Quandong

Precinct Structure Plan

wyndhamcity
city. coast. country

March 2018

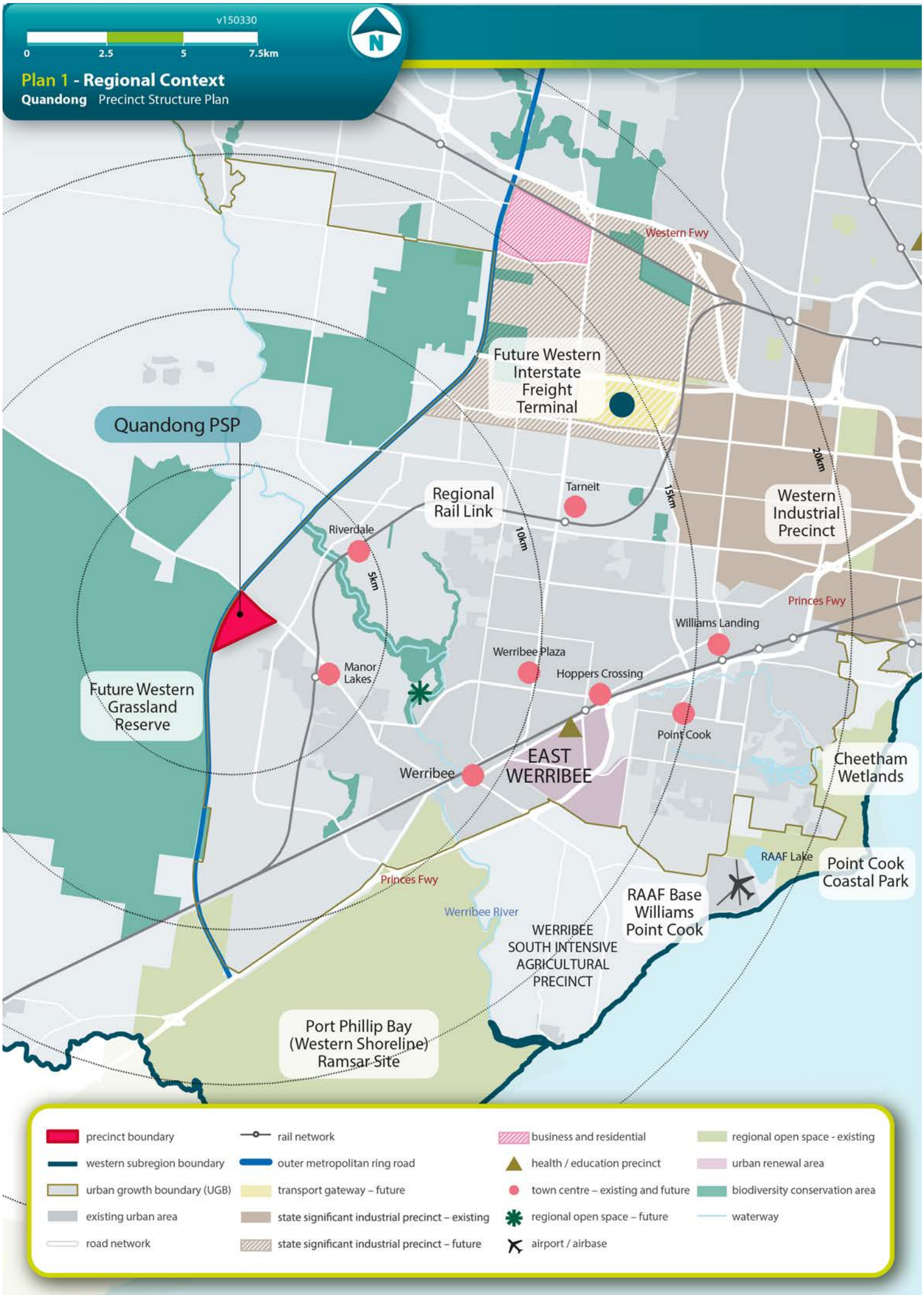
PLANS

TABLES

FIGURES

Wyndham City Council wishes to acknowledge the Wadawurrung People of the Kulin Nation as the Traditional Owners of the land and pay respect to their Elders, past and present.

