

WEST END STREETScape - STAGE 2

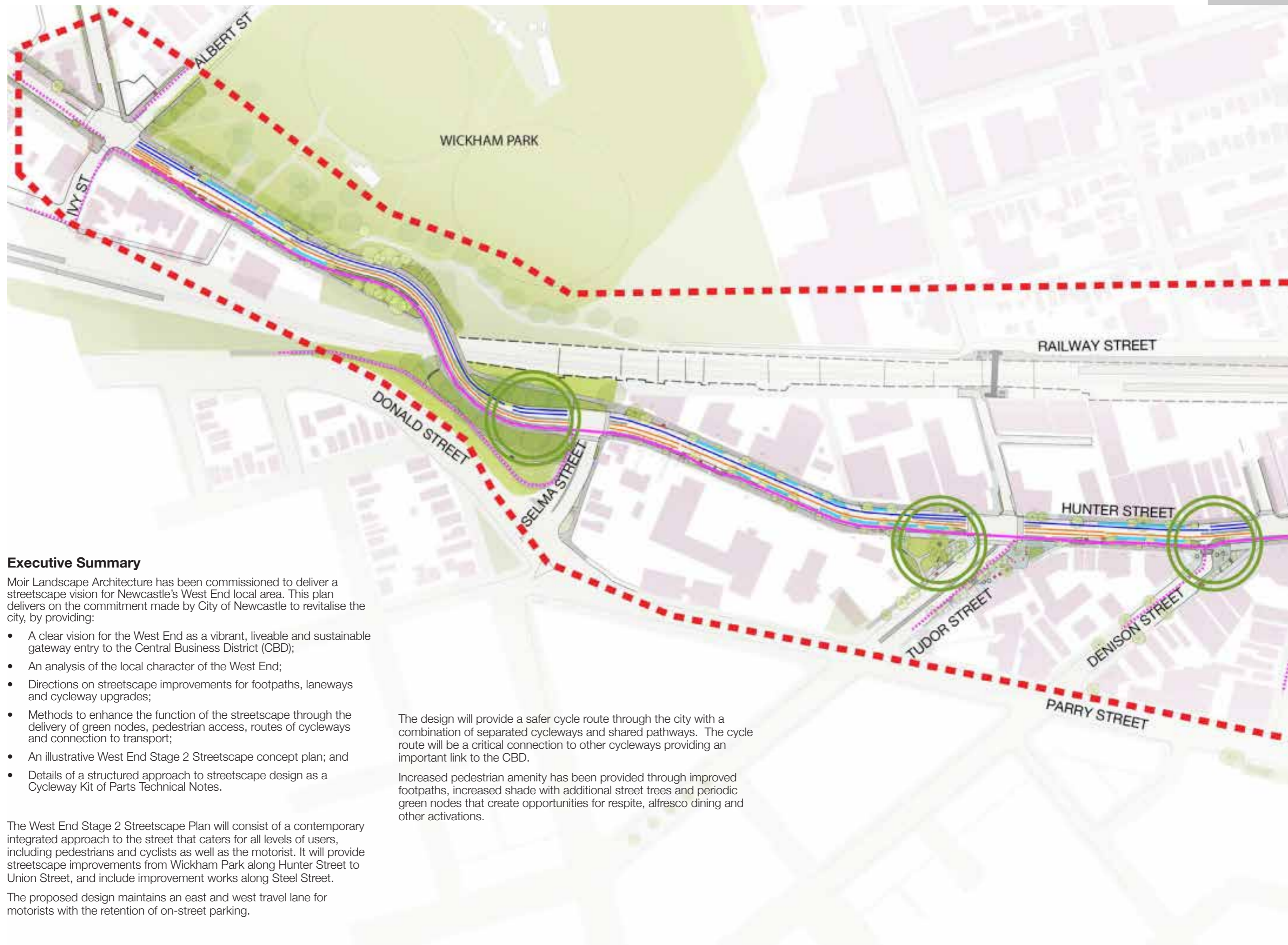


Image: Google Earth



PREPARED BY MOIR LANDSCAPE ARCHITECTURE
FOR CITY OF NEWCASTLE

ADOPTED
AUGUST 2019



Executive Summary

Moir Landscape Architecture has been commissioned to deliver a streetscape vision for Newcastle's West End local area. This plan delivers on the commitment made by City of Newcastle to revitalise the city, by providing:

- A clear vision for the West End as a vibrant, liveable and sustainable gateway entry to the Central Business District (CBD);
- An analysis of the local character of the West End;
- Directions on streetscape improvements for footpaths, laneways and cycleway upgrades;
- Methods to enhance the function of the streetscape through the delivery of green nodes, pedestrian access, routes of cycleways and connection to transport;
- An illustrative West End Stage 2 Streetscape concept plan; and
- Details of a structured approach to streetscape design as a Cycleway Kit of Parts Technical Notes.

The West End Stage 2 Streetscape Plan will consist of a contemporary integrated approach to the street that caters for all levels of users, including pedestrians and cyclists as well as the motorist. It will provide streetscape improvements from Wickham Park along Hunter Street to Union Street, and include improvement works along Steel Street.

The proposed design maintains an east and west travel lane for motorists with the retention of on-street parking.

The design will provide a safer cycle route through the city with a combination of separated cycleways and shared pathways. The cycle route will be a critical connection to other cycleways providing an important link to the CBD.

Increased pedestrian amenity has been provided through improved footpaths, increased shade with additional street trees and periodic green nodes that create opportunities for respite, alfresco dining and other activations.



TREE OF KNOWLEDGE

HONEYSUCKLE DRIVE

KUWUMI PLACE

NEWCASTLE INTERCHANGE

STEWART AVE

BELLEVUE STREET

HUNTER STREET

UNION STREET

COTTAGE CREEK













STEEL STREET

BIRDWOOD PARK

KING STREET

CIVIC PARK

NATIONAL PARK

-  Parking
-  Cycle Lane
-  Proposed Cycle Lane
-  Shared Pathway
-  Proposed Shared Pathway
-  East-Bound Traffic Lane (Single)
-  East-Bound Traffic Lane (Double)
-  West-Bound Traffic Lane (Single)
-  West-Bound Traffic Lane (Double)
-  Light Rail
-  Extent of Work
-  Green Node

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01 Project overview

Hunter Street is the historical backbone of Newcastle, being the key transport, commercial and retail centre of Newcastle. The streetscape has civic and nostalgic importance to all Novocastrians which has ebbed and flowed over time through periods of wealth, recession and natural disasters.

Hunter Street has always had a diverse mix of small and large retail, markets and manufacturing, commercial, community, civic and service uses. The historic mining and economic wealth of the area is displayed in the remaining ornate, richly detailed and beautiful building facades which are visible as the street curves and changes direction.

Newcastle's West End is now one of the most important portals into Newcastle's rapidly changing and evolving CBD. The renewal of the West End, Hunter Street and Steel Street is the next layer in a long history of change. This Streetscape Plan will acknowledge the past but also herald the rebirth of Newcastle as a smart and growing city.

The West End Streetscape Plan Stage 2 focuses on Hunter Street between Albert Street, Wickham Street to Union Street, Newcastle and Steel Street.

Hunter Street was identified in the Hunter Street Revitalisation Strategy Masterplan, 2010 as a key multi-modal corridor to the City. Steel Street is a vital north south connection linking the National Park open space and inner suburbs to the Harbour foreshore and Throsby Creek open space networks.

The purpose of the Streetscape Plan is to identify a range of public domain and infrastructure improvements to enhance the visual amenity, liveability and the environmental sustainability of the precinct.

Public domain improvements prioritise pedestrians; encourage bike use; and enhance the public domain amenity. This creates a liveable, vibrant and comfortable place for residents, workers, businesses and visitors. The plan encourages flood resilience through the use of permeable surfaces and water sensitive urban design that enhances vegetation health and reduces heat island effects.

The Streetscape Plan provides a framework for Council to deliver public domain works through developer investment and public domain improvements in the precinct. The aim is to ensure the best aesthetic, environmental and economic outcomes are achieved as the infrastructure and development sites in the precinct are being renewed.



View of Hunter Street east near Hunter TAFE

02 Public domain and streetscape plan process

City of Newcastle recognises the importance of providing an attractive, vibrant and liveable city. Building on the city-wide planning policy and strategies, council is currently preparing a series of Public Domain and Streetscape Plans for each of the precincts defined in the Hunter Street Revitalisation Masterplan.

The development of these plans assist council to prioritise public domain improvement works in the precinct, anticipate future renewal works and improve the overall function of our streets.



View of Hunter Street looking east towards National Park Street



Precincts as described in the Hunter Street Revitalisation Masterplan, 2010

For Newcastle's West End precinct, two public domain plans have been developed to date:

- West End - Stage 1 Public Domain Plan, which focuses on the area around Birdwood Park and King Street. This plan has been endorsed by Council.
- West End - Stage 2 Streetscape Plan, which focuses on improving the connectivity and legibility of the public domain on Hunter Street between Albert Street, Wickham Street to Union Street, including Steel Street.

The Streetscape Plan proposes a range of public domain and infrastructure measures. These respond to concepts developed as part of the Hunter Street Revitalisation Strategic Framework and Newcastle City Centre Cycleway Network Strategy. The purpose is to improve the visual amenity, usability and environmental sustainability of the new commercial core.

03 Project background

Preceding this Streetscape Plan, a significant body of work has been prepared by both City of Newcastle and the State Government Authorities in consultation with local community groups. Some of the key documents underpinning this Streetscape Plan include:

03-01 Hunter Street Revitalisation Strategic Framework, 2010

City of Newcastle endorsed the Hunter Street Revitalisation Framework in 2010. This was developed through an extensive community consultation process which resulted in an aspirational, community-based vision to assist in the renewal of the Hunter Street precinct.



03-02 The Newcastle Urban Renewal Strategy, 2012

The Newcastle Urban Renewal Strategy was prepared by NSW Planning and Infrastructure, to establish an overarching framework to inform decision-making regarding zoning, planning, State significant renewal projects and economic initiatives assisting in the reactivating and reshaping of Newcastle.



03-03 Newcastle Cycle Strategy and Action Plan, 2012

The City of Newcastle Cycle Strategy establishes a long-term vision for cycling in Newcastle, aimed at encouraging and increasing cycling participation in our community.

The strategy identified a range of network and infrastructure priorities which include social initiatives and action plans.



03-04 Trial Changes to Hunter Street, 2013

In September 2013, City of Newcastle prepared the Trial Changes to Hunter Street with the purpose to test projects that attracts, reactivates and reconnect people to Newcastle's CBD and to inform future changes to network. The proposed improvements were:

- Footpath widening to improve accessibility and pedestrian amenity.
- New 'parklets' for seating and outdoor dining to promote the usability and experience of public areas.
- Additional street trees and landscape planting to provide shaded and green streets.
- Separated cycleways to encourage safe usage.

Community consultation provided positive feedback in support of the initiative. However, the development of the Light Rail Network along Hunter Street prevented this from being implemented to its full extent.

03-05 NSW Government Draft Greater Newcastle Future Transport Plan, 2017

The NSW Government Draft Greater Newcastle Future Transport Plan 2056, dated November 2017, recognises the need to increase pedestrian and cycling participation for trips within 10km of activity centres.

This draws upon the Newcastle Transport Strategy, 2014 and Newcastle Cycle Strategy and Action Plan, adopted by council in March 2012.

The Greater Newcastle Future Transport Plan provides the overarching strategic transport network and vision that will guide future transport planning for the Greater Newcastle area.



The Transport Plan identified the provision of a cycle route on Hunter Street with a key north-south link and a pedestrian zone along the length of the Newcastle CBD as priority linkages.

03-06 Newcastle City Centre Cycleway Network Strategy, 2017

The Newcastle City Centre Cycleway Network Strategy developed by the Revitalising Newcastle Program, carefully considers Newcastle and Council priorities on the journey towards becoming a more liveable, global city.

It considers the important role that active transport plays in providing access to the city centre as well as improving the health and well-being of the community.

This strategy demonstrates that a well-connected city centre-wide cycleway network can be delivered to co-exist with Newcastle Light Rail.



03-07 Newcastle Urban Forest Policy

The goal and objectives of this policy is to provide important directional statements that will guide the management of the Newcastle Urban Forest. They emphasise the role of the urban forest as an intergenerational resource that provides multiple benefits to the community, and the need to improve the capacity to provide those benefits.



SITE ANALYSIS

This section of the report describes the six (6) key components investigated as part of the site analysis:

- Site character
- Access on the street
- Public transport
- Street trees and public open space
- Cycleways
- Traffic

These components have been identified as forming the fabric and essence of Newcastle's West End.

01 Site character

The character of the city changes through a series of distinctive areas as Hunter Street meanders from west to east. Slight deflections in the street alignment provide views to the remaining ornate and historical building facades such as the Hunter Street TAFE and the Sacred Heart Catholic Church. The railway line crossing bridge on Maitland Road, Islington and a group of mature Hills Figs visible from the western approach to Newcastle offers a welcoming experience. As the city's future commercial core shifts west, this entry will become increasingly important to the legibility of the city.

Between Selma Street and Stewart Avenue, the street grid orientates in a north-eastern direction with side streets joining Hunter Street at tight angles. This has created a series of 'pocket' public spaces and clusters of street trees which provide relief from the dominating traffic on Hunter Street.

At Bellevue Avenue, Hunter Street changes direction to reveal a cluster of distinctive shops. Cottage Creek, a key feature in the landscape has potential to link two major open spaces, the National Park and the Honeysuckle Foreshore.

Generally, the existing public domain in Hunter Street and Steel Street are inconsistent and in poor condition. The streets are dominated by a four lane road, commuter parking, intermittently spaced trees and paved footpaths. The removal of unnecessary or obsolete signage will offer a more aesthetically pleasing experience of the public domain.

Building footprints and heights vary along the street with quality, age and usage differing significantly. There is a mix of businesses, residential properties and government offices located along Hunter Street.

Current planning controls allow for some sections of Hunter Street to increase in building height, which in turn, will influence the street character, increase activities and improve the vibrancy of the precinct.

02 Access on the street

02-01 Pedestrian access

A walkable streetscape with high pedestrian activity is a desirable outcome for any streetscape project. It has benefits for the individual, local business, community, council and the economics of the city. Increased pedestrian activity results in improved health and social contact, improved safety and improved trade.

As identified in the project overview, pedestrian access is a high priority for the city centre as current conditions are not conducive to a truly walkable city.



Roof garden, Beresford Street

Bank corner, view from Bellevue Street towards Hunter Street

Streetscape, Hunter Street



Street art on building facade, Bellevue Street

The Store, Hunter Street



Decorative street art, Stewart Avenue

Newcastle engraved seat, Hunter Street

Standard NCC street furniture, Hunter Street



Wayfinding signage, Hunter Street

Standard street tree in paved verge, Hunter Street

North-south access is highly constrained along Hunter Street with gaps between safe crossing locations of up to 400m in length, and often long crossing distances with short traffic light phases. As access and connectivity within the precinct is improved, the quality of the pedestrian environment is enhanced.

02-02 Public transport

Major changes to public transport are currently being undertaken within the city with the implementation of the light rail, the opening of the Newcastle Interchange and updates to bus routes and stops.

Bus stops are located staggered along the length of the streetscape. Bus stops must be clearly identifiable, strategically placed and well-connected to other transport options, as well as located near key destinations with flexibility for users to easily connect with other parts of the city.

