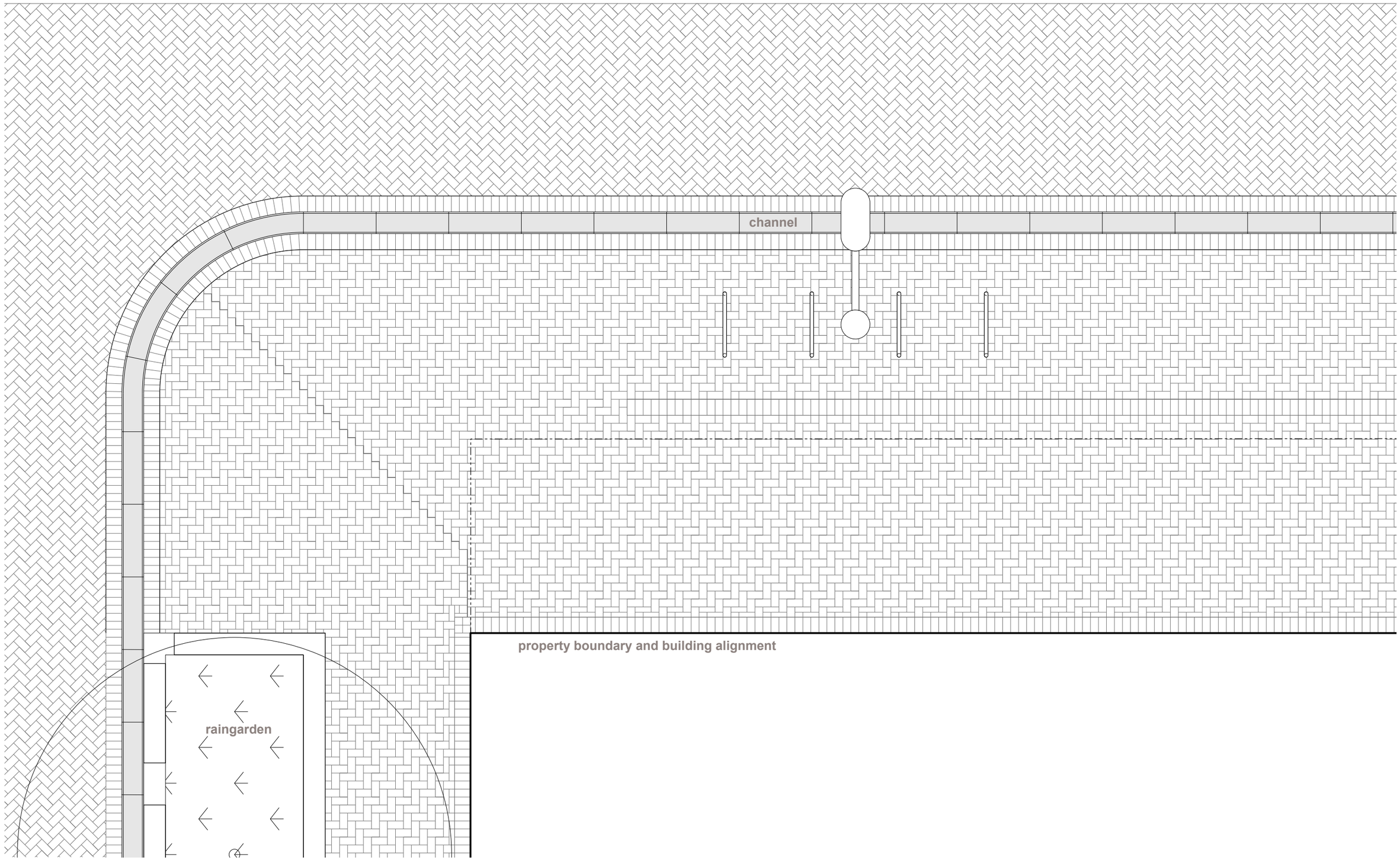
- Pre-Cast Concrete Kerb 300mm Charcoal oxide

Footpath

- Clay pavers Nubrik colour Nubrik Manukau Cream (or equivalent) 230 x 114 x 50mm , Herringbone bond 90 degree

Installation/ construction:

- Install to manufacturer’s instructions and engineers specification
- Lay paving to required falls and levels
- Paving courses Stretcher bond to be at 90 degrees to kerb or channel
- Carriageway Paving courses Herringbone bond to be at 45 degrees to kerb or channel to carriageway
- Footpath and Parking Paving courses Herringbone bond to be at 90 degrees to kerb or channel to carriageway
- Pavers to be set out from kerb, laid perpendicular to the kerb direction and cut to the property boundary
- Where pavers are required to follow a curve, pavers should be faceted
- Kerb: SED require a kerb upstand 150mm where practical
- Where cutting of pavers is required the minimum size of cut paver is to be one third of it’s original size. This may require cutting back into the adjacent paving to more evenly distribute the cut dimension.
- Where practical service covers are to be fitted with paved infill cover lids and filled with full depth pavers to match adjacent paving type and bond.



A08296 MCC 1:50 @ A3
Paving Type D: Technical Details

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Clay Paver

Colour:

- Colour: NUBRIK MANUKAU CREAM or similar Existing Manukau Plaza Paver (Osterley Way, see image).

Sizes:

- 230 x 114 x 65mm Paver Carriageway and Parking with “waffle” back
- 230 x 114 x 50mm Paver Footpaths

Bonds:

- Footpaths: Stretcher bond
- Carriageway: Herringbone bond 45 degree
- Parking and Footpaths Type 4 streets: Herringbone bond 90 degree

Pedestrian ramp

Guidelines:

- The crossing point should be oriented such that the leading edge of the crossing is perpendicular to the direction of travel
- Ramp varies to site conditions. Maximum gradient 1:8.
- Edge of crossing to be finished flush with existing channel. (No lip, maintain common surface)
- Level change arrangement on ramp typical.
- TGSI should extend the full width of the ramp and be a minimum 600mm deep.
- Use transition kerbs to ensure maximum gradient of 1:6 on pedestrian ramp flares between adjacent full height kerb and flush crossing

Installation of TGSI be in compliance to:

- Land Transport Safety Authority RTS 14 Guidelines for installing pedestrian facilities for people with visual impairment.
- NZS/AS 1428.4:2002 Design for access and mobility.