Contents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Plan 1 - Regional Context
Quandong Precinct Structure Plan
Western Fwy
Future Western Interstate Freight Terminal
Quandong PSP
20km
15km
10km
5km
Regional Rail Link
Tarneit
Riverdale
Western Industrial Precinct
Princes Fwy
Williams Landing
Werribee Plaza
Hoppers Crossing
Manor Lakes
Future Western Grassland Reserve
Point Cook
EAST WERRIBEE
Werribee
Cheetham Wetlands
RAAF Lake
Point Cook Coastal Park
Princes Fwy
Werribee River
RAAF Base Williams Point Cook
WERRIBEE SOUTH INTENSIVE AGRICULTURAL PRECINCT
Port Phillip Bay (Western Shoreline) Ramsar Site
precinct boundary
western subregion boundary
urban growth boundary (UGB)
existing urban area
road network
rail network
outer metropolitan ring road
transport gateway – future
state significant industrial precinct – existing
state significant industrial precinct – future
business and residential
health / education precinct
town centre – existing and future
regional open space – future
airport / airbase
regional open space - existing
urban renewal area
biodiversity conservation area
waterway

1.0 INTRODUCTION

The Quandong Precinct Structure Plan (the PSP) has been prepared by Wyndham City Council in consultation with the Victorian Planning Authority, Government agencies, service authorities and major stakeholders.

The PSP is a long-term plan for urban development. It describes how the land is expected to be developed and how and where services are planned to support development.

The PSP:

- Sets out plans to guide the delivery of quality urban environments in accordance with the Victorian Government policies and guidelines (listed below)
- Enables the transition from non-urban land to urban land
- Sets the vision for how land should be developed, illustrates the future urban structure and describes the outcomes to be achieved by the future development
- Outlines projects required to ensure that the future community, visitors and workers within the area are provided with timely access to services and transport infrastructure necessary to support a quality, affordable lifestyle
- Sets out objectives, requirements and guidelines for land use, development and subdivision
- Provides Government agencies, the Council, developers, investors and local communities with certainty about future development
- Addresses the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999) in accordance with an endorsed program under Part 10.

The PSP is informed by the following policies and guidelines:

- *State Planning Policy Framework set out in the Wyndham Planning Scheme*
- *Growth Corridor Plans: Managing Melbourne's Growth (Growth Areas Authority, June 2012)*
- *Local Planning Policy Framework of the Wyndham Planning Scheme*
- *Biodiversity Conservation Strategy and Sub-regional Species Strategies for Melbourne's Growth Areas (Department of Environment & Primary Industries, June 2013)**
- *Precinct Structure Planning Guidelines (Growth Areas Authority, 2009).*