As the city grows and increases in population, the capacity for parking in town reduces. Therefore, the public transport system encompassing of bus, heavy rail and light rail networks will be key to the success of the city.

At the time of this report, light rail construction works is being undertaken and the proposed Bus Interchange is in the approval process.

Once the bus, heavy rail and light rail network are connected, the public transport system will be able to deliver a holistic service to our community.

03 Street trees and public open space

03-01 Street trees as gateways and infrastructure

Across the Local Government Area (LGA), street trees are used as gateway markers. This is reflected similarly on approach to the Newcastle CBD, where these trees are not just markers at key locations but are also landmarks in their own right.

Across the study area the main tree species include *Platanus*, *Melaleuca* and *Ficus species*. In addition to these species, a number of streets have distinctive street tree planting, defined by the unique species selection and spacing. For example *Melia azedarach* (White Cedar) are used on Wood Street.

These street trees help to give individual streets distinctive character. Other parts of the study area have irregular street tree planting and consist of a variety of mixed tree species.

03-02 Public open space

Across the study area, there are currently limited public open space opportunities for people to linger, rest, meet, work or eat - either as incidental opportunities or as deliberate recreational destinations.

The Hunter Street Revitalisation Masterplan nominates Kuwumi Place and Cottage Creek as major distinctive places. In addition to these distinctive places, a series of existing, smaller green nodes have potential for activation.

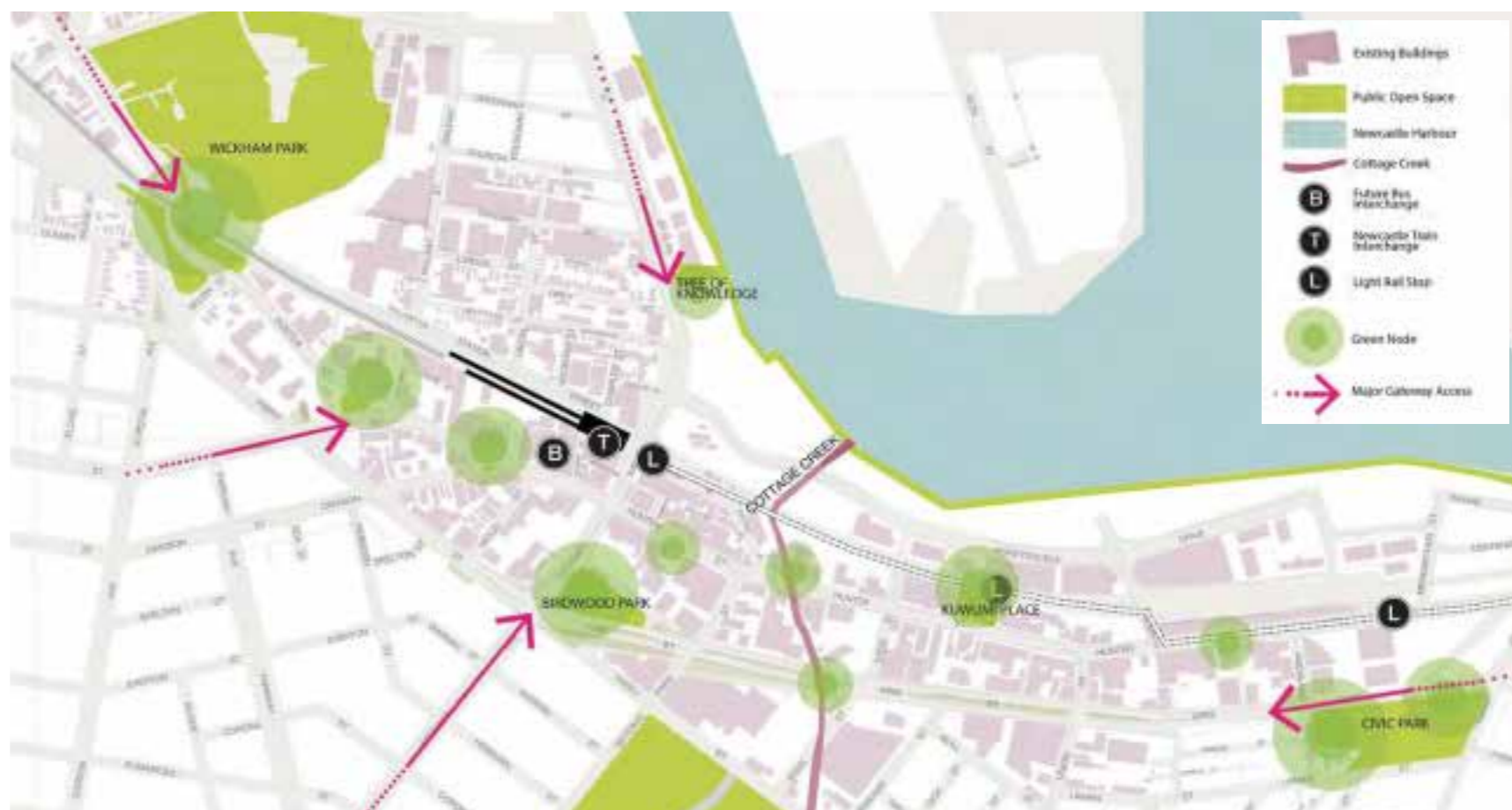
Green nodes are either generated by the road geometry or existing vegetation patterns. These can be activated through additional planting, furniture, amenities and pavement upgrades to encourage use.

Outside of the study area, there are larger facilities such as Wickham Park and the National Park, Honeysuckle Foreshore and Civic Park.

Defining connections to these destinations is considered an important objective of this proposal.



Pedestrian circulation and public transportation



Gateways and green nodes

Street trees are a vital piece of the City's infrastructure as noted in the Newcastle Urban Renewal Strategy. The investment in new street trees, whether to replace mature or damaged street trees, or as part of infrastructure replacement such as road, kerb, pavement and service renewal and relocations, must go hand-in-hand.

Key locations along the length of the study that are area ideal for street tree planting include:

- Tudor Street intersection
- Denison Street intersection
- Cottage Creek
- Donald Street and Selma Street
- Kuwumi Place
- Worth Place



The 'Tree of Knowledge' on Hannell Street, looking south east



Wickham Park, Hunter Street



On-street dining, Bellevue Street



Wickham Park



Rail bridge overpass, Hunter Street



Street tree planting, Tudor Street



Selma Street green node



Potential future cycle path through Wickham Park



Street tree planting, Steel Street



Street tree avenue, Wood Street



Hunter and Tudor Street green node



Selma Street green node



Hunter Street Tafe, Kuwumi Place

04 Cycleways

04-01 State Government Framework

The NSW State Government produced a Greater Newcastle Future Transport Plan 2056 in November 2017, recognising the need to increase pedestrian and cycle participation within the greater Newcastle region. In particular, trips within 10km of city or town centres.

Whilst the Greater Newcastle Future Transport Plan 2056 provides an overarching, strategic view of the future transport network and the vision which will guide future planning, it will be up to local councils to realise the objectives of an improved and all inclusive transport network.

04-02 Local Government Framework

The Newcastle Transport Strategy 2014 and Newcastle Cycle Strategy and Action Plan 2012, are in support of the objectives of the Greater Newcastle Future Transport Plan 2056.

The City of Newcastle's Cycle Strategy motivates the long-term vision for cycling in Newcastle and aims to encourage increased safe cycle participation within our community. The strategy's aims are to:

- Establish a long-term vision for cycling.
- Encourage more people to cycle as a means of ordinary transport.
- Provide a physical cycling environment in which people feel confident to ride the city's streets in safety and comfort.
- Establish a coherent network and priority for implementation.
- Promote an environment of mutual awareness and respect between all road users - pedestrians, cyclists and vehicles.
- Support cycling in all local streets, parks, squares, plazas and other public areas, while recognising that pedestrians have priority over cyclists.
- Continue to ensure walking and cycling facilities and networks are designed to provide safe use, especially for children and meet all abilities requirements.

The Cycle Strategy identifies a range of network and infrastructure priorities, including social initiatives, to deliver the vision through strategic project delivery to our community.

The City of Newcastle have invested in providing infrastructure suited to the needs of our community. The existing network consists of a fragmented walking and cycling network of shared paths and on-road cycleways.

Council seeks to improve the existing network by providing new infrastructure and enhancing existing infrastructure to meet the objectives of both State and Local Government Frameworks.

04-03 West End Streetscape Stage 2

The purpose of the West End Streetscape - Stage 2, (Streetscape Plan) is to establish a clear vision to help transform the West End into a vibrant, liveable and sustainable precinct over the long-term.

The Newcastle West End area covers a diverse interrelated network of areas and site conditions. West End is an important gateway to the CBD area of Newcastle. Careful consideration of the existing buildings and uses, infrastructure, circulation routes and footpath treatments, transport, traffic and technical design requirements has been undertaken to ensure the streetscape improvements enhance the function and aesthetic of the public domain.



Existing CBD cycle network



Marketown pedestrian crossing, Steel Street



Railway bridge, Hunter Street



Streetscape adjacent to Wickham Park



Roundabout at Steel Street and Parry Street



Cycleway along Hunter Street



Footpath adjacent to Wickham Park

05 Traffic

Hunter Street generally consists of a 25m road reserve with two travel lanes in both directions and parking located intermittently down the street where space permits.

The road speed varies between 50-60km/h. Loading zones are mainly located on side streets with accessible parking limited along the length of the streetscape. Across the study area, there are a number of large and complex intersections with slip lanes, wide open streets and prioritised vehicle movement, resulting in an unfriendly pedestrian and cyclist environment.

The Hunter Street Revitalisation Strategic Framework 2010, proposed the reduction of existing traffic lanes from four to two lanes. The framework also allowed for reduced travel lanes between National Park Street and Crown Street, whilst maintaining parking arrangements and the implementation of a two-way separated cycleway on each side of the street.

Further design has been undertaken since this study, which has resulted in an agreement between authorities consisting of a two-way separated cycleway on the southern side of Hunter Street with a shift in road alignment whilst maintaining parking along the length.

Roads and Maritime Services (RMS) is currently undertaking road works across the city centre to facilitate traffic flow once the light rail service commences.



Existing traffic and transport network



Steel Street looking north towards Hunter Street



Hunter Street looking east towards railway bridge



Hunter Street at Selma Street intersection



Selma Street slip lane onto Hunter Street



Pedestrian crossing at Cottage Creek



Hunter Street looking west towards railway bridge



Four lane roadway at Hunter Street



Denison Street looking south towards Parry Street

DESIGN OBJECTIVES

The purpose of the Streetscape Plan is to establish a clear vision to assist in the transformation of the West End Precinct into a vibrant, liveable and sustainable future precinct.

The precinct covers a diverse interrelated network of areas and site conditions. To ensure the streetscape improvements enhance the function and aesthetics of the public domain, the following must be considered:

- Existing buildings and uses
- Existing and proposed infrastructure including circulation routes, footpath treatments, transport and traffic
- Technical design requirements

The vision for the Streetscape Plan is to create better connections, improved amenity and safer cyclist access befitting a city center. To deliver on the vision and inform the Streetscape Plan, key design considerations were developed:

- Create a walkable precinct with suitable pedestrian links, amenity and wayfinding.
- Reduce vehicle speeds to improve the function of the precinct.
- Provide an accessible, safe and welcoming public domain.
- Create dynamic flexible public spaces.
- Encourage bike use with new cycle infrastructure, upgrades to existing infrastructure and separated cycleways.
- Implement a range of intersection and cycleway treatments, providing safer interactions between pedestrians, cyclists and vehicles.
- Unify and green the public domain with consistent placement of street trees, increased canopy cover and attractive low maintenance plantings to ensure the long-term viability of landscaped areas.
- Activate 'green nodes' and where possible provide opportunity for respite public art, place-making and interpretive elements appropriate for the character of the area.
- Encourage a diverse range of businesses and outdoor dining opportunities where appropriate.
- Maintain vehicle access, improve accessible car parking and loading zones near businesses, service providers and retail outlets.
- Encourage flood resilience through the use of permeable surfaces and water sensitive urban design that enhances vegetation health.

The Streetscape Plan will serve as a guideline in delivering cycleway infrastructure. The streetscape plan takes into consideration proposed new infrastructure, possible cycleway applications and reviews the possible impacts to the existing network. This has resulted in preferred design resolutions to be applied. Refer to section 6.



Artist impression of Cottage Creek shared path

This section of the report describes the four (4) key components of the overall masterplan in a series of diagrams:

- Green nodes and gateways
- Walkability
- Proposed Cycleways
- Proposed Public Transport

Each of these components work together to inform the Streetscape Plan. Prioritisation of pedestrians and cyclists over vehicle traffic has been endorsed by Council. To this end, reducing traffic speeds and improving pedestrian and cyclist safety near vehicles and mobility throughout the city is a priority. This can be achieved through:

- Consolidating intersections to improve safety for road users and pedestrians.
- Implementing 40km/h traffic calming zones between Selma Street and Union Street.
- Reducing lanes to single traffic lanes in each direction.
- Implementing a series of traffic calming devices to slow travelling speeds, such as street tree planting, kerb extensions and threshold variations at crossing points.

In meeting the objectives of this report. A series of diagrams along with sections, details, example imagery and artist impressions have been developed to convey this proposal and is documented in [section 06](#) of this document.

01 Green nodes and gateways

A series of green nodes and gateways are proposed along the length of Hunter Street which build upon the existing character of the street.

A series of open space green nodes will define a clear arrival sequence for the city. Changes to the road configuration begins with the Fig Tree entry at Selma Street, followed by the Tudor Street green node plaza and then Denison Street green node.

Cottage Creek and Kuwumi Place are also opportunities for green nodes as previously identified and provide important north-south green corridor connections between the CBD and the foreshore.

Green nodes have been proposed with consideration given to existing services, built-form and awnings which limit opportunity for open space or street greening to occur continuously along the street.

Each green node will have a distinctive character and provide spaces that are for everyday gathering, social interaction and respite from the city. Located along existing travel routes for pedestrians, cyclists and motorists, these nodes will become landmarks when navigating along the streets.

02 Walkability

The second layer and most significant focus for the Streetscape Plan is to improve the pedestrian environment through access and connectivity.

As the CBD shifts to the west, the ease and safety for people to get to key destinations within town and connection to the surrounding areas will become increasingly important.



Key links, green nodes and gateways along proposed two-way separated cycleway



Improved pedestrian access and connectivity

Due to the constrained nature of Hunter Street's north-south connections, all intersections have been reviewed as part of this Streetscape Plan as well as identifying opportunities for new crossing points. Some of these connections have been detailed as part of this scope and other connections will require further investigation.

Intersections reviewed are supported by recommendations to improve access. This includes reducing crossing distances, slowing vehicle speeds, signalisation of intersections and pavement upgrades.

03 Proposed cycleways

The provision of the cycleway is intended to broaden the opportunity for existing and potential cyclists of all abilities to participate, either as a form of active transport or for recreation which cyclists can enjoy within the city and the broader cycle network.

The key to this Streetscape Plan, is the implementation of a two-way separated cycleway along Hunter Street. This provides safe, direct access into the city for cyclists.

A two-way separated cycleway provides physical separation between bike riders, vehicles and pedestrians. More confident commuter cyclists can remain on on-road cycle lanes. However, cyclists will be encouraged to use the King Street cycle route. Shared paths have been nominated in some locations where there is insufficient space for a separate cycleway.

The implementation of this cycleway requires a new kit of parts for the streetscape (refer to section 06) and also has impacts on the road layout and alignment which has been documented in the detail section of the report noted in section 05.