Materials

- 20MPa 19mm “Special” Concrete (refer NZS 3104:2003)
- Pre-Cast Concrete Kerb Charcoal Oxide - Transition Unit 300mm wide
- Pre-Cast Concrete Kerb Charcoal Oxide - Flush Kerb Unit 300mm wide

Vehicular ramp and crossover

Guidelines:

- Ramp varies to site conditions. Maximum gradient 1:8.
- Edge of crossing to be finished flush with existing channel. (No lip, maintain common surface)
- Level change arrangement on ramp typical.
- Use channel and flush kerb at vehicular ramp with Clay Pavers in 45 degree Herringbone bond for a street entry (Type 4 streets) or 90 degree Herringbone bond on footpath for parking access.

Materials

- Vehicular Ramp paving Clay pavers Nubrik Manukau Cream (230 x 114 x 65mm) with “waffle” back. Herringbone bond (45 degree).
- Vehicular Crossover paving on footpath Clay pavers Nubrik Manukau Cream (230 x 114 x 65mm) with “waffle” back. Herringbone bond (90 degree).
- Pre-Cast Concrete Radius Kerb 300mm Charcoal oxide,
- Pre-Cast Concrete Flush Kerb 300mm Charcoal oxide

Tactile Ground Surface Indicators (TGSI)

Guidelines

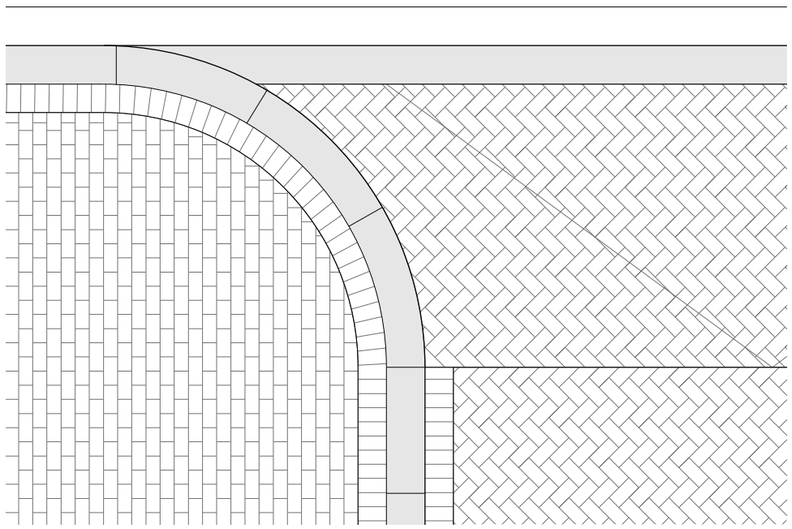
TGSI warning and directional indicators are to be provided in locations as required, refer too:

- Land Transport Safety Authority RTS 14 Guidelines for installing pedestrian facilities for people with visual impairment.
- NZS/AS 1428.4:2002 Design for access and mobility.

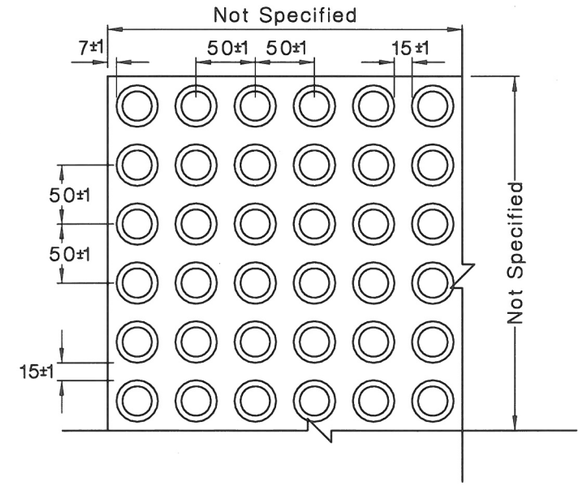
Material:

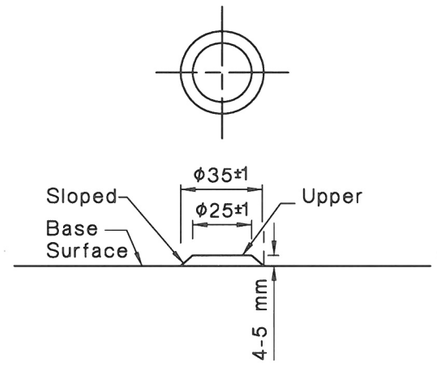
- Precast coloured concrete TGSI Warning and Directional indicator tiles 300 x 300 x 50 mm. Colour dark grey (contrasting with the light cream colour of the clay pavers and exposed aggregate concrete)

Paving Manukau Plaza, "Nubrik Manukau Cream" (NOTE: Basketweave bond is not proposed)



Vehicular ramp or crossing (Detail: Type 3 and Type 4 streets)





Detail: TGSI tile 300 X 300 mm, Sourced from AS/NZS 1482.4: 2002

Technical Details: Street Trees + Planting

Street trees + Groundcover Planting: Central Median and Berm

Locations :

- **Great South Road**
- **Manukau Station Rd**
- **Cavendish Drive**
- **Lambie Drive**
- **Wiri Station Road (connection across SH20 from Manukau Station Road)**

Overview:

- Planted median strip and berms, width varies 2.5 - 3.0 m with Groundcover planting and Trees
- Tree spacing at 15 m centres, three rows where width of median accommodates.

Design principles:

- Apply mixed planting of species along arterial roads, combinations as specified in the tree list
- Staggered pattern of trees in berms and median
- Appy a Structural Soil Cell System (Citygreen Modular Stratasystem or equivalent) for provision of uncompacted soils underneath pavements for adequate growth of tree roots.
- Apply a minimum required soil volume is the projected canopy area of the mature tree, multiplied by a depth of 600mm
- Groundcover planting to be selected from native species as specified in the planting list
- Height of groundcover planting maximum 80 cm
- Soil to arborist's requirements.