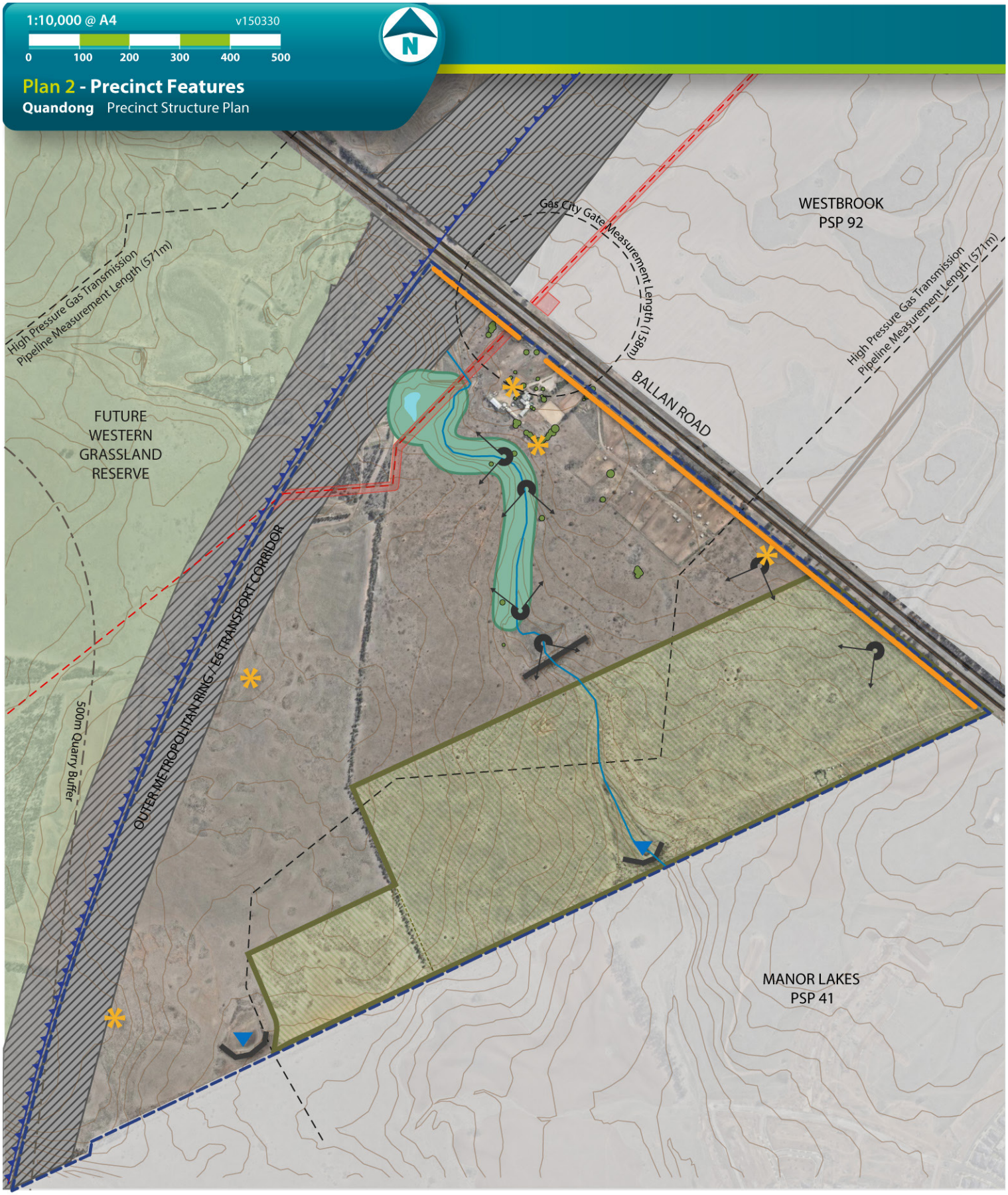
The following planning documents have been developed in addition to the PSP, to inform and direct the future planning and development of the precinct:

- *Wyndham West Development Contributions Plan (the DCP) - requires development proponents to contribute toward infrastructure required to support the development of the precinct.*
- *Quandong PSP Background Report (the Background Report).*

*On 5 September 2013 an approval under the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) was issued by the Commonwealth Minister for Environment, Heritage and Water. The approval applies to all actions associated with urban development in growth corridors in the expanded Melbourne 2010 Urban Growth Boundary as described on page 4 of the Biodiversity Conservation Strategy for Melbourne's Growth Corridors (Department of Environment and Primary Industries, 2013). The Commonwealth approval has effect until 31 December 2060. The approval is subject to conditions specified at Annexure 1 of the Approval.

This includes the payment of habitat compensation obligations to the Department of Environment, Land, Water and Planning (DELWP) and the restriction of urban development in conservation areas. The habitat compensation obligations for land parcels located within the Melbourne Strategic Assessment program area can be estimated using the DELWP Native Vegetation Information Management (NVIM) system, available at https://nvim.delwp.vic.gov.au/BCS. Requests to meet the habitat compensation obligations for a project/development are made by registering through the NVIM portal.