Proposed CBD cycle network

04 Proposed public transport

Major changes to public transport are currently being undertaken within the city as previously noted.

Ensuring that these transport nodes are well-connected to key destinations in the West End, and to other modes of transport is important. Desired crossing locations and pedestrian connections will encourage the patronage of these services. As part of the Streetscape Plan, the desired pedestrian connections to these nodes, as well as the bus-stop locations have been reviewed. It is recommended that:

- Bus stops are co-located.
- Bus stops are located to maximise pedestrian movement to key locations.
- Bus stops are located where minimal carparking is impacted by turn in/turn out lengths i.e. near intersections or driveways.

Bus stop locations proposed are subject to further review and are included where locations are deemed to meet the recommended outcomes as listed above.



Proposed public transport along key roads



Key Plan

Due to the size of the study area, the detailed design has been broken into four (4) separate detailed plans as follows:

Detailed plan 01

Maitland Road/Hunter Street - Albert Street to Selma Street

Detailed plan 02

Hunter Street - Selma Street to Stewart Avenue

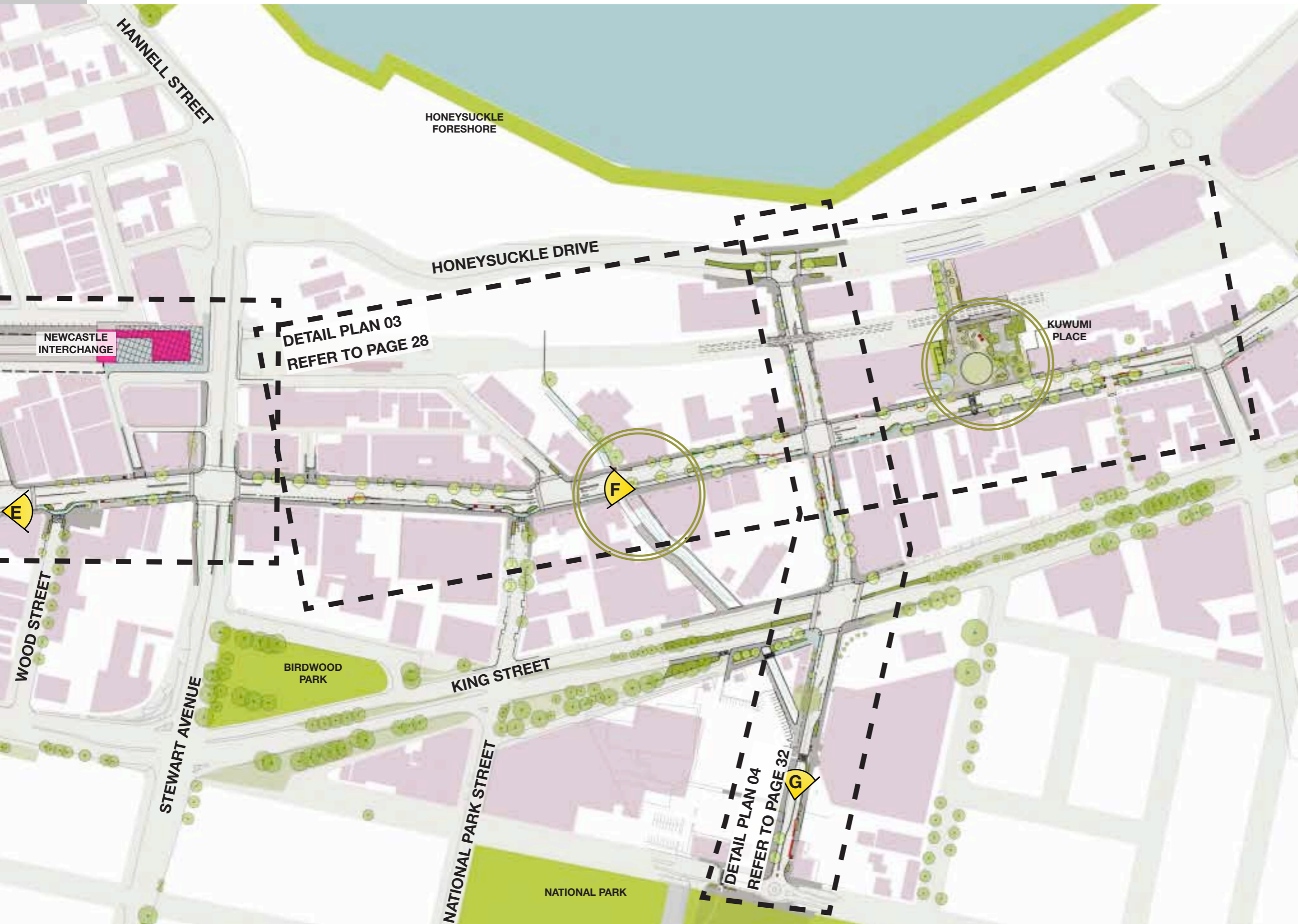
Detailed plan 03

Hunter Street - Stewart Avenue to Union Street



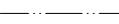













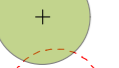




Detailed plan 04

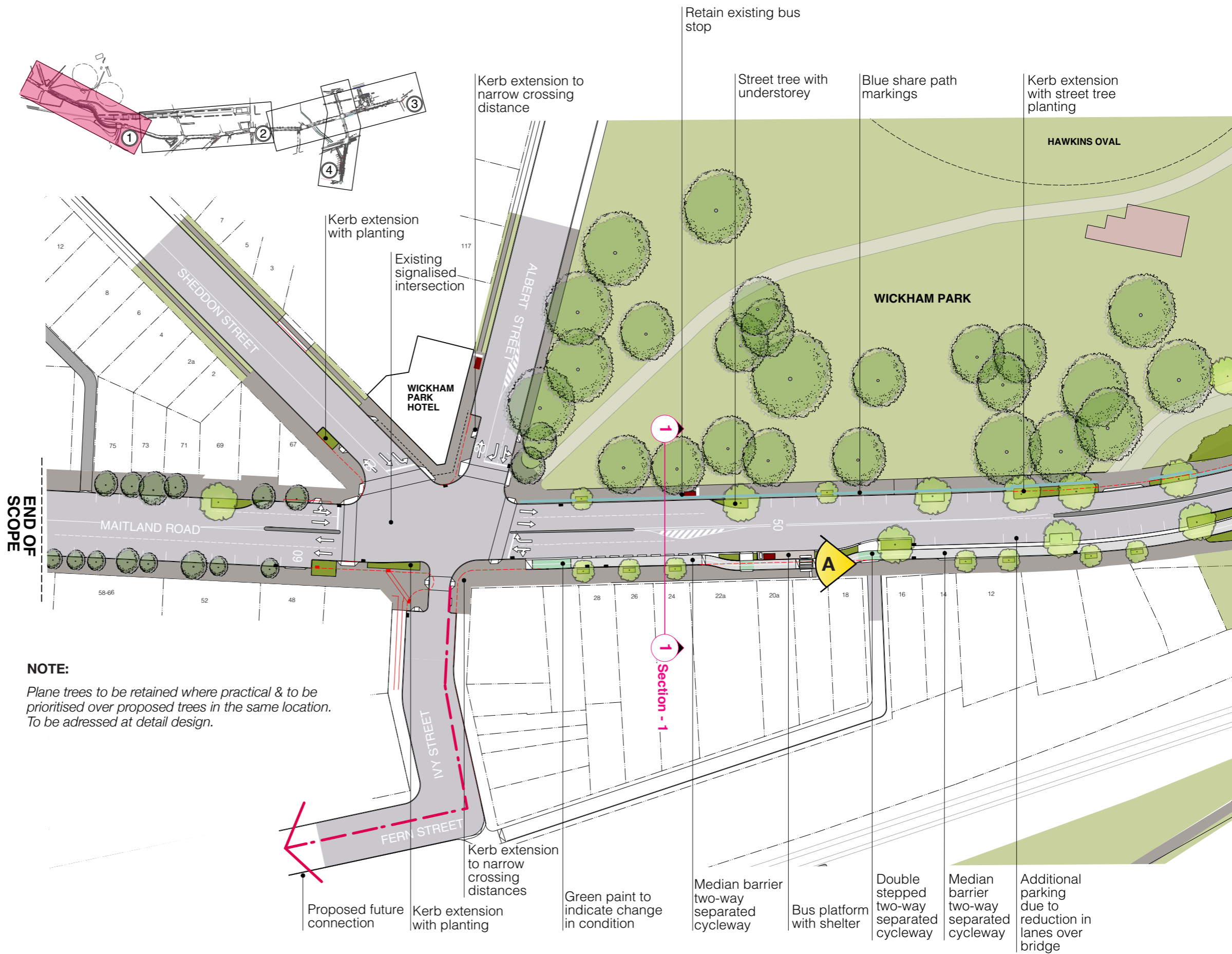
Steel Street - Honeysuckle Drive to National Park

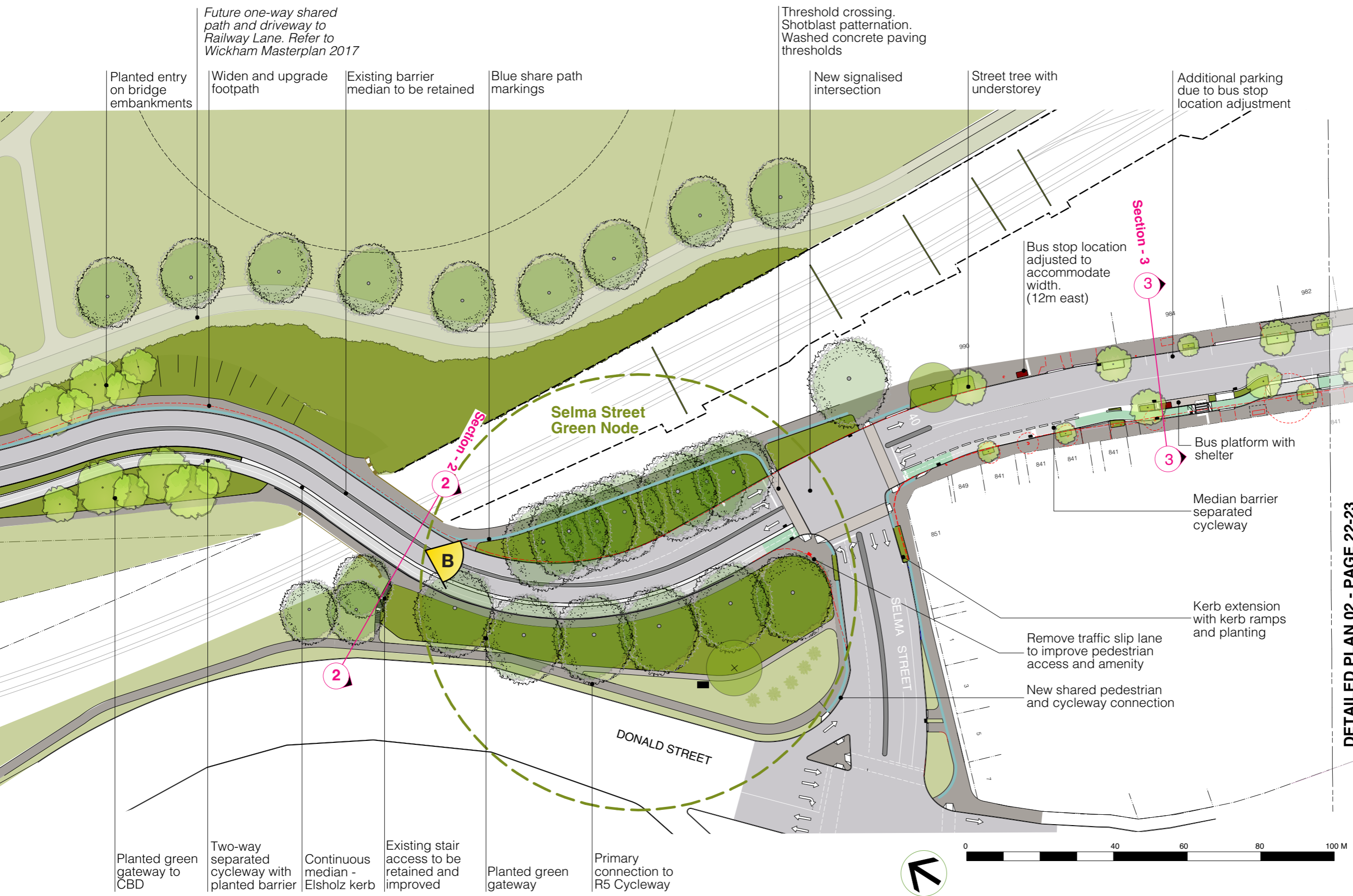
- A Artist Impression A**
Wickham Park west-bound bus stop.
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- B Artist Impression B**
Selma Street gateway.
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- C Artist Impression C**
Tudor Street green node.
Page 25
- D Artist Impression D**
Denison Street green node.
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- E Artist Impression E**
Wood Street bend-out intersection.
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- F Artist Impression F**
Bellevue Avenue intersection.
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- G Artist Impression G**
Marketown, Steel Street share path.
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LEGEND

-  Building line
-  Awning
-  Lot boundary
-  Existing Kerb (retain)
-  Existing Kerb (remove)
-  Concrete Footpath
-  Pedestrian Crossing
-  Two-way Separated Cycle Way
-  Green Paint To Denote Cycleway
-  Barrier Median
-  Blue Stone Unit Pavement
-  Shared Path
-  Shared Environment Intersection
-  Existing Road
-  New Planting
-  Rain Garden
-  Existing Tree Retained
-  Existing Tree Removed
-  New Trees
-  Bus Stop With Shelter
-  Street Furniture and Seating





Future one-way shared path and driveway to Railway Lane. Refer to Wickham Masterplan 2017

Threshold crossing. Shotblast patternation. Washed concrete paving thresholds

Planted entry on bridge embankments

Widen and upgrade footpath

Existing barrier median to be retained

Blue share path markings

New signalised intersection

Street tree with understorey

Additional parking due to bus stop location adjustment

Selma Street Green Node

Bus stop location adjusted to accommodate width. (12m east)

Bus platform with shelter

Median barrier separated cycleway

Kerb extension with kerb ramps and planting

Remove traffic slip lane to improve pedestrian access and amenity

New shared pedestrian and cycleway connection

Planted green gateway to CBD

Two-way separated cycleway with planted barrier

Continuous median - Elsholz kerb

Existing stair access to be retained and improved

Planted green gateway

Primary connection to R5 Cycleway

DETAILED PLAN 02 - PAGE 22-23



Extent of proposed works with sections



01 Wickham Park

Wickham Park will become a key open space for the people in the West End community. Well-designed and inviting access for pedestrians and cyclists will be vital to its integration into the precinct. (Refer to the City of Newcastle's Wickham Masterplan 2017)

The Hunter Street streetscape adjacent to Wickham Park would be the first location where separated cycle paths are included. Separating cyclists, vehicles and pedestrians in this location, will:

- Provide safe controlled access along the entire street boundary to the park.
- Integrate and direct cyclists connecting with the Maitland Road cycle network.
- Ensure these two user groups are unimpeded by vehicles.

The two-way separated cycleway starts at the intersection of Hunter Street and Albert Street and moves toward the CBD over the railway bridge along the southern side of Hunter Street.

Council is investigating cycleway options to connect to the R6 cycleway west of this area.