Transport Route Trees (Urban Forest)

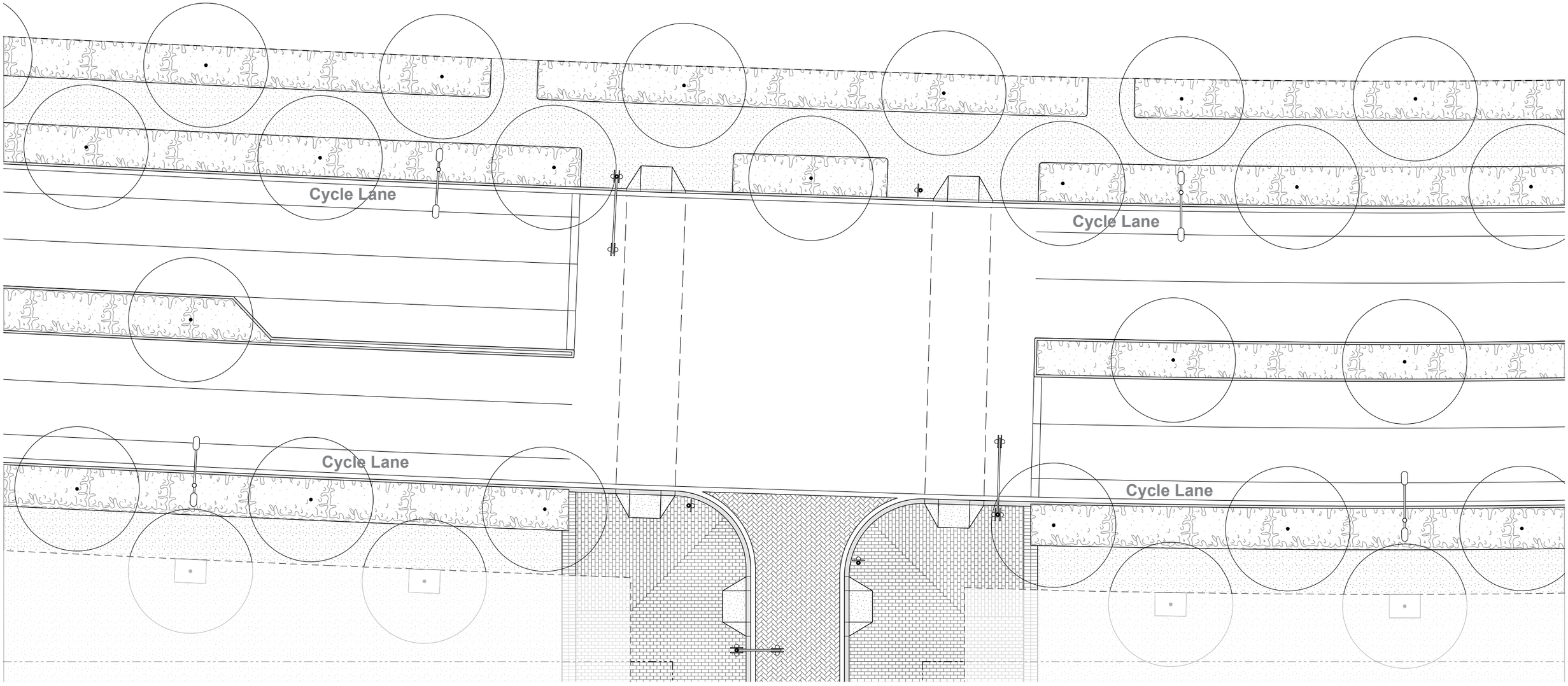
The following native tree species are to be planted in a mixed arrangement on Transport Routes:

- *Podocarpus totara*, Totara, *Dacrycarpus dacrydiodes,* Kahikatea and *Dacrydium cupressinum*, Rimu
- *Metrosideros excelsa,* Pohutukawa and *Agathis australis,* Kauri
- *Corynocarpus laevigatus,* Karaka and *Beilschmedia taraire*, Taraire

Groundcovers

Suggested planting

- *Alocasia gageana* 'California Shield', taro
- *Apodasmia similes*, oioi
- *Astelia banksii*, wharawhara
- *Blechnum novae-zelandia*, kiokio
- *Carex, Coprosma, Corokia* spp.
- *Chionochloa flavicans*
- *Hebe* spp.
- *Juncus edgariae*, wiwi
- *Juncus sarophorus*, wiwi
- *Leptospermum* cultivars
- *Machaerina sinclairii*, pepepe
- *Melicytus crassifolius*
- *Muehlenbeckia astonii*
- *Musa* spp., wild banana
- *Phormium cookianum*, mountain flax
- *Rhopalostylis sapida*, nikau



Overviem Planting Arterial Roads, scale 1:250@A3

Street trees + Groundcover Planting: Street Tree

Locations :

- **Ronwood Ave**
- **Sharkey Street**
- **Osterley Way**
- **Davies Ave**
- **Leighton Way**
- **Putney Way / Putney Way Extension**
- **Amersham Way**
- **Clist Crescent**
- **Barrowcliffe Place**
- **New street in the Ronwood Precinct as indicated**
- **New streets in the Campus Precinct as indicated**
- **2 new unnamed streets in the Davies Precinct**
- **Putney Way Extension**
- **2 new unnamed streets in the Campus Precinct**

Overview:

- Street tree planted in Tree Pit size 2.0X1.5 m
- Tree spacing at 9.0 m centres

Design principles:

- Apply mixed planting of species in streets, combinations as specified in the tree list
- Appy a Structural Soil Cell System (Citygreen Modular Stratasystem or comparable) for provision of uncompacted soils underneath pavements for adequate growth of tree roots.
- Apply a minimum required soil volume is the projected canopy area of the mature tree, multiplied by a depth of 600mm
- Apply porous Paving “Aquaflow” or equivalent resin based paving surface for the treepit cover.
- Apply aggregate for the treepit with a “Hoggin” color and expression as in the image on the right hand page
- Apply “Garnet Additional Slip Protection” (impregnation with Garnet sand) to the porous paving surface. This also takes away the gloss effect of the resin material.
- Soil to arborist’s requirements.

Residential Trees (Ronwood Ave & Davies Ave)

Suggested tree species are

- London Plane (*Platanus × hispanica*) and/or
- Jacaranda (*Jacaranda spp*).