Provided the conditions of the EPBC Act approval are satisfied, individual assessment and approval of the EPBC Act is not required.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Plan 2 - Precinct Features
Quandong Precinct Structure Plan
WESTBROOK
PSP 92
Gas City Gate Measurement Length (151m)
High Pressure Gas Transmission Pipeline Measurement Length (571m)
High Pressure Gas Transmission Pipeline Measurement Length (571m)
BALLAN ROAD
FUTURE
WESTERN
GRASSLAND
RESERVE
OUTER METROPOLITAN RING / E6 TRANSPORT CORRIDOR
500m Quarry Buffer
MANOR LAKES
PSP 41
precinct boundary
urban growth boundary
future urban area
future grassland reserve
outer metropolitan ring / E6 transport corridor (OMR)
BCS conservation area 13
existing waterway & drainage assets
high value geomorphology
existing dam wall
contours (1.0m interval)
strategic views
high point
low point
high value natural wetland
existing dry stone wall
existing trees
gas city gate
high pressure gas transmission pipeline and easement
measurement length
quarry buffer

1.1 How to read this document

This PSP guides land use and development where a planning permit is required under the Urban Growth Zone or another provision in the *Wyndham Planning Scheme* that references this PSP.

A planning application and a planning permit must implement the outcomes of the PSP. The outcomes are expressed as the vision and objectives.

Each element of the PSP contains requirements and guidelines as relevant.

Requirements must be adhered to in developing the land. Where they are not demonstrated in a permit application, requirements will usually be included as a condition on a planning permit whether or not they take the same wording as in this PSP. A requirement may include or reference a plan, table or figure in the PSP.

Guidelines express how discretion will be exercised by the responsible authority in certain matters that require a planning permit. If the responsible authority is satisfied that an application for an alternative to a guideline implements the outcomes, the responsible authority may consider the alternative. A guideline may include or reference a plan, table or figure in the PSP.

Conditions that must be included in a planning permit are outlined in Schedule 16 to the Urban Growth Zone (UGZ16) in the Wyndham Planning Scheme.

Development that meets these requirements, guidelines will be considered to implement the **Vision and Objectives** of the PSP.

Development must also comply with other Acts and approvals where relevant e.g. the *Environmental Protection and Biodiversity Conservation Act 1999* in the case of biodiversity or the *Aboriginal Heritage Act 2006* in the case of cultural heritage amongst others.

Not every aspect of the use, development or subdivision of land is addressed in this PSP. A responsible authority may manage development and issue permits as relevant under its general discretion.

1.2 Land to which this PSP applies

The PSP applies to 153 hectares of land located approximately 32 kilometres to the west of the Melbourne CBD. The PSP area is generally bound by Ballan Road to the north east, Manor Lakes PSP to the south east, and the Outer Metropolitan Ring / E6 Transport Corridor (OMR) to the west.