02 Railway bridge - Hunter Street

The Hunter Street bridge over the heavy rail line is a pinch point in the pedestrian and cyclist network. It is an intimidating experience for cyclists and pedestrians due to the lack of space and the close proximity of the vehicles passing next to them. To improve user experience, the dominating vehicle space must be reduced and the pedestrian and cycle space expanded and better defined.

The proposal retains the existing central road barrier and reduces the vehicle lanes to a single lane in each direction, this allows for the inclusion of a two-way separated cycleway with a 1m barrier separation between the vehicles and cyclists.

This reconfiguration allows for an increase in the footpath width on the northern side of Hunter Street expanding the pedestrian access across the bridge creating a more inviting and less vehicle dominated environment. Additional planting will be included to frame this elevated vantage point where all users will take in views across Wickham Park, the rail line, and down along the Hunter Street axis highlighting the western entry to the city.

There are no changes to Donald Street. However, there is an important cycleway route (R5) that will now connect at the corner of Hunter Street and Selma Street.

03 Bus platform - Hunter Street

The reduction of space for vehicular traffic to one lane in both directions continues along Hunter Street. The reconfiguration of the streetscape in this way improves and expands the interface between people, the streetscape and adjacent buildings and businesses by maintaining maximum parking spaces, allowing for additional street trees and making provision for bus stops.

A kerbside bus platform and shelter is proposed to allow for a two-way separated cycleway to run continuously along the cycleway permitting pedestrian access to the bus stop via a raised pedestrian crossing in the cycleway.



Section 01 - Wickham Park/Hunter Street Section



Section 02 - Rail bridge at Hunter Street



Section 03 - Bus platform at Hunter Street

DETAILED PLAN 02

LEGEND

- Building line
- Awning
- Lot boundary
- Existing Kerb (retain)
- Existing Kerb (remove)

- Concrete Footpath

- Pedestrian Crossing

- Two-way Separated Cycle Way

- Green Paint To Denote Cycleway

- Barrier Median

- Blue Stone Unit Pavement

- Shared Path

- Shared Environment Intersection

- Existing Road

- New Planting

- Rain Garden

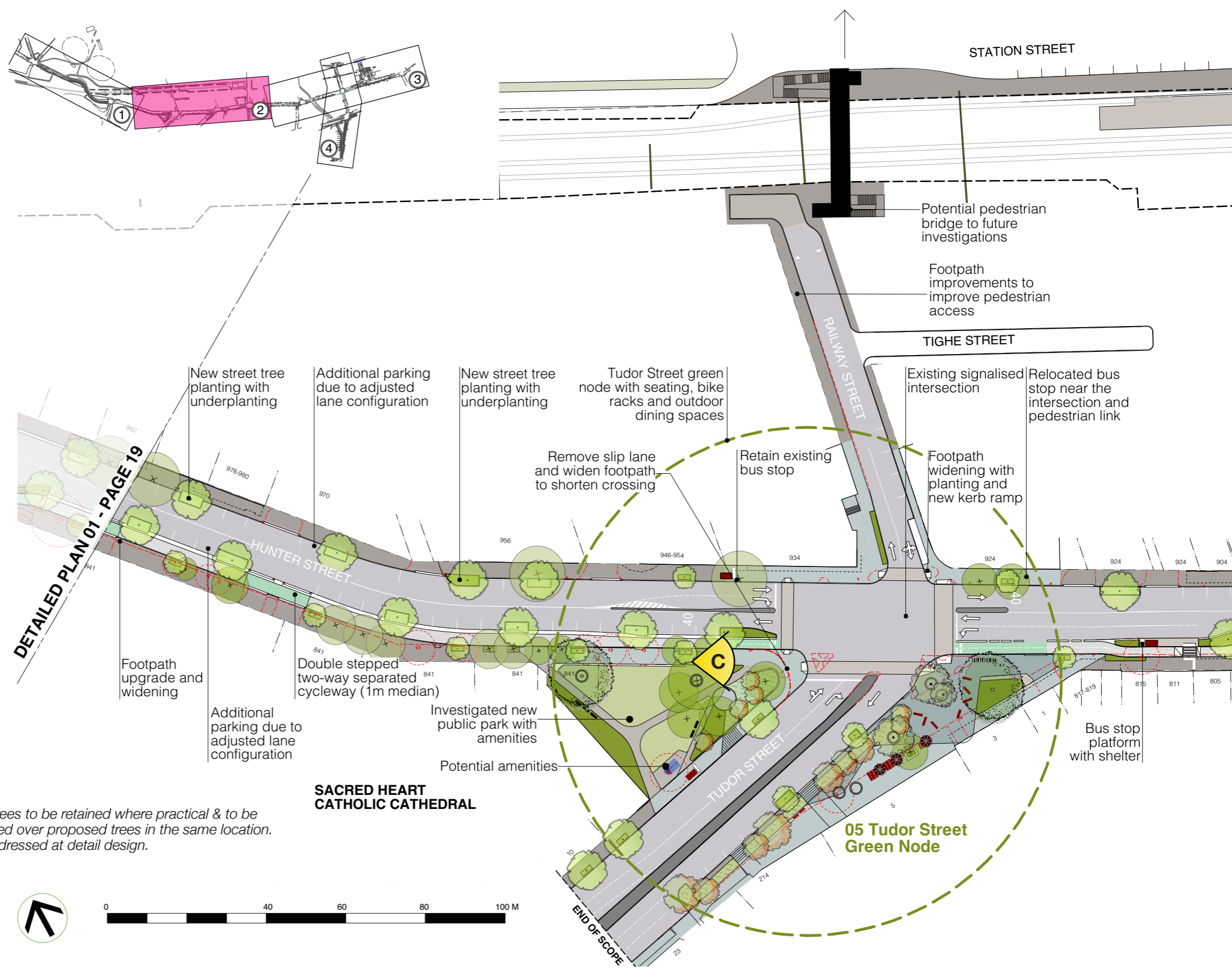
- Existing Tree Retained

- Existing Tree Removed

- New Trees

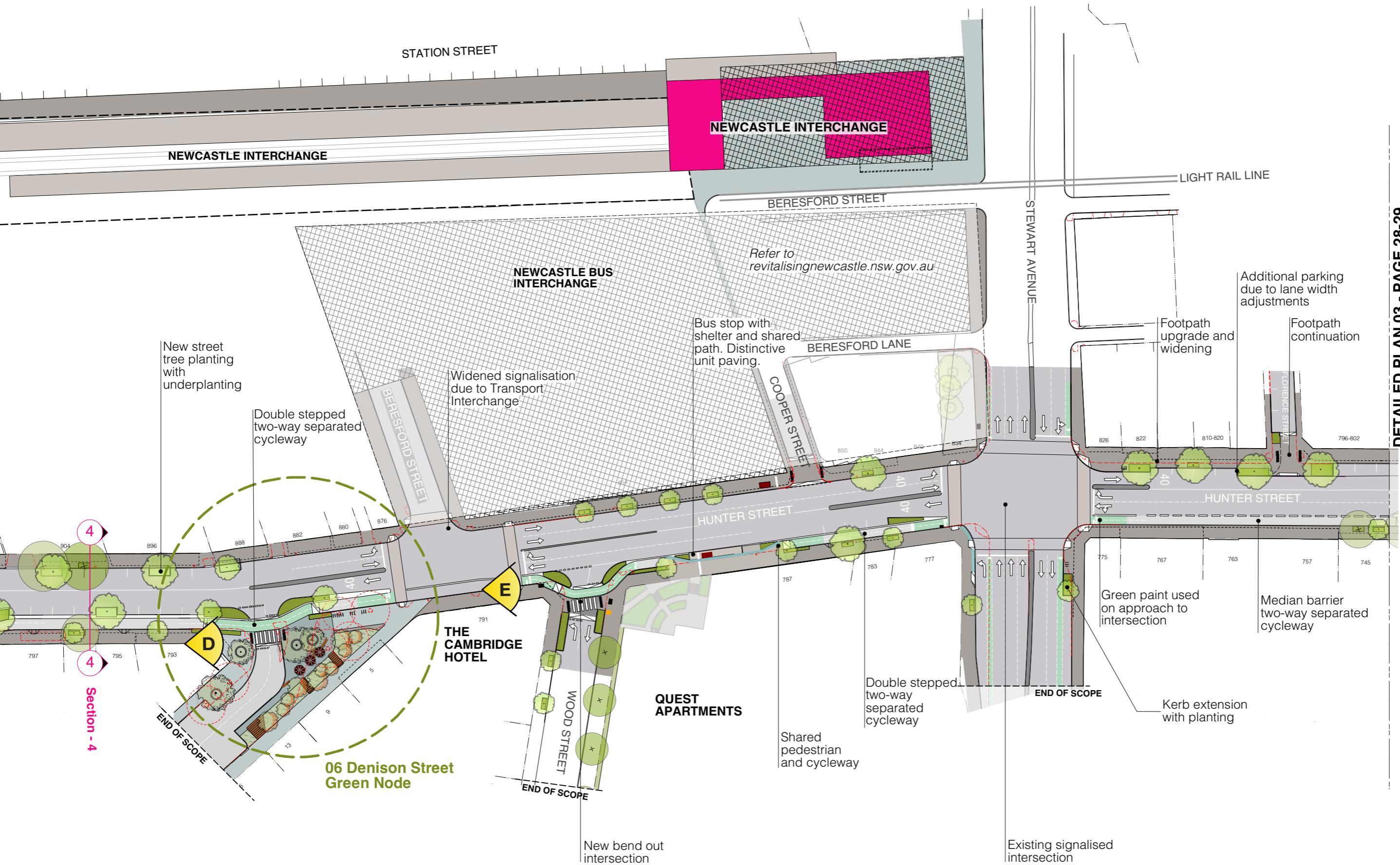
- Bus Stop With Shelter

- Street Furniture and Seating



NOTE:

Plane trees to be retained where practical & to be prioritised over proposed trees in the same location. To be addressed at detail design.



DETAILED PLAN 03 - PAGE 28-29

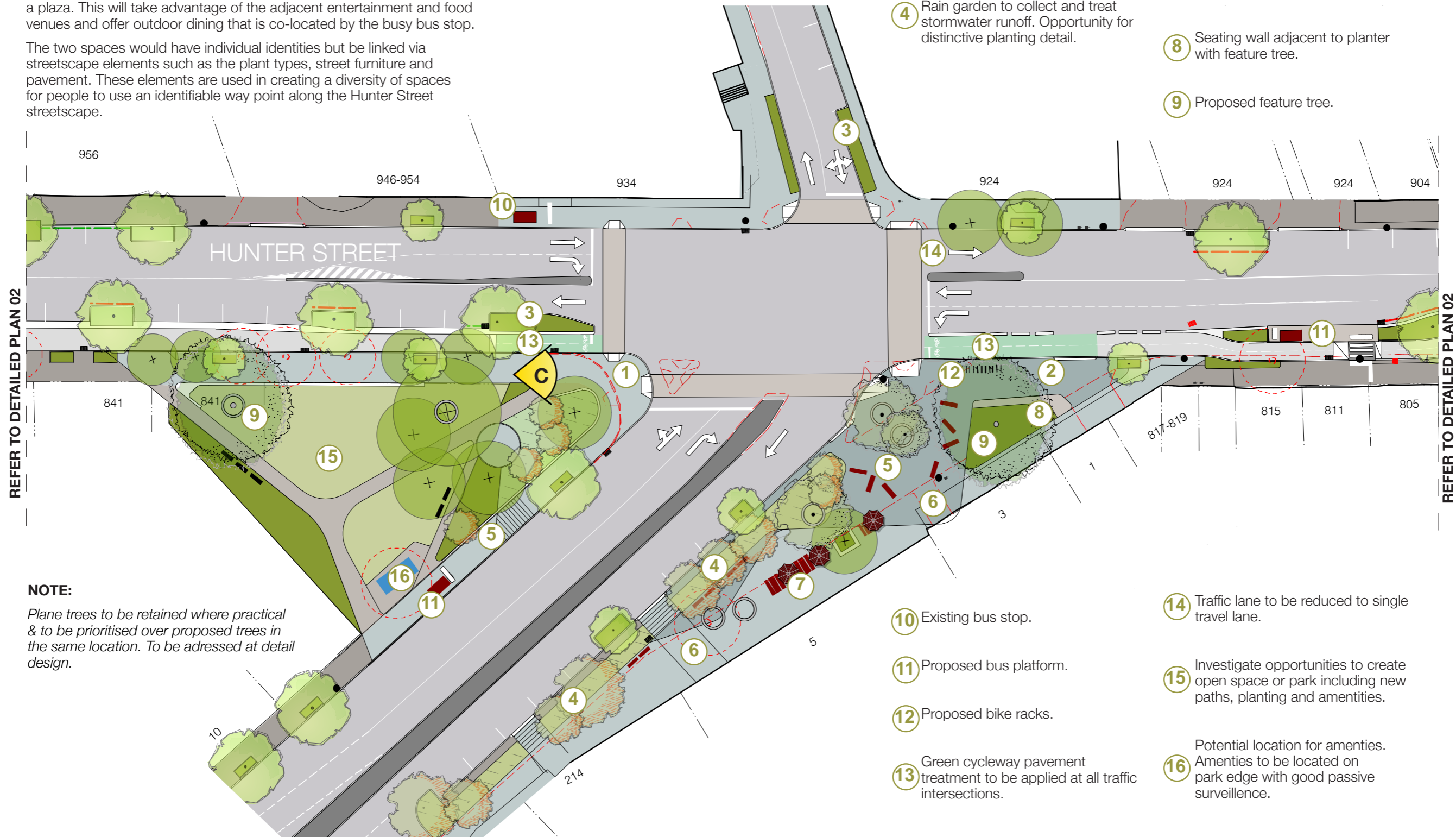
05 Tudor Street green node

The Tudor Street intersection is the first opportunity to include a green node as a key destination and landmark in the arrival sequence along Hunter Street. The green node will be formed through connecting two open spaces on both sides of Tudor Street, through the use of significant 'marker' street trees and WSUD garden spaces. Each of the two spaces have their own potential for providing amenity and greening to the public realm at this point. The south-western corner offers potential for a small pocket park and amenities block, providing important lawn space and greenery.

The south-eastern corner connects with its more urban context by extending the pavement out into the under-utilised road space creating a plaza. This will take advantage of the adjacent entertainment and food venues and offer outdoor dining that is co-located by the busy bus stop.

The two spaces would have individual identities but be linked via streetscape elements such as the plant types, street furniture and pavement. These elements are used in creating a diversity of spaces for people to use an identifiable way point along the Hunter Street streetscape.

- 1 Remove slip lane and widen kerb to improve pedestrian access.
- 2 Remove slip lane to create plaza space for green node.
- 3 Kerb extension and rain garden to collect and manage stormwater runoff.
- 4 Rain garden to collect and treat stormwater runoff. Opportunity for distinctive planting detail.
- 5 Distinctive pavement treatment to denote green node. Pavement variation to define vehicular and pedestrian movement.
- 6 Driveway crossing through plaza. To be defined through furniture and pavement treatment.
- 7 Seating and tables for outdoor dining including shade structures.
- 8 Seating wall adjacent to planter with feature tree.
- 9 Proposed feature tree.



REFER TO DETAILED PLAN 02

REFER TO DETAILED PLAN 02

NOTE:

Plane trees to be retained where practical & to be prioritised over proposed trees in the same location. To be addressed at detail design.