Business Trees

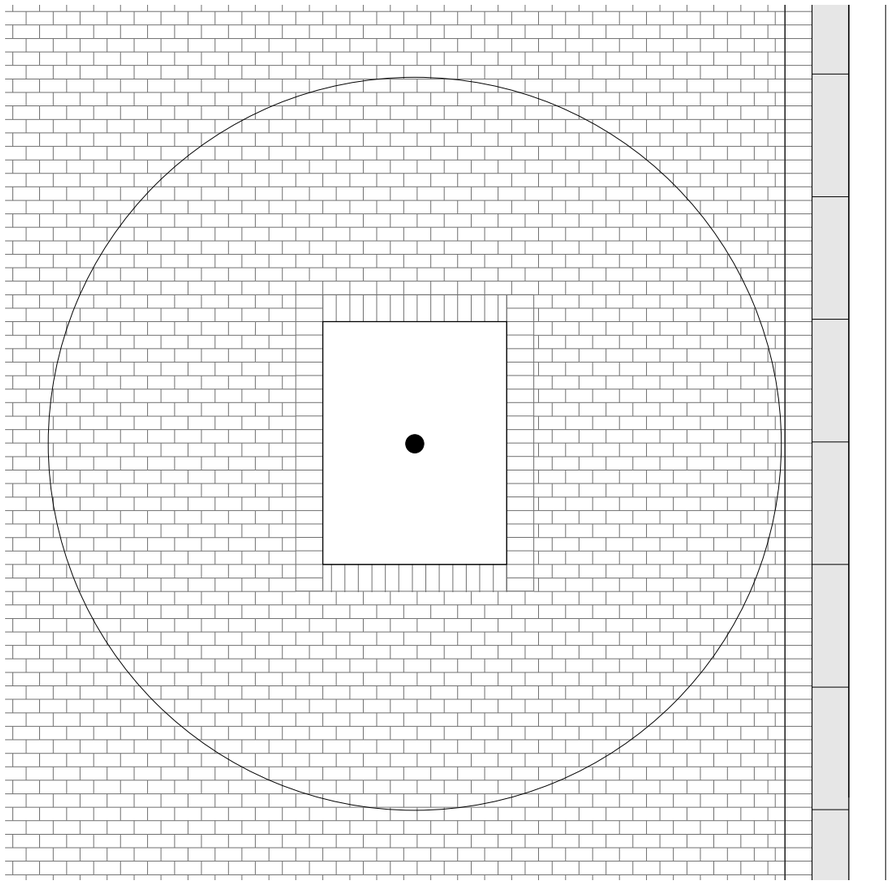
The following native tree species are to be planted in a mixed arrangement on business streets:

- Titoki (*Alectryon excelsus*) and,
- Kanuka (*Kunzea species*),
- Kowhai (*Sophora species*)
- Rewarewa (*Knightia excelsa*)

Te Araroa (The Long Pathway)

The following native tree species are to be planted in a mixed arrangement:

- Totara (*Podocarpus totara*),
- Kowhai (*Sophora species*),
- Kanuka (*Kunzea species*),
- Ti Kouka/Cabbage tree (*Cordyline australis*)
- Pittopsorum spp.



Layout of Treepit in Clay Paving, Treepit Surface 2000X1500mm

Porous, compacted Paving, Hoggin color, Swanston Streetwalk Melbourne

Street trees + Groundcover Planting: Rain Garden Bio Filtration device

Locations :

- **Ronwood Lane (new central east-west spine in the Ronwood Precinct)**
- **9 new unnamed north-south streets in the Ronwood Precinct**

Overview:

- Raingarden Biofiltration System, raingarden size 6m X 2.5m
- Spacing in type 4 streets 18 m in between raingardens
- Planted with trees and groundcover

Design principles:

- Apply mixed planting of species in raingardens, combinations as specified in the tree list (up to 3 trees)
- Groundcover planting to be selected from native species as specified in the planting list
- Select combination of no less than three groundcovers for any planting situation.
- For the detailed design of the raingarden use TP10 ARC guidelines on Stormwater Management Devices
- Appy a Structural Soil Cell System (Citygreen Modular Stratasystem or comparable) for provision of uncompacted soils underneath pavements for adequate growth of tree roots.
- Apply a minimum required soil volume is the projected canopy area of the mature tree, multiplied by a depth of 600mm
- Soil to arborist's requirements.

Residential Trees (Ronwood Precinct)

A mix of native tree species is to be selected from the following list:

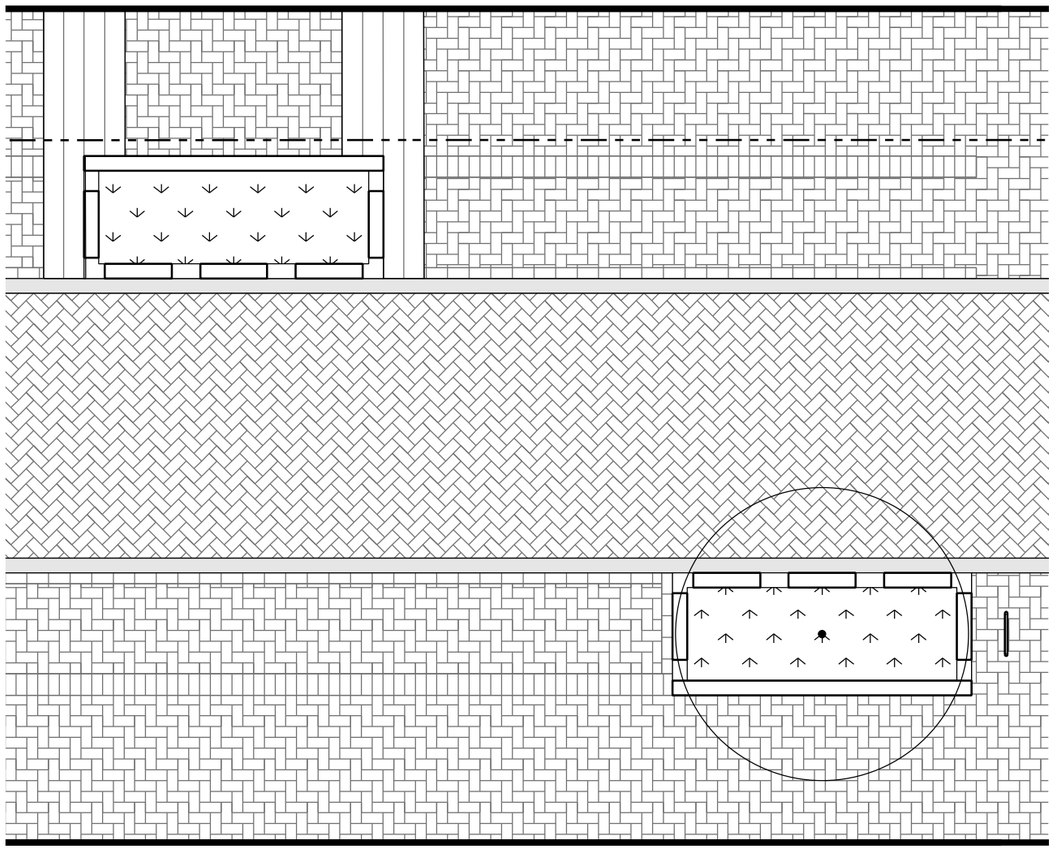
- Kowhai (*Sophora species*)
- Manuka (*Leptospermum species*)
- Putawetaweta (*Carpodetus serratus*)
- Lancewood (*Pseudopanax crassifolius*)
- Cyathea and Dicksonia spp.
- Ti Kouka/Cabbage tree (*Cordyline australis*).