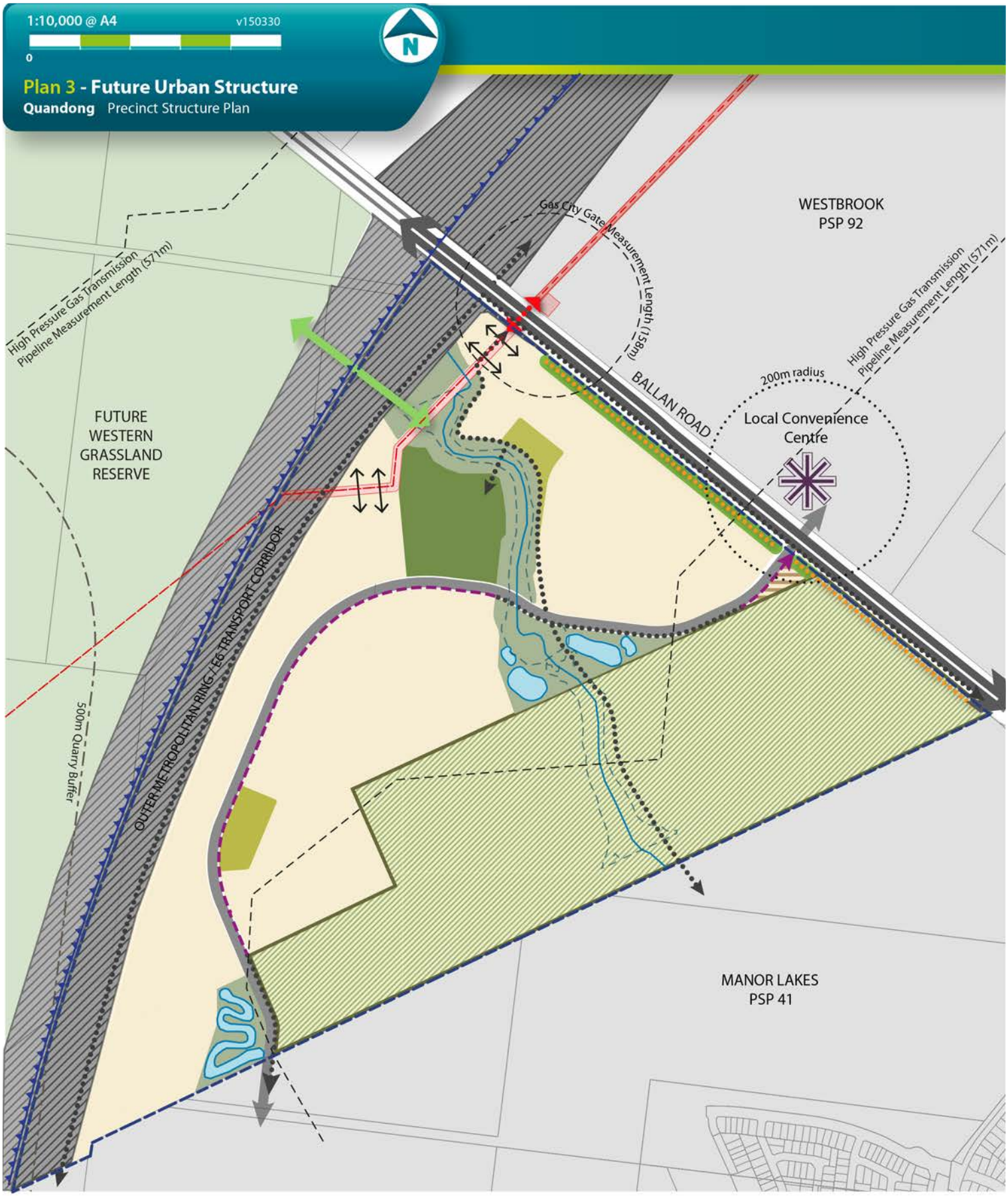
Plan 2 - Precinct Features identifies key existing features of the land.

1.3 Background information

The *Quandong PSP Background Report* provides detailed background information relating to the precinct, including its local and metropolitan context, history, landform and topography, biodiversity, drainage, open space, transport infrastructure and community facilities. The report also summarises various background technical studies that have informed the preparation of the PSP.

1.4 Development contributions plan

Development proponents within the Quandong Precinct are bound by the *Wyndham West Development Contributions Plan* (the DCP), incorporated into the *Wyndham Planning Scheme*. The DCP sets out the requirements for infrastructure funding across the wider Wyndham West region.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Plan 3 - Future Urban Structure
Quandong Precinct Structure Plan
WESTBROOK
PSP 92
Gas City Gate Measurement Length (15m)
High Pressure Gas Transmission Pipeline Measurement Length (571m)
High Pressure Gas Transmission Pipeline Measurement Length (571m)
BALLAN ROAD
200m radius
Local Convenience Centre
FUTURE WESTERN GRASSLAND RESERVE
OUTER METROPOLITAN RING / E6 TRANSPORT CORRIDOR
500m Quarry Buffer
MANOR LAKES
PSP 41
precinct boundary
urban growth boundary
residential
BCS conservation area 13
active open space
passive open space
suitable for non-residential uses
outer metropolitan ring / E6 transport corridor (OMR)
waterway & drainage reserve (encumbered)
landscape reserve (encumbered)
grassland reserve
future urban area
connector street
arterial road
modified 1 in 100 flood level
quarry buffer
dry stone wall protection buffer
high pressure gas transmission pipeline & easement
shared path
bicycle path within widened road reserve
interim shared path crossing point
potential pedestrian/cycling/environmental habitat connection to Western Grassland Reserve
access - private driveway

2.0 OUTCOMES

2.1 Vision

The Quandong Precinct will be a unique residential precinct distinguished by its rich biodiversity and cultural heritage. The large grassland conservation reserve and waterway corridor will preserve a sense of open landscape, whilst canopy trees in residential areas will provide greenery and shade in summer. As an environmental and recreation spine, the waterway corridor will link residents to the conservation reserve and passive and active open space, both within the precinct and beyond. The precinct will support the housing needs of the Wyndham community by providing a mix of large to smaller lots, enabling a range of housing types and sizes.