- 10 Existing bus stop.
- 11 Proposed bus platform.
- 12 Proposed bike racks.
- 13 Green cycleway pavement treatment to be applied at all traffic intersections.
- 14 Traffic lane to be reduced to single travel lane.
- 15 Investigate opportunities to create open space or park including new paths, planting and amenities.
- 16 Potential location for amenities. Amenities to be located on park edge with good passive surveillance.



Moir Landscape Architecture

Existing Tudor Street intersection



Moir Landscape Architecture

C Artist impression of Tudor Street green node

06 Denison Street shared zone

Denison Street is proposed to be the second green node. Two-way movement is proposed to be maintained in Denison Street, with a left in and left-out arrangement allowing for a narrowing of the intersection. This will create a small plaza space which has the capacity for outdoor seating including tables, chairs and umbrellas.

A large rain garden is proposed on the southern side of Denison Street with a range of crossing points. A distinctive planting palette is proposed which draws on the indigenous planting of the area and makes reference to the historic Eucalyptus Avenue typology.

Along the length of Hunter Street this node will provide a landmark and will support the provision of functional everyday spaces for social interaction in the West End. As part of this study, a one-way option and shared zone was investigated. It is recommended that this option is reviewed as part of the detailed design phase.

07 Greening the street and Water Sensitive Urban Design (WSUD)

Street trees are one of the most important inclusions into the Hunter Street streetscape. Trees provide important amenity through shade, aesthetics, colour and form, as well as the overall experience of the user and is essential in expressing the identity of the area.

Street trees have the ability to mediate the scale between people and surrounding buildings and elements within the urban environment. The choice of appropriate street tree species is vital to ensure longevity within the streetscape.

To assist in supporting healthy street trees, Water Sensitive Urban Design (WSUD) techniques are to be used to collect and manage rain and stormwater runoff before discharging into the stormwater system. The WSUD system will create landscaped areas below street trees providing further greening of the street. The combination of street trees with landscaped areas are to be spaced at approximately 30m intervals with the size of the planting areas to be the same footprint of a vehicle parking space, allowing easy integration into the existing street layout.

Further, to assist in incorporating WSUD and stormwater management systems to the streetscape, a double stepped kerb is recommended to be constructed along cycleway edges. to assist with better water detention in locations as required.



- ① Remove median and narrow street width whilst allowing for turning movements of vehicles.
- ② Cycleway bend out and new raised pedestrian crossing.
- ③ Vehicle waiting area.
- ④ New street tree and understorey planting.
- ⑤ Rain garden to collect and manage stormwater run-off. Planting to be native grasses and sedges.
- ⑥ Bridge crossing to allow for pedestrian access over rain garden.
- ⑦ Proposed street furniture.
- ⑧ Proposed bike racks.
- ⑨ Proposed seating wall.
- ⑩ Concrete thresholds to define crossing locations at intersections.
- ⑪ Distinctive pavement treatment to define nodes and direct movement.



Rain garden and seating wall example, Mint Plaza, San Francisco



Section 04 - Water Sensitive Urban Design (WSUD) at Hunter Street



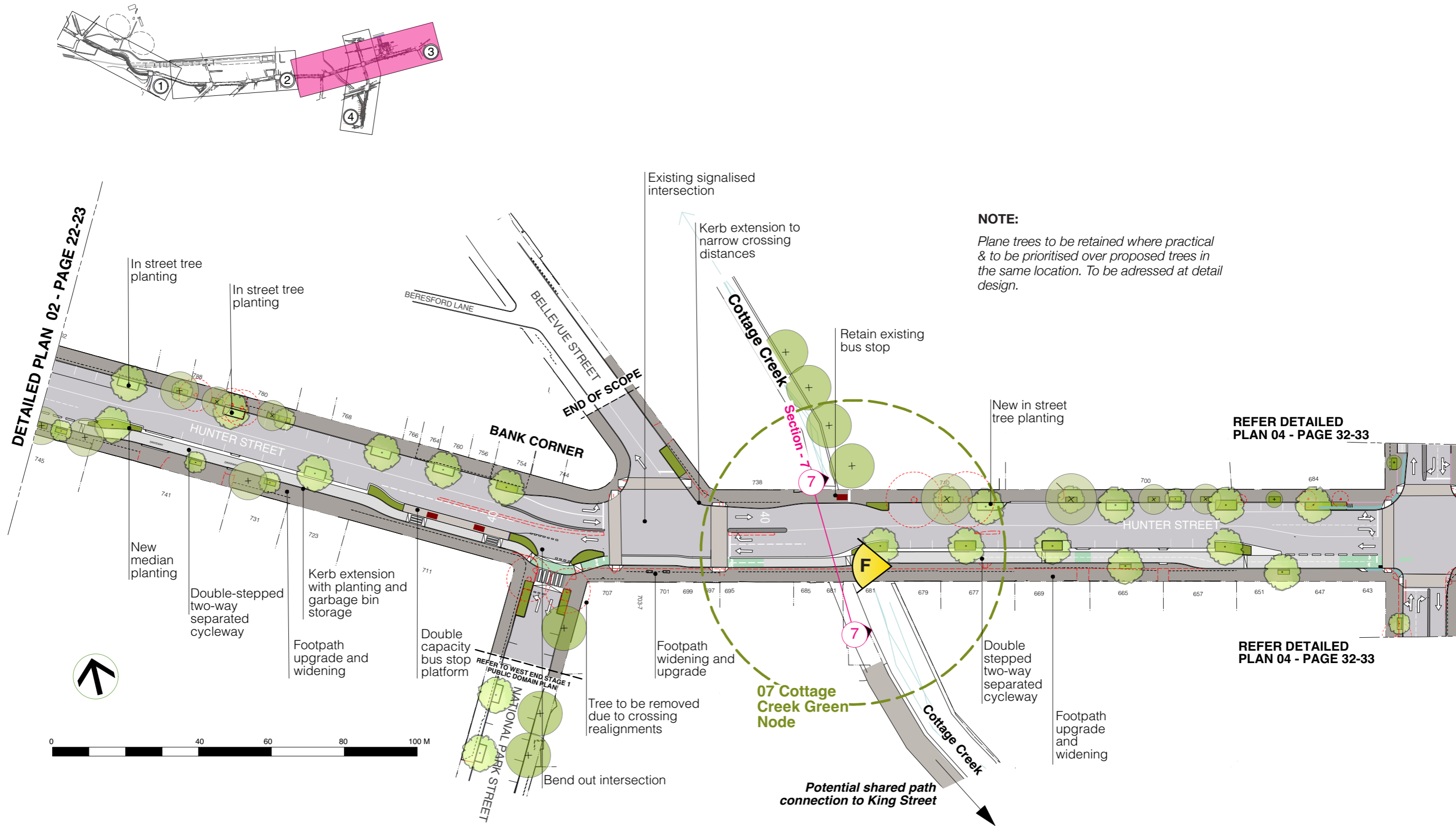
Moir Landscape Architecture

Existing Denison Street intersection



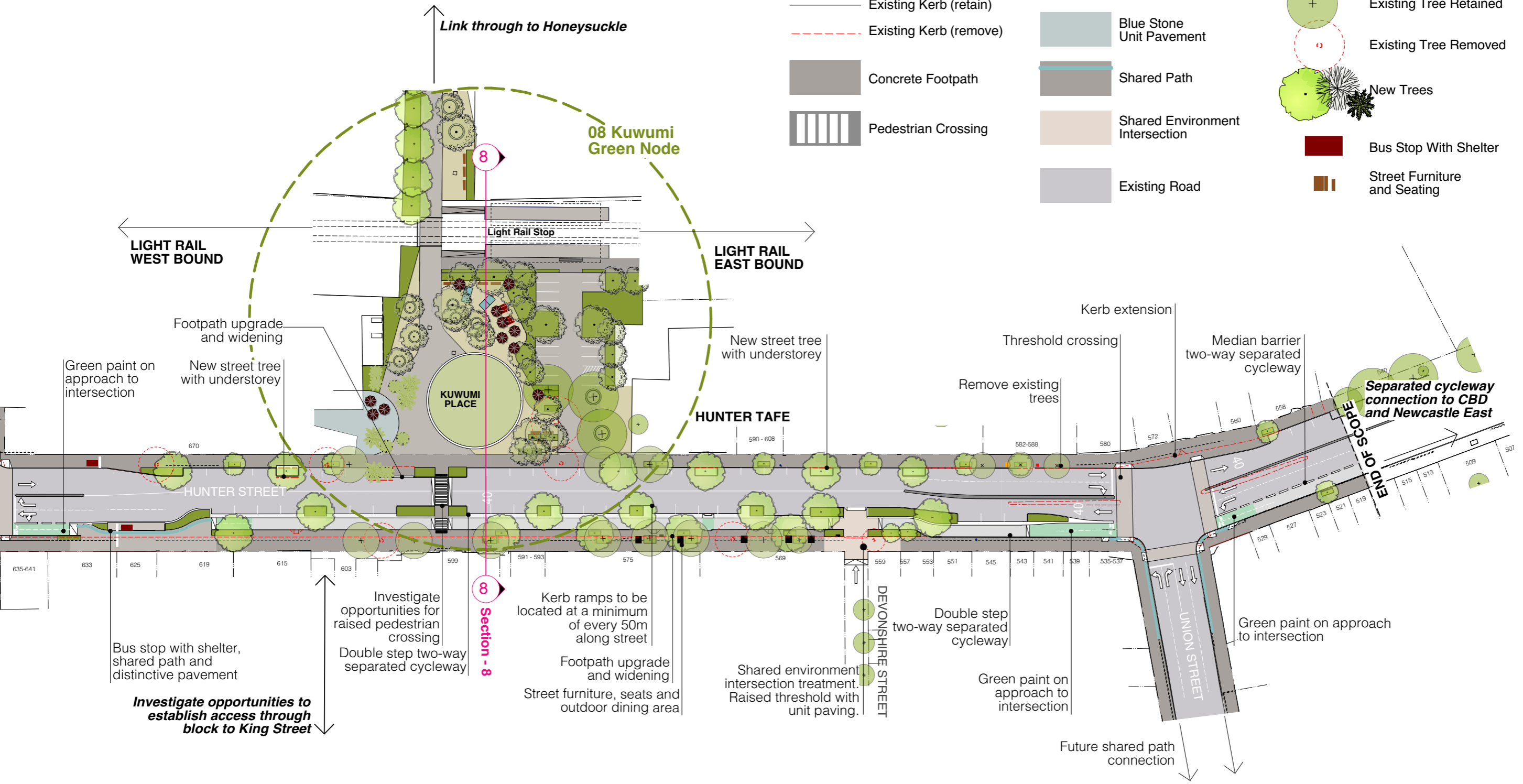
Moir Landscape Architecture

D Artist impression of Denison Street green node



LEGEND

- Building line
- - - - - Awning
- · - · - Lot boundary
- Existing Kerb (retain)
- - - - - Existing Kerb (remove)
- Concrete Footpath
- ▨ Pedestrian Crossing
- Two-way Separated Cycle Way
- Green Paint To Denote Cycleway
- ▭ Barrier Median
- Blue Stone Unit Pavement
- Shared Path
- Shared Environment Intersection
- Existing Road
- New Planting
- ▨ Rain Garden
- ⊕ Existing Tree Retained
- ⊖ Existing Tree Removed
- 🌳 New Trees
- Bus Stop With Shelter
- Street Furniture and Seating



01 Cottage Creek green node

The creation of the third green node at the intersection of Hunter Street as it passes over Cottage Creek reintegrates the creek back into the streetscape as an important waterway and as part of the physical characteristic of the city.

In the future, this node will consist of cycleways and pedestrian paths along the Cottage Creek corridor, creating an important interchange for north-south and east-west cycle and pedestrian movements around the city.

The inclusion of distinctive trees at the intersection of the creek breaks the Hunter Street planting regime and creates a local identity along the length of the creek.

The limited space at the node does not allow for significant planting. However, other techniques such as the design and materiality of pavements, furniture and balustrades can all assist in marking this as a unique location and another way point in Hunter Street.



Section 07 - Cottage Creek and Hunter Street intersection



Cottage Creek

Moir Landscape Architecture



Existing streetscape at Cottage Creek and Bellevue Street

Moir Landscape Architecture



F Artist impression of Hunter Street and Bellevue Street intersection

Moir Landscape Architecture

02 Kuwumi Place green node

Kuwumi Place is one of the existing key green nodes in the city centre that will improve direct access across Hunter Street. Reducing distances between pedestrian crossings and slowing traffic by means of traffic calming devices, will result in improved access to Kuwumi Place and the light rail stop.

Kuwumi Place currently provides a mid-block respite space with seating, paved footpaths and some street tree planting. A raised pedestrian crossing is proposed across Hunter Street to ease pedestrian movements.

Kuwumi Place is expected to increase in activity once the light rail station is in full operation.



Proposed raised grassed planters with seating walls, Constitution Plaza, Hartford, CT, United States

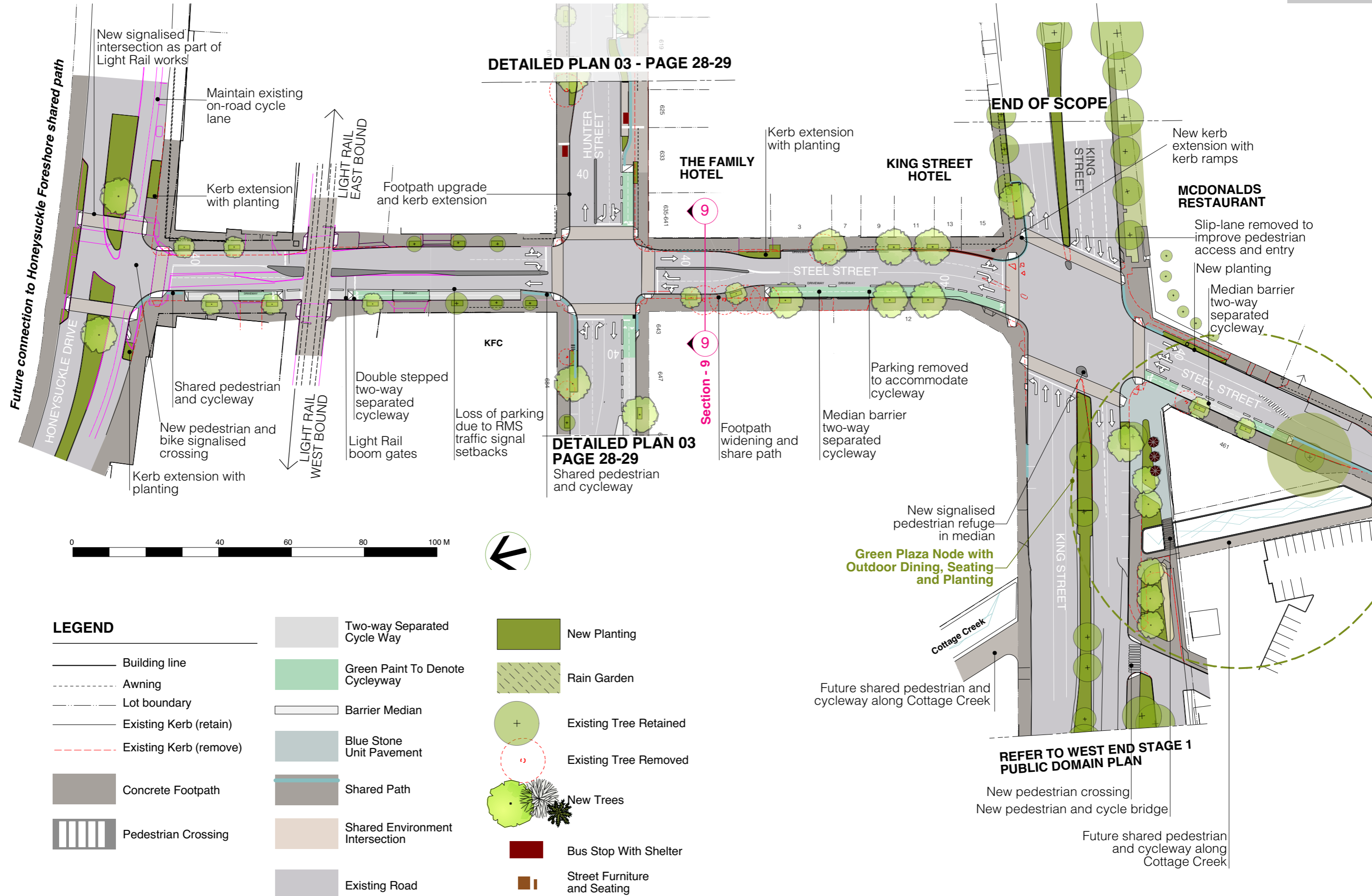
Grove planting with permeable paving in a community plaza, Macquarie University, Sydney