Groundcovers

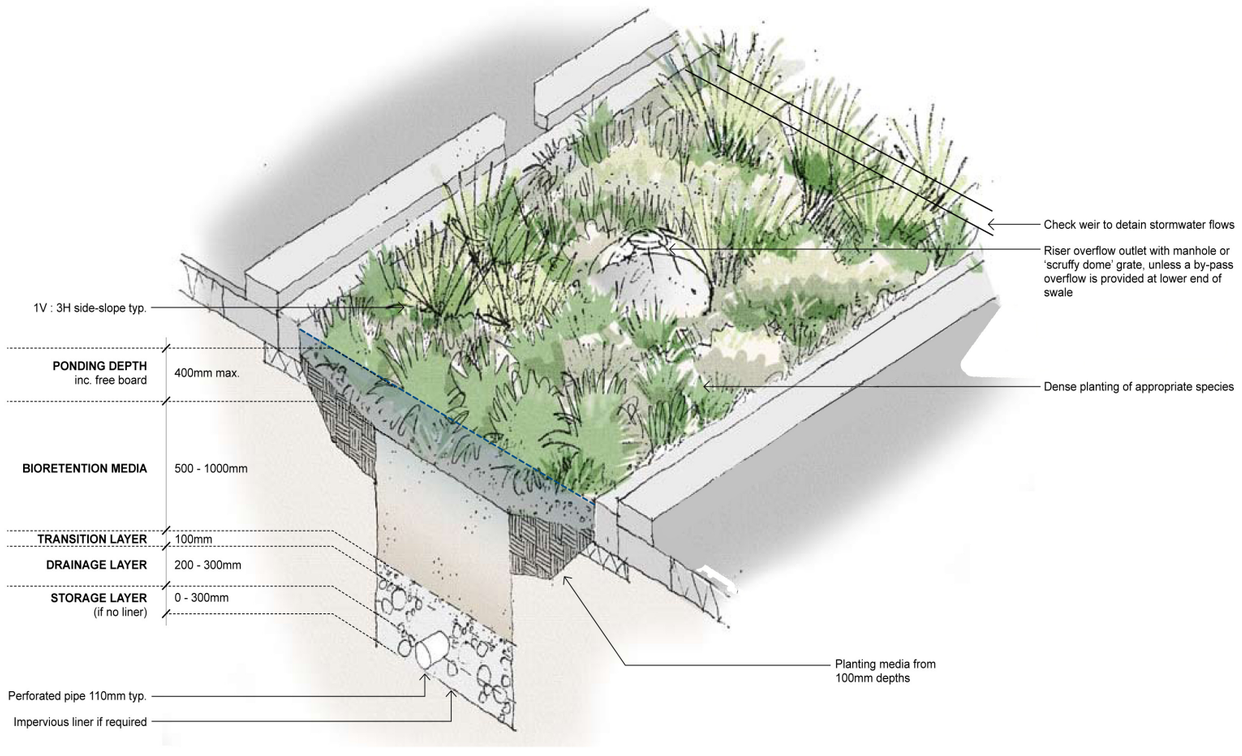
Suggested planting:

- *Alocasia gageana* 'California Shield', taro
- *Astelia grandis*, swamp astelia
- *Baumea complanata*, shiny sedge
- *Baumea rubigimosa*, orange nut sedge
- *Baumea teretifolia*, pakihi rush
- *Calopsis paniculata*, restio (exotic)
- *Lepidosperma australe*, square-stemmed sedge
- *Cyperus haspan*, miniature papyrus (exotic)
- *Elegia Capensis*, restio (exotic)
- *Gratiola sexdentata*
- *Halocarpus bidwillii*, bog pine
- *Iris sibirica* 'Caesars brother', iris (exotic)
- *Juncus edgariae*, wiwi
- *Juncus pallidis*, giant rush wiwi
- *Juncus sarophorus*, wiwi
- *Leptinella tenella*
- *Machaerina sinclairii*, tuhara, pepepe
- *Myriophyllum votschii*
- *Rhopalostylis sapida*, nikau
- *Rhodocoma gigantean*, restio (exotic)

Reference Layout of Raingarden with Native planting, Wellington



Layout of Raingardens inType 4 Street,



Reference illustration of Raingarden

Manukau City Centre Public Domain Technical Manual

Technical Details: Lighting

Lighting Type 1: Multi-purpose Luminaire & Lighting Columns

Overview

Lighting Type 1 is a 11.5 metre high multi-purpose column with outreach traffic arms. Luminaires installed at 10.75 metre. The spacing of the columns is 30 metres, they are to be placed staggered, in arrangement with the tree planting along the arterial roads. Lighting colour: HPS (High Pressure Sodium) with yellow lighting for little difference in colour reflection in the environment.

Additional outreach arms are optional. This should be determined with reference to the specific application listed below.

Application

This type to be provided along the following Arterial (type 1) Roads:

- Great South Rd
- Cavendish Drive
- Lambie Drive

Refer to lighting plan for individual street and park types and to detailed layouts of relevant streets for general layout of poles.

Lighting Type 2: Multi-purpose Luminaire & Lighting Columns

Overview

Lighting Type 2 is a 11.5 metre high multi-purpose column with outreach traffic arms. Two luminaires per column along the boulevards: Luminaires installed at 10.75 metre for lighting of the carriage way & installed at 4 metres for lighting of the pedestrian space. The spacing of the columns is 18 metres, they are to be placed staggered, in arrangement with the tree planting along the boulevard streets. The lighting columns are fitted with banner arms. Lighting colour: Phillips Cosmopolis or equivalent with mix of yellow and white lighting for more detail in colour reflection in the environment.