Existing view of Kuwumi Place

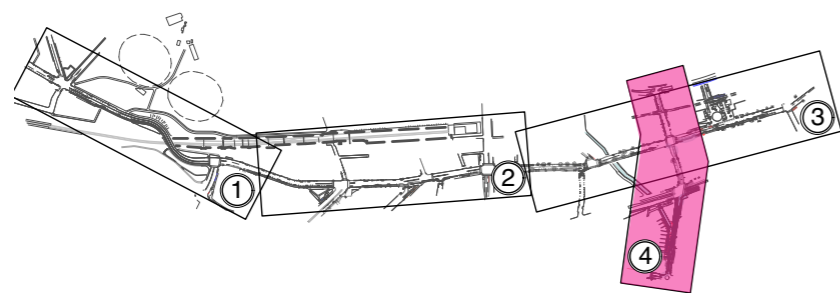


Section 08 - Kuwumi Place, Hunter Street and Light Rail stop



LEGEND

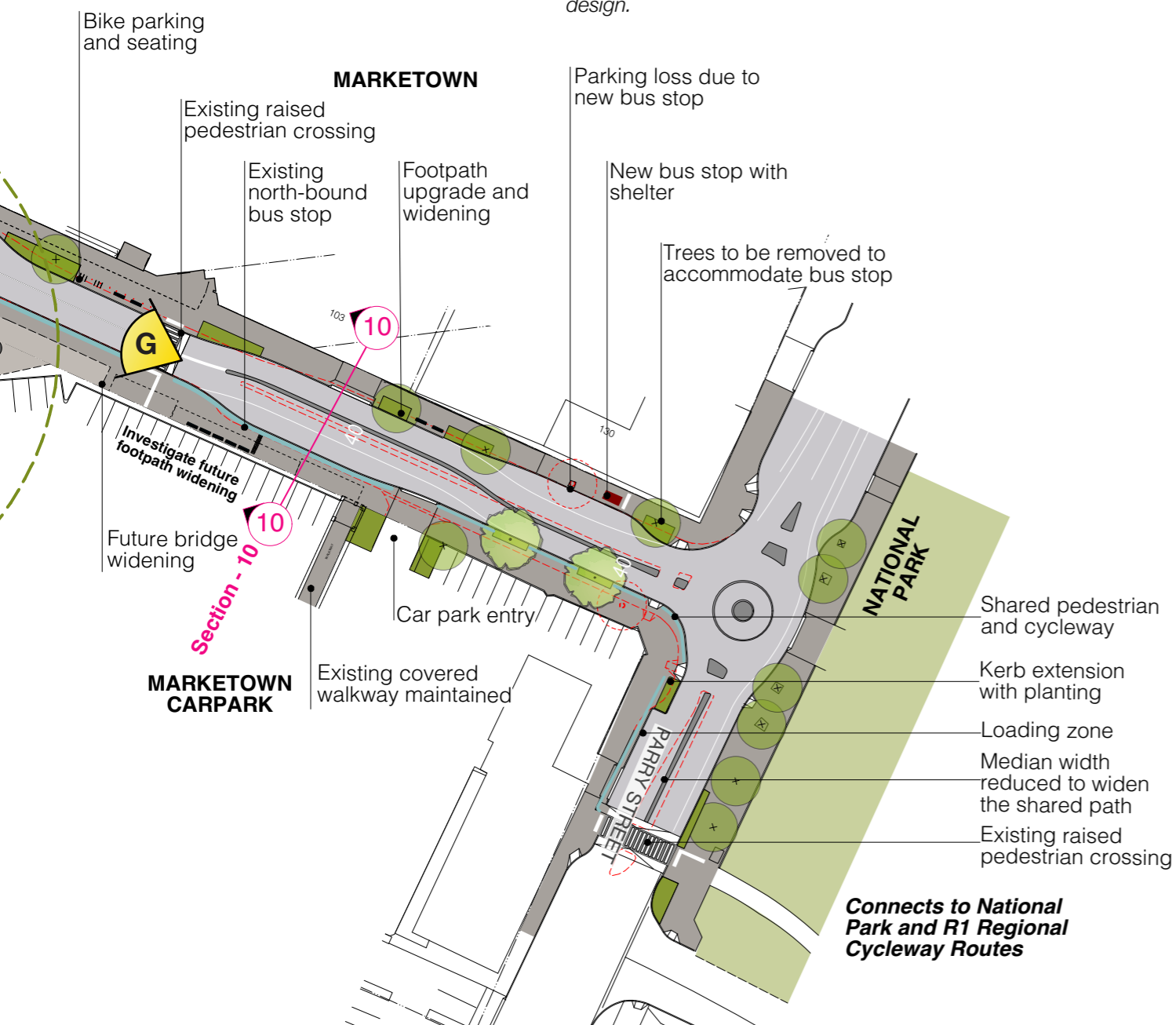
- | | | | | | |
|--|------------------------|--|---------------------------------|--|------------------------------|
| | Building line | | Two-way Separated Cycle Way | | New Planting |
| | Awning | | Green Paint To Denote Cycleway | | Rain Garden |
| | Lot boundary | | Barrier Median | | Existing Tree Retained |
| | Existing Kerb (retain) | | Blue Stone Unit Pavement | | Existing Tree Removed |
| | Existing Kerb (remove) | | Shared Path | | New Trees |
| | Concrete Footpath | | Shared Environment Intersection | | Bus Stop With Shelter |
| | Pedestrian Crossing | | Existing Road | | Street Furniture and Seating |



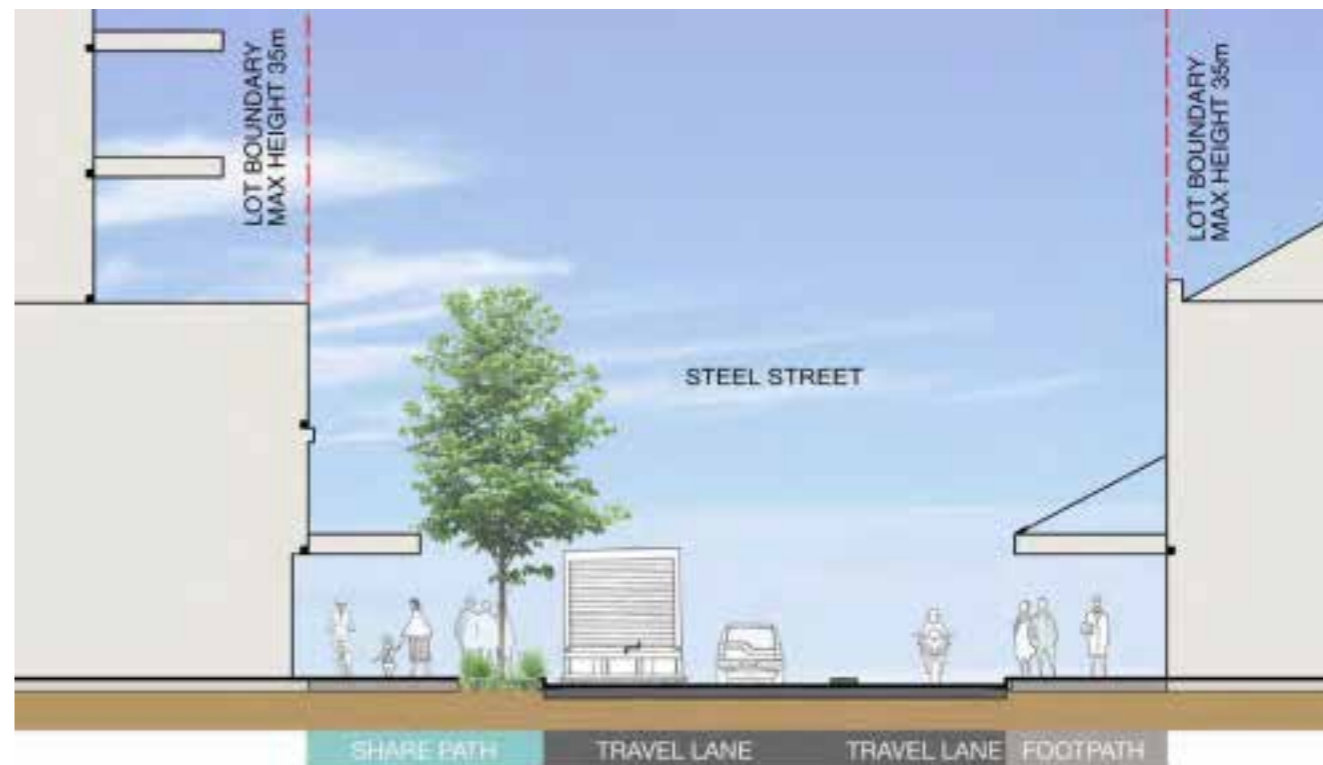
Final alignment of cycleway/ shared path will be addressed in detailed design

NOTE:

Plane trees to be retained where practical & to be prioritised over proposed trees in the same location. To be addressed at detail design.



01 Steel Street shared path

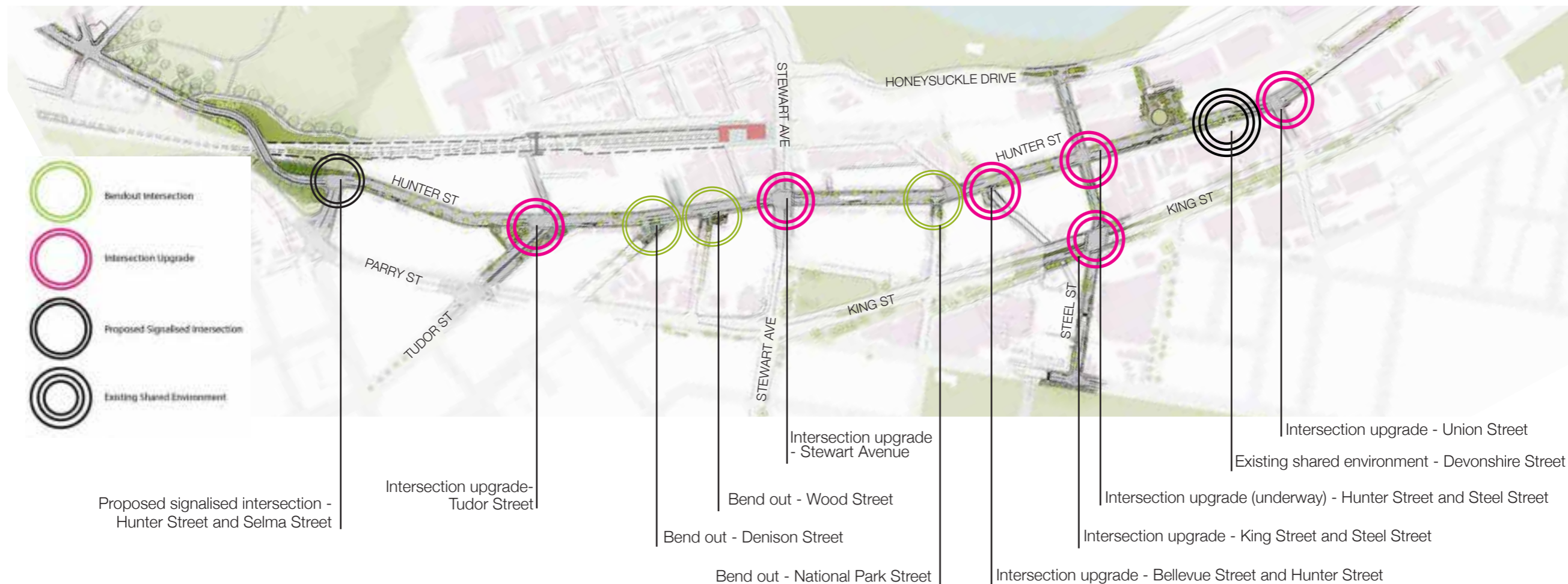


Section 09 - Steel Street north of King Street

02 Steel Street bus stop and shared path



Section 10 - Steel Street south of King Street



The separated cycleway is a significant modification to the current function of the street. In effect, the existing road easement will now accommodate two parallel two-way systems - the vehicle road and the bicycle path (City of Sydney, 2008).

A range of technical treatments are required to achieve a safe and functional separated system including changes to intersections, bus stops, pavements and kerbs. This section describes these treatments for consideration during the detailed design phase.

The proposal will generally pursue the following details:

- A travel lane width of 3500mm
- Turning lane width of 3200mm
- Parking lane width of 2600mm
- Loading zone width of 2600mm
- Accessible parking lane width of 2600mm
- Kerb ramps at minimum 50m intervals
- Bin storage areas to be located on-street away from footpaths and clear of the cycleways

In addition to these technical components, an education campaign is required for communication of changes to all road users.

01 Intersections

The key areas where new streetscape treatments are required are at intersections. Intersection treatments are critical to ensure the safety of pedestrian, bicycle and vehicle movements (City of Sydney, 2008). The intersection treatments reflect current RMS standards and best practice.

The standard intersection treatments are:

- Signalled intersection
- Shared environment
- Bend out intersection
- Footpath continuation

Each treatment has been tested and reviewed as part of this project and has been applied at specific locations as required.

01-01 Signalled intersections

A signalled intersection is a controlled crossing that provides timed separation between bicycles and motor vehicles (City of Sydney, 2008).

Objective

To provide safe crossing opportunities for both cyclists and pedestrians in locations where vehicle travel speeds and other hazards may pose the risk of collision and serious injury.

Location

Various locations as documented.

Components

- A separate cycle traffic light phase.
- Green painted cycleway lanes to denote potential conflict areas and signify route locations.



01-02 Shared environment

A shared environment is a zone allowing multiple users such as pedestrians, cyclists and vehicles to use the same space for travel.

A hierarchy exists within the shared environment and this should be applied throughout the design resolution of the shared space.

Objective: To give the right of way to pedestrians and provide equivalent rights to cyclists and motorists within the intersection.