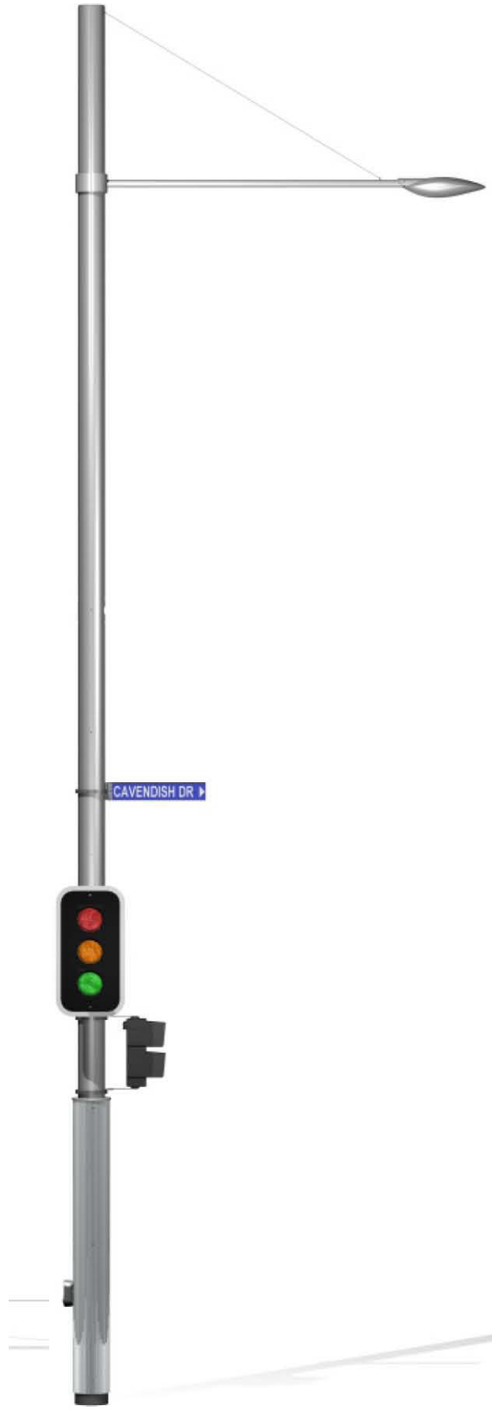
Additional outreach arms are optional. This should be determined with reference to the specific application listed below.

Application

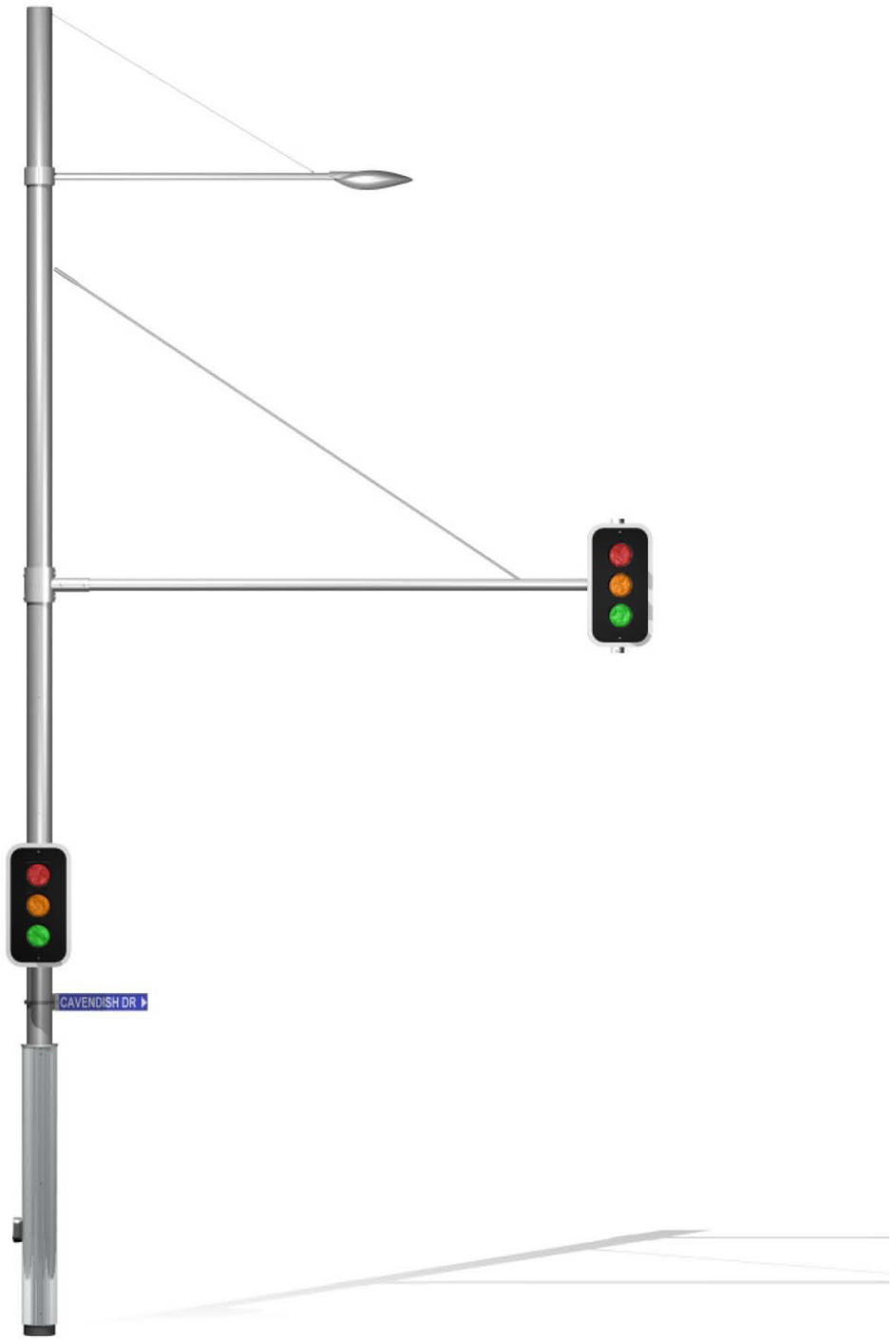
- Ronwood Ave
- Manukau Station Rd

Refer to lighting plan for individual street and park types and to detailed layouts of relevant streets for general layout of poles.