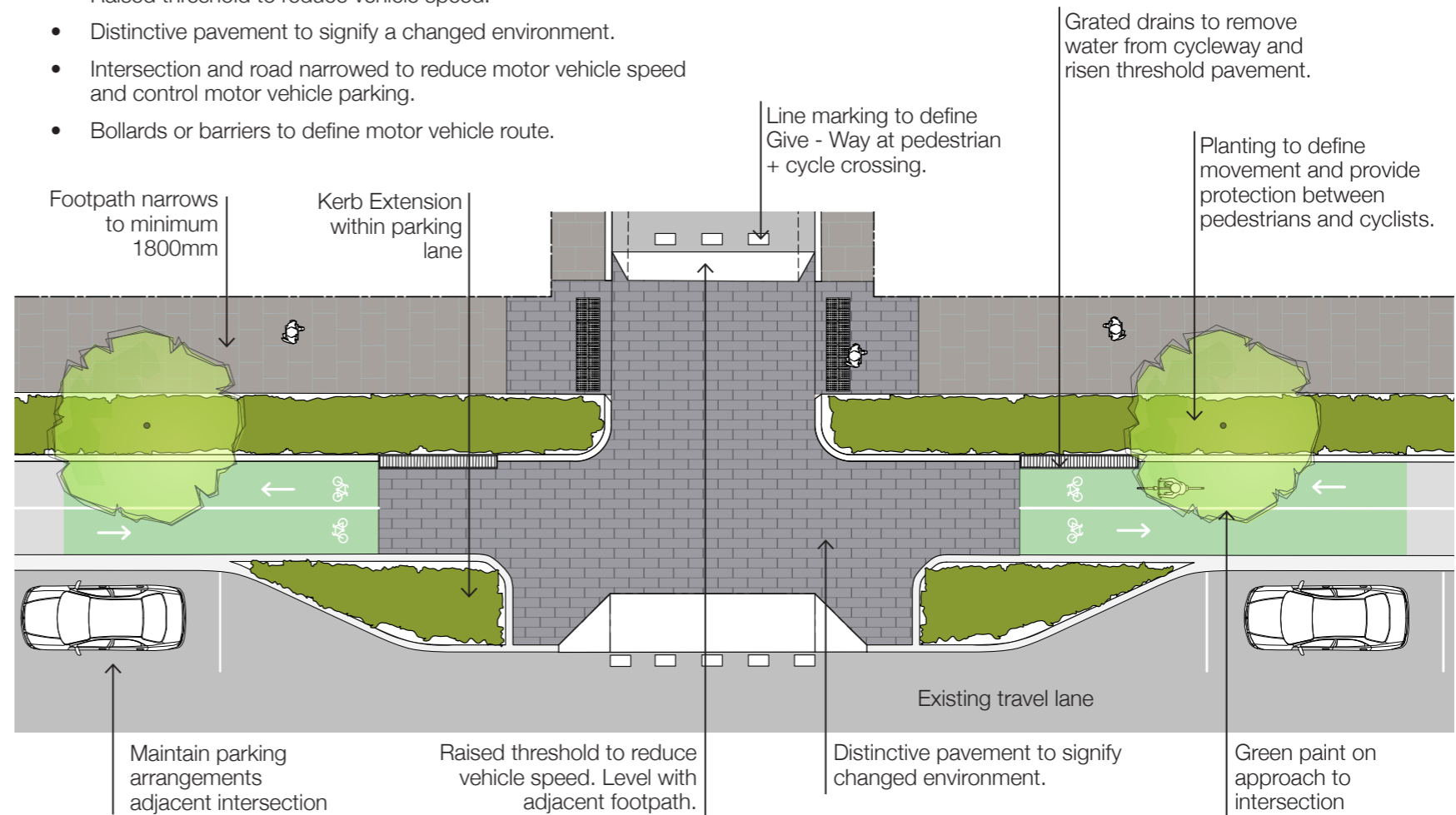
Location: Devonshire Street intersection

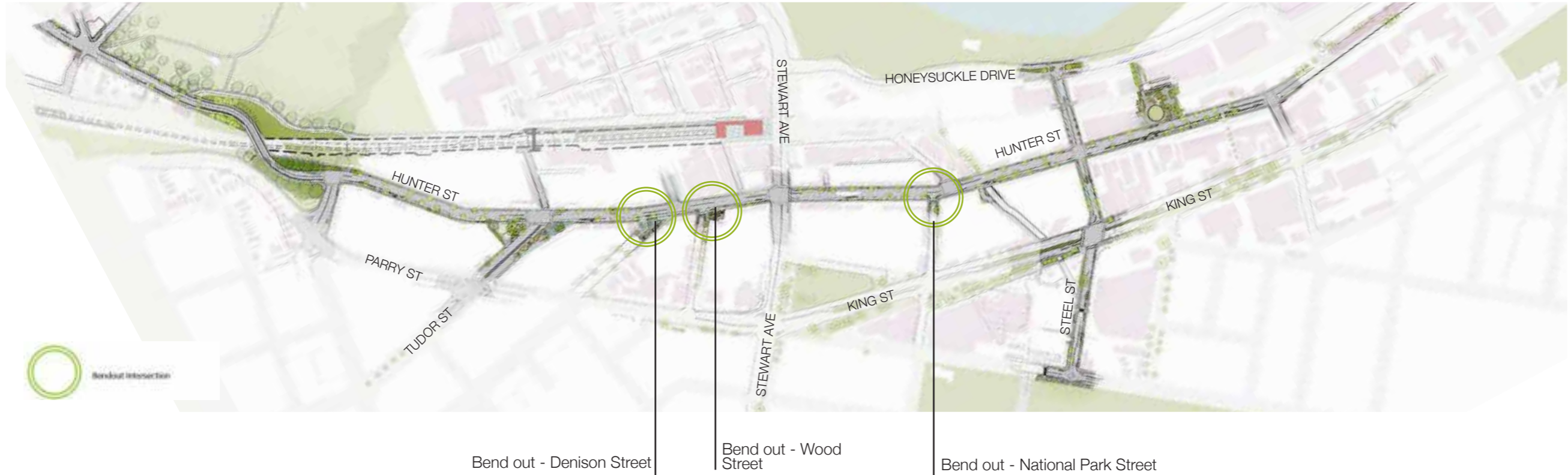
Components:

- Intersection defined as a 'Road Related Area'.
- Raised threshold to reduce vehicle speed.
- Distinctive pavement to signify a changed environment.
- Intersection and road narrowed to reduce motor vehicle speed and control motor vehicle parking.
- Bollards or barriers to define motor vehicle route.



Bourke Street cycleway shared environment, Sydney CBD





01-03 Bend out

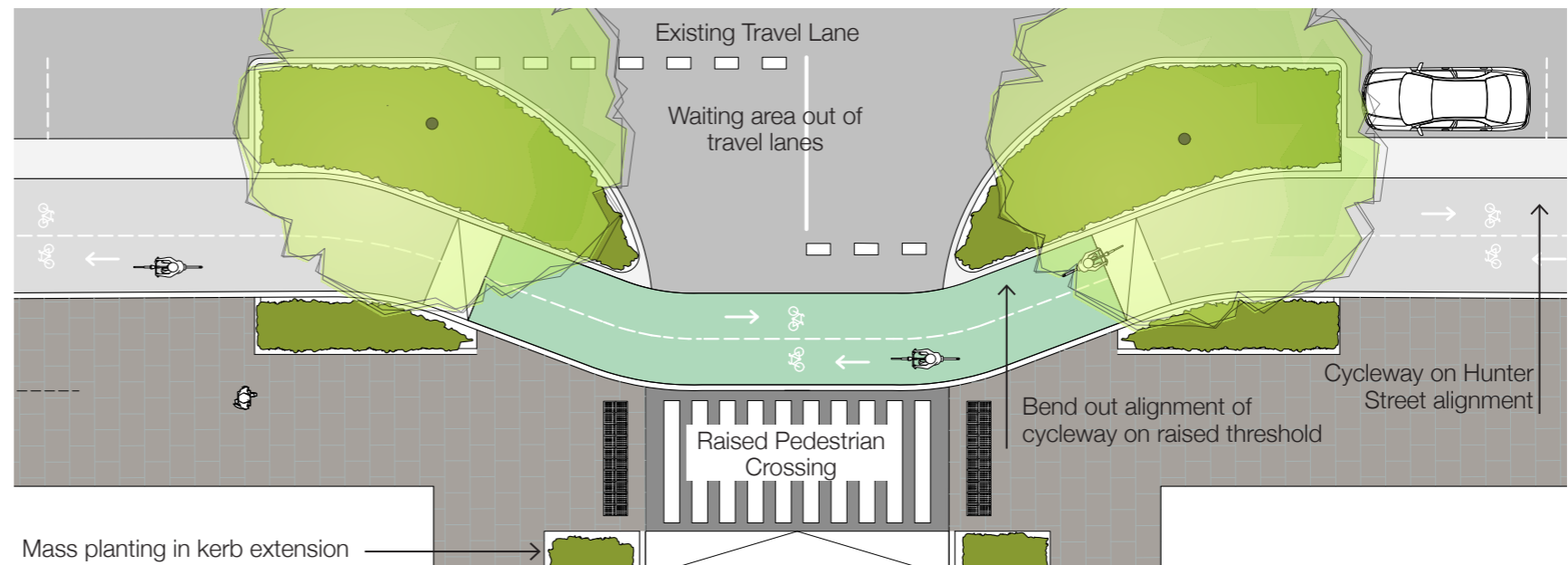
Typically, a bend out allows for a 10m setback of the cycleway alignment at an intersection. This allows for enough space for turning vehicles to wait safely before proceeding across the cycleway and pedestrian crossing.

Objective: To give pedestrians and cyclists right of way over vehicles and provide a safer intersection crossing.

Location: Wood Street intersection and National Park Street intersection.

Components:

- Raised threshold to reduce vehicle speed.
- Cycleway bend out to allow vehicles to give way in the intersection as well as to reduce cycle speeds.
- Pedestrian and cycleway crossings.
- Low planting opportunities.

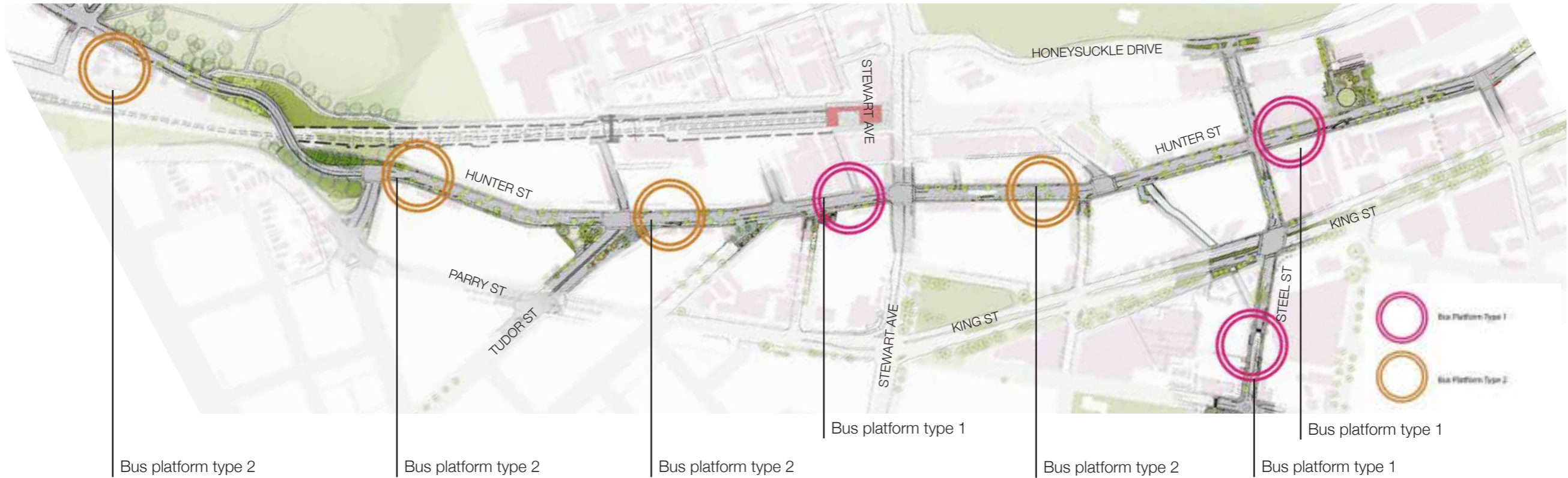


Bourke Street cycleway bend out intersection, Sydney CBD



Artist impression of Wood Street bend out intersection





02 Bus stops

Bus stops are currently located regularly down the length of Hunter Street. The recent changes by NSW Transport reflect the changes to broader transport connections which have resulted from the Newcastle light rail and the opening of the Wickham Interchange.

The introduction of a two-way separated cycleway along Hunter Street requires new types of bus stop configurations to provide safe and accessible bus stop environments whilst maintaining a continuous cycleway.



Bourke Street bus shelter and platform, Sydney CBD

Simon Wood, City of Sydney



Separated cycleway and bus shelter, Sydney

Moir Landscape Architecture



Artist impression of Wickham Park bus stop platform



Moir Landscape Architecture

Bus stops along separated cycleway routes can no longer decant to the existing kerbside. Therefore, platforms are created to ensure safe entry and exit of passengers.

Two types of stop configurations have been adopted along the length of the project:

- Type 1 - Bus Stop adjacent to shared path
- Type 2 - Bus platform

02-01 Type 1 - Bus stop adjacent to shared path

Objective:

To provide a safe and accessible bus stop environment.

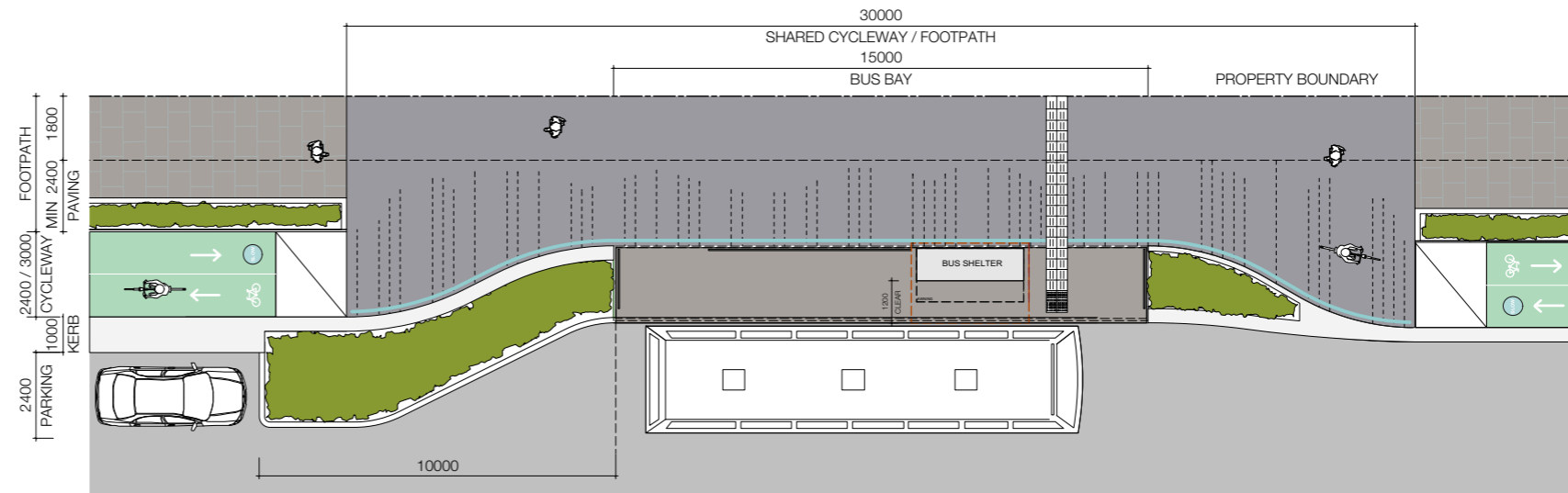
What is a shared path?

A shared path is a footpath shared by pedestrians and cyclists. Pedestrians have the right of way on shared paths and cyclists should slow down and use their bell to warn pedestrians of their approach.

Location: Where there is insufficient space for a separated cycleway to be maintained, a shared pedestrian and cycle path is adopted adjacent to the bus stop.

Components:

- Cycleway is ramped up to footpath level.
- Shared path signage and markings on pavement to indicate slow speed environment.
- Barrier/lean rail to control pedestrian movements.
- Planting used to calm and direct movement.



Type 1 - Bus stop adjacent to shared path

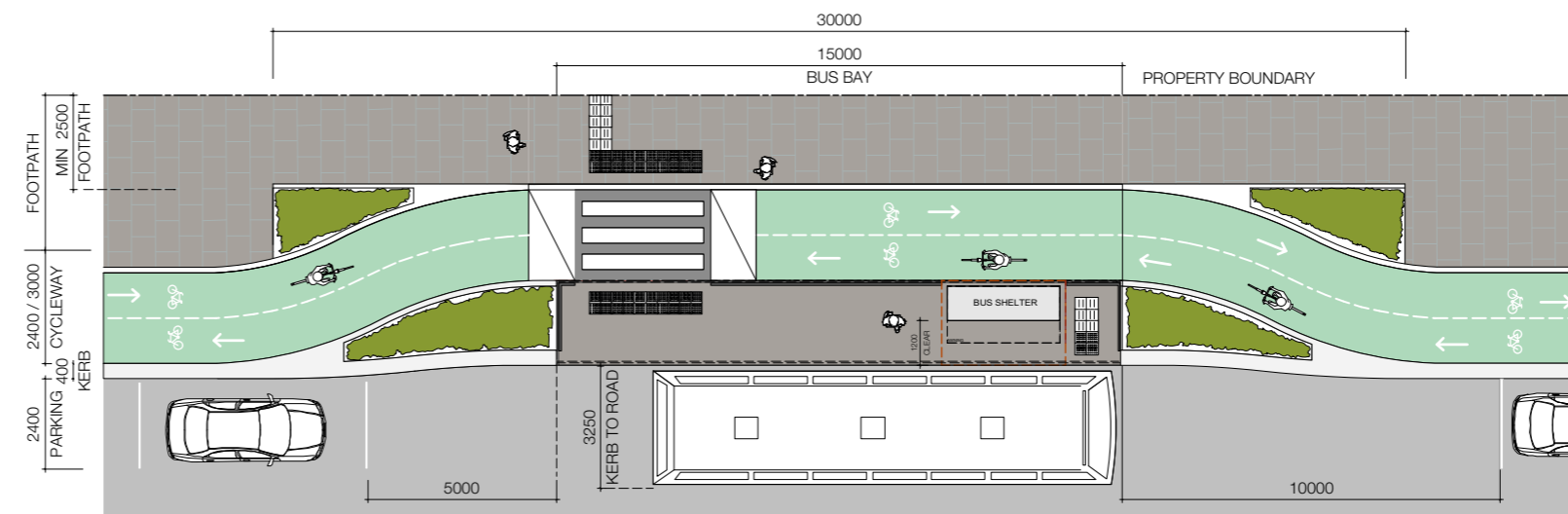
02-02 Type 2 - Bus shelter and platform

Objective: To provide a safe and accessible bus stop environment and maintain continuous separated cycleway.

Location: Where sufficient space is available to maintain a minimum footpath width of 2500mm, a separated cycleway of 2400mm and bus platform and bus pull in-area of 2250mm is required.

Components:

- Paved raised platform.
- Slim line bus shelter with no advertising panel.
- Barrier/lean rail to control pedestrian movements.
- Marked pedestrian crossing and directional tactile ground surface indicators.



Type 2 - Bus shelter + platform

03 Cycleway Types

A two-way separated cycleway is a facility for the exclusive use of cyclists. The cycleway is separated from vehicles and pedestrians by a visual and/or physical barrier. The facility provides for two directions of movement, by use of a center line.

There are three cycleway configurations which are proposed on the West End Cycleway, namely:

- Shared paths
- Double step two-way separated cycleway
- Median barrier two-way separated cycleway

03-01 Shared paths

A shared path is a footpath shared by both pedestrians and cyclists. Pedestrians have the right of way on shared path and cyclists must slow down when approaching pedestrians.

Cyclists must announce their presence to pedestrians by means of a bell. Shared paths are identified by a specific signage and paint system.



Precedent imagery of a shared path, a double step two-way separated cycleway and a median barrier two-way separated cycleway, currently used in Sydney

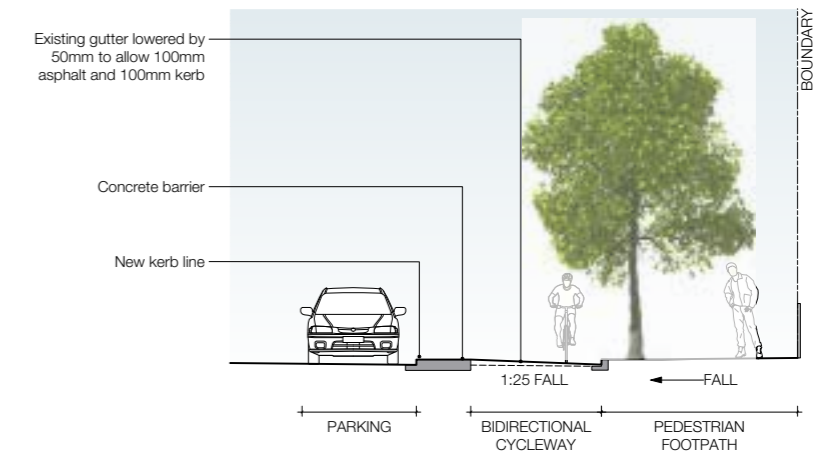
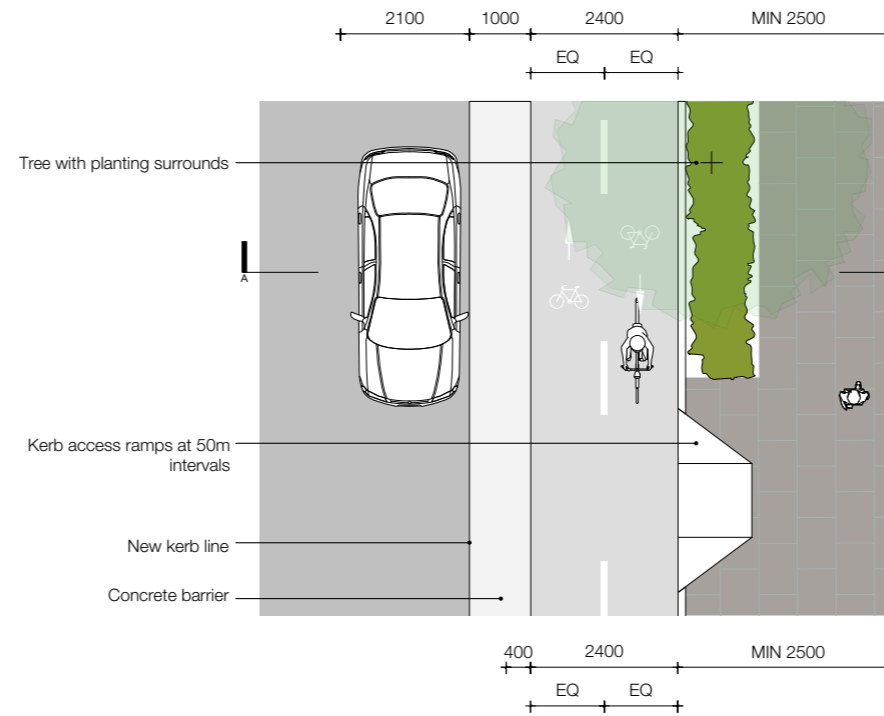
03-02 Double step two-way separated cycleway typical treatment

The double step two-way separated cycleway is on a distinct level down from the footpath with a contrasting pavement treatment.

It has a separation zone adjacent to parked cars flush with the cycleway. Parked vehicles and the cycle path are separated by a kerb. Generally, the barrier kerb is 1m wide which allows for safe disembarkation from parked vehicles. The maximum cross fall is 1:20. Additional stormwater inlets will be required to ensure sufficient drainage of the cycleway.

Key elements

- Approximate 100mm high kerb separating the cycleway and parking lane.
- A second, approximate 75mm high kerb (at the existing kerb alignment) separating the cyclists and footpath.
- Stormwater kerb inlets are required in both the separation zone, kerb (adjacent to on-street parking) and the cycleway



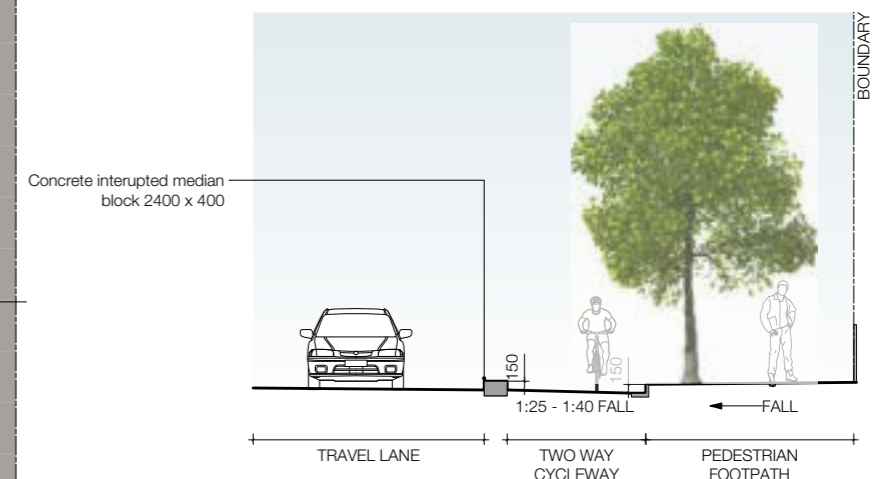
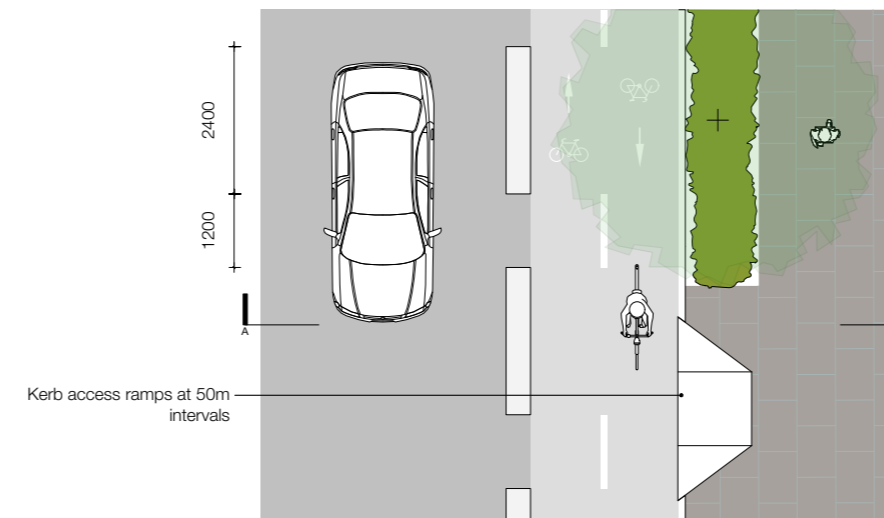
03-03 Median barrier two-way separated cycleway typical treatment

The median barrier cycleway is at grade with the road carriageway and separated by a broken median barrier. It is not suitable for adjacent vehicle parking. The barrier is generally 2400mm with a 1200mm space.

The median barrier treatment allows for the existing stormwater infrastructure to be maintained.

Key elements

- 400mm wide x 100mm high concrete separator to provide a physical barrier between the cycleway and traffic lane.
- WSUD mediums will be considered in lieu of raised concrete mediums where practical at detailed design.



04 Cycleway Treatments

04-01 Green paint surface treatment

To ensure that it is clear to all road users, there is generally a colour variation between the road, cycleway and pavement. Green paint is nominated at entrances to the cycleway, near intersections and driveways or other high conflict areas where additional cues are required for all users.

Where the green paint treatment is used, aggregate must be included to prevent slippage in wet/greasy conditions (refer to City of Sydney standard drawings on treatment of driveways).

04-02 Share the path pavement treatment

The City of Sydney developed Shared Pathway - Pavement Markings Guidelines, which have been adopted broadly by local councils as a standard treatment on Share Paths.

There are three tiers of guidelines that target a range of hazards and the markings have been designed to raise awareness and therefore reduce risk.

The colour blue is the primary unifying signifier of the share path. In the primary tier the following markings apply:

- Shared path pavement marker to denote the start of a shared path.
- A typeface for identifying locations or communicating simple behavioural messages.
- Smaller scale pedestrian and cyclist symbols for general use along the shared path.
- A blue edge line denoting the shared path route.

04-03 Pavement treatment

To denote changed conditions for pedestrians, cyclists or vehicles, pavement treatments can be varied. This technique provides visual cues for all users to slow down and adjust their behaviour to suit.

Across the detailed design drawings, this technique has been used to help guide local vehicle movement through pedestrian plazas, denote bus stops located on share paths and in shared environments. Paving types can be derived from the City Centre Public Domain Technical Manual.

04-04 Street trees and plantings

Low planting is used as a barrier along the cycleway where space permits. Planting hardy and drought tolerant plants provides a physical barrier as well as providing a greening and softening of the hardscape along the street. In some locations this can be integrated with WSUD treatments.



Green painted road surface in cycleway at approach to intersection, Sydney



Raised threshold, shared path with colour painted road surface, The Netherlands.



Blue share path line marking on footpath, Sydney



Varied pavement treatment along footpath, Bourke Street, Sydney



Raised pedestrian crossing over vehicular driveway access



Raised pedestrian crossing, Foueaux Street, Sydney



Median barrier planting with street trees as a separating barrier, Bourke Street, Sydney



Street tree planting adjacent to roadway, Hunter Street, Newcastle



WSUD system adjacent to roadway, Glebe Road, Newcastle

05 Education Campaign

The introduction of the two-way separated cycleway and associated cycleway treatments (and other cycling infrastructure) requires targeted communication to all road users, it is a new type of treatment to Newcastle which most users will not be familiar with.

Education campaigns will be rolled out before, during and after the construction of the new infrastructure to ensure that all road users understand their rights and responsibilities.

These campaigns will need to target localised areas including residents and businesses along the extent of the proposed works as well as the wider community.

Campaigns should also be rolled out to raise awareness of the benefits of cycling and the availability of the new cycling facilities.

Funding will be required to support these high level community information programs which could include:

- Separated cycleway campaigns (for all road users – cyclists, pedestrians, motorists)
- Shared pathway campaigns (for cyclists, pedestrians, residents and businesses)
- Car door safety campaigns (for motorists, cyclists)
- What cycleway treatments are used where and why (for all road users – cyclists, pedestrians, motorists)

Other campaigns which promote the benefits of cycling have been used recently to good effect and this could be recreated as part of the roll-out of the strategy in Newcastle.