Double sided lighting along type 2 streets



Multi-purpose lighting column with traffic lights
(Illustration HUB Furniture, Australia)



Multi-purpose lighting column with traffic lights
(Illustration HUB Furniture, Australia)

Multi-purpose lighting column with banners
(Illustration HUB Furniture, Australia)

A08296 MCC PDM
Technical Details Lighting: Traffic Light Columns HUB

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Lighting Type 3: Business Street Luminaire & Lighting Columns

Overview

Lighting Type 3 is a 7.5 metre high column. Luminaires installed at 7.3 metre on 2 metre arm. The spacing of the columns is 27 metres, they are to be placed staggered, in arrangement with the tree planting along the City Streets. The lighting columns are fitted with banner arms. Lighting colour: Phillips Cosmopolis or equivalent with mix of yellow and white lighting for more detail in colour reflection in the environment

Application

This type to be provided along the following City (type 3) Streets:

- Sharkey Street
- Osterley Way
- Davies Ave
- Leighton Way
- Putney Way / Putney Way Extension
- Amersham Way
- Clist Crescent
- Barrowcliffe Place
- New streets in the Ronwood Precinct as indicated
- New streets in the Campus Precinct as indicated

Refer to lighting plan for individual street and park types and to detailed layouts of relevant streets for general layout of poles.

Lighting Type 4: Residential Street Luminaire & Lighting Columns

Overview

Lighting Type 4 is a 7.5 metre high column. Luminaires installed at 7.3 metre. The spacing of the columns is 56 metres, they are to be placed staggered, in arrangement with the raingarden planting and bicycle racks along the Shared streets. Lighting colour: Phillips Cosmopolis or equivalent with mix of yellow and white lighting for more detail in colour reflection in the environment.

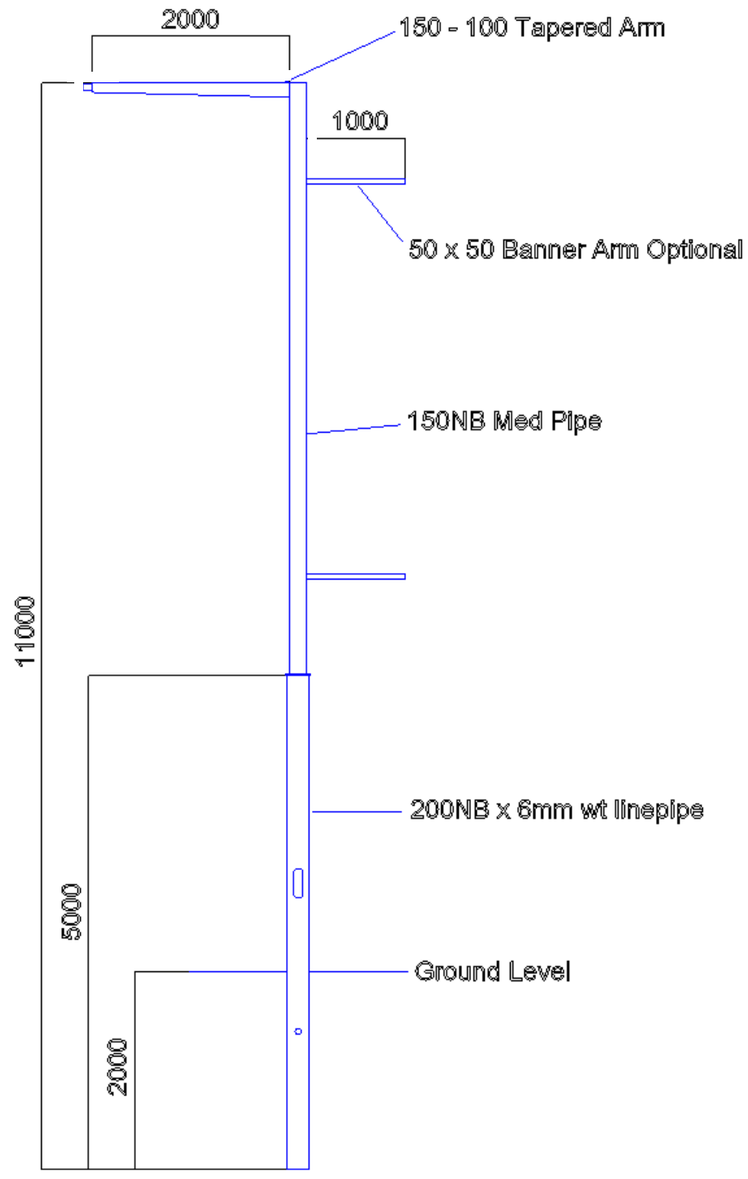
Application

This type to be provided along the following Shared (type 4) Streets:

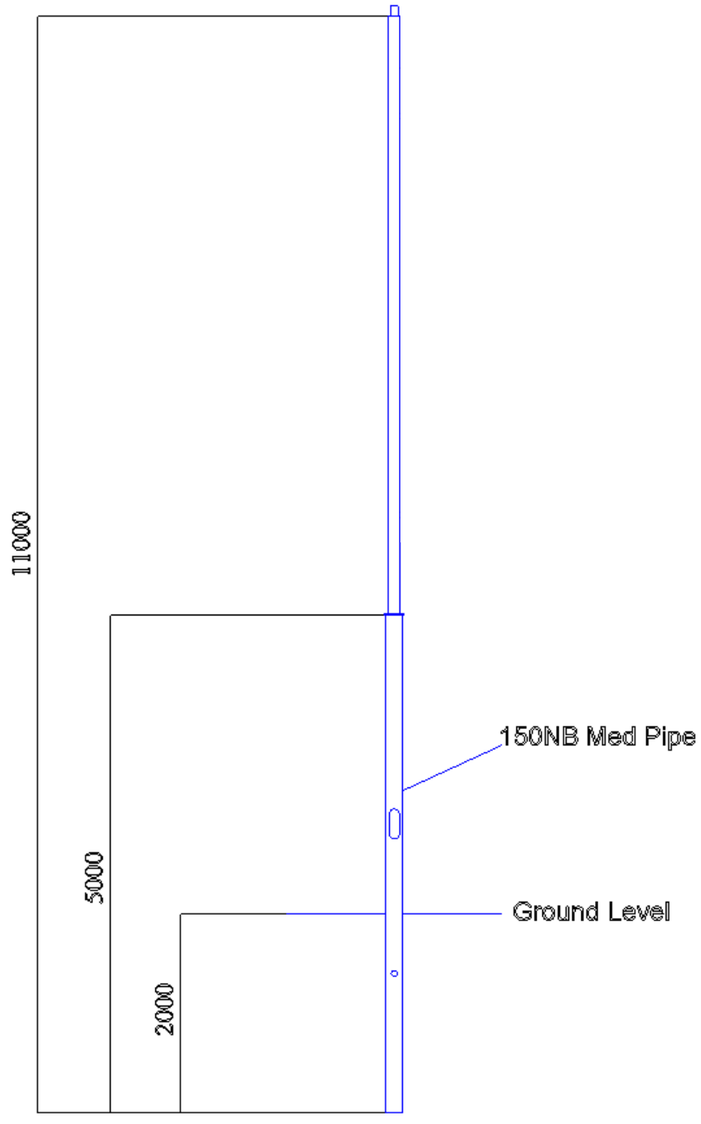
- Ronwood Lane (new central east-west spine in the Ronwood Precinct)
- 9 new unnamed north-south streets in the Ronwood Precinct
- 2 new unnamed streets in the Davies Precinct
- Putney Way Extension
- 2 new unnamed streets in the Campus Precinct
- streets within and bordering Civic Square
- Barrowcliffe Place

Refer to lighting plan for individual street and park types and to detailed layouts of relevant streets for general layout of poles.

Lighting column with banner arms (Image: Osterley Way, Manukau City Centre, Manufacturer: Modus lighting)



Lighting column with banner arms and luminair arm height variable, Image: Modus PRS, Modus lighting)



Lighting column height variable, Image: Modus PRS, Modus lighting)

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Technical Details: Furniture

General location principles

This section deals with the principles of locating street furniture within the footpath area, where all elements of street furniture are located between the kerb edge and building interface.

Account must be taken of a number of interrelated factors:

- Available footpath widths
- Vehicle flows
- Pedestrian flows
- Parking and loading requirements
- Land uses adjacent to the Public Domain
- Lighting Columns
- Street Trees
- Litter Bins
- Bicycle Racks
- Regulations governing street furniture size and location requirements
- Security

In general, the area between the kerb edge and the building interface can be divided into four zones:

- Kerb zone
- Furniture and planting zone
- Footpath clear zone
- Building interface zone

The relative importance, scale and treatment of each of the zones vary according to its location.

Public Seating

General overview + specifications

The Manukau City Centre seat (see illustration) utilises a simple palette of materials with a combination of hardwood timber, steel or cast iron, and concrete.

Design principles:

- Seating should be located at edges of space and activity or at points where people are waiting
- Seating should look onto activity
- Seating should include groupings of seating elements to create ‘gathering points’ or ‘nodes of activity along the street. These should be co-ordinated with pedestrian movement patterns and activities
- Seating should be sited and arranged to reduce visual clutter and co-ordinated with other street furniture elements. A rational layout of seating and regular patterns can assist the visually impaired to use the space safely
- Seating should not obstruct sight lines or access
- Seating should be orientated to consider gradient
- Seats should be spaced, aligned or orientated to encourage social interaction; however groupings should also consider the comfort of individuals in group arrangements.

Bollards

General overview

Locations:

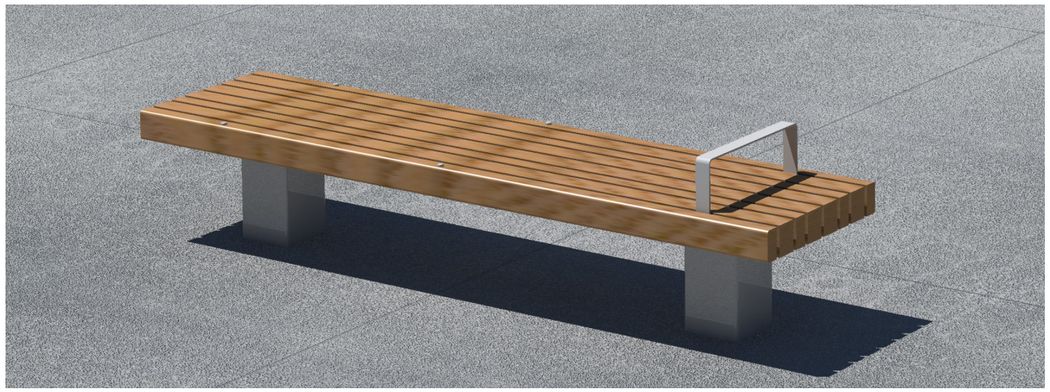
Bollards should only be used where potential conflict may arise in a shared street or public open space situation.

Finish

- Body: Stainless or Galvanised Steel

Installation

- Concealed fixing to suppliers detail



Public Seating Potential Combination Types (Boffa Miskell Ltd),

Bollards Cork, Ireland

Retractable bollard (Image: Pilomat Pas)

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Public Domain Furniture

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Handrail

General overview

Locations: Existing and proposed streets and through site-links

Finish

- Frame: galvanised steel

Installation/construction

- Fixing: concealed fixing to suppliers detail

Bicycle Rack

General overview

Cycle parking facilities are generally located on the footpath. Care must therefore be taken to locate them out of the footpath clear zone. If cycle parking facilities are provided on the carriageway alongside the kerb, they should be protected by islands and illuminated signs. Every cycle parking facility should be highly visible and well lit and clear of pedestrian and vehicle sight lines. Locations under overhanging trees should be avoided.

Sheffield-type cycle stands on the footpath should be placed 600mm from and parallel to the kerb, not at the back of the footpath. Where footpaths have sufficient width, cycle stands should be set at 90 degrees to the kerb. In this arrangement they occupy a smaller area of footpath for a greater number of stands.

When cycle stands are grouped together, a minimum spacing of 1000mm should be provided between stands to allow access and 1200mm is preferred.

The visual impact of cycle stands can be reduced if they are placed between other items of street furniture, especially tree planting within an organised street furniture zone. A tapping rail will usually be required on cycle stands so that an empty stand can be identified by a visually-impaired pedestrian using a white cane.

Locations: Existing and proposed streets

Finish: stainless steel

Fixing: concealed fixing to suppliers detail

Litter Bin

General overview

Locations: Existing and proposed streets

Locate bins within the kerb zone or along thoroughfares around the edge of the public open space and not directly next to seating areas

Finish

- Frame: stainless steel
- Body: powder coated

Installation/construction

- Fixing: concealed fixing to suppliers detail

Handrail Barry Curtis Park (Isthmus) Manukau City

Bicycle rack (Gehl Architects) Brighton and Hove,

Litter Bin, Auckland City

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