The Aboriginal cultural heritage of the site will be celebrated through an interpretive trail along the waterway, and the area's more recent farming heritage, through retention of dry stone walls along Ballan Road. The site's rich biodiversity will be protected and enhanced through the creation of BCS Conservation Area 13 on the south-east portion of the site, protecting native grasslands, the Golden Sun Moth, and other species associated with this habitat.

The Precinct will connect to Ballan Road, and the neighbourhoods of Westbrook PSP in the north and Manor Lakes PSP in the South, through means of a central connector street with off-road bicycle path. An off road shared path will also connect the precinct south along the waterway to schools, sporting reserves and the Ison Road Local Town Centre in the neighbouring Manor Lakes Precinct.

2.2 Objectives

The following objectives describe the desired outcomes of development of the Precinct and guide the implementation of the vision.

	OBJECTIVES
Image, Character, Heritage and Housing	
O1	To deliver approximately 1,063 new homes across the Precinct through the creation of a range of lot sizes that enable a diversity of dwelling types and sizes.
O2	To create an attractive residential environment with a strong sense of place that integrates with the existing biodiversity, cultural heritage, drainage and landscape values of the precinct.
O3	To create streetscapes, parks and public spaces that contribute to the protection and enhancement of the natural environment.
O4	To ensure development positively addresses public open spaces.
O5	To ensure medium and higher density residential development is directed towards locations that benefit from good levels of amenity, such as near public transport facilities, community facilities, local convenience centres, and open space and waterways.
O6	To achieve an appropriate interface and relationship with the future Outer Metropolitan Ring/E6 Transport Corridor in terms of design, appearance and residential amenity.
Open Space	
O7	To achieve an integrated open space network that caters for a diverse range of active and passive uses.
O8	To ensure all residents have safe and convenient access to public open space.
O9	To ensure that public open space can be sustainably maintained and adapted to the community's evolving needs.
Biodiversity, Threatened Species and Bushfire Management	
O10	To contribute to the long-term conservation of significant flora and fauna species through protection of habitat, particularly within BCS Conservation Area 13 and along the waterway that connecting through to the future Western Grassland Reserve which adjoins the precinct.
O11	To ensure that natural or pre-development hydrological patterns are maintained in BCS Conservation Area 13 where possible.
O12	To ensure that bushfire hazards are identified, and that protection measures are considered in the layout and design of the local street network, subdivisions, and buildings and works.
Transport and Movement	
O13	To establish a pedestrian and cycling network that ensures users can travel directly and safely throughout the precinct and to key destinations beyond, including Wyndham Vale Railway Station, Wyndham Vale Major Town Centre, Westbrook Local Town Centre, Ison Road Local Town Centre, schools, open space and community facilities.
O14	To establish a local road network that has a clear hierarchy and is easily navigable.
O15	To maximise use of public transport by integrating the precinct into an efficient bus-capable road network that services key destinations throughout the precinct and surrounding areas.

Integrated Water Management and Utilities	
O16	To deliver an Integrated Water Management (IWM) system that reduces reliance on reticulated potable water, encourages the use of alternative water (treated storm and/or recycled water), minimises flood risk, ensures waterway health and contributes to a sustainable and liveable urban environment.
O17	To ensure that sensitive land uses are minimised within the measurement lengths of the high pressure gas transmission pipeline and gas city gate, and that construction is managed to minimise risk of any adverse impacts.
O18	To consolidate utilities into appropriately planned and located service corridors to avoid and minimise the impact on BCS Conservation Area 13.
O19	To ensure that utilities are coordinated in their design and placement, minimising adverse impact on amenity.
Infrastructure Delivery and Development Staging	
O20	To ensure that development staging is co-ordinated with the delivery of key local and state infrastructure.

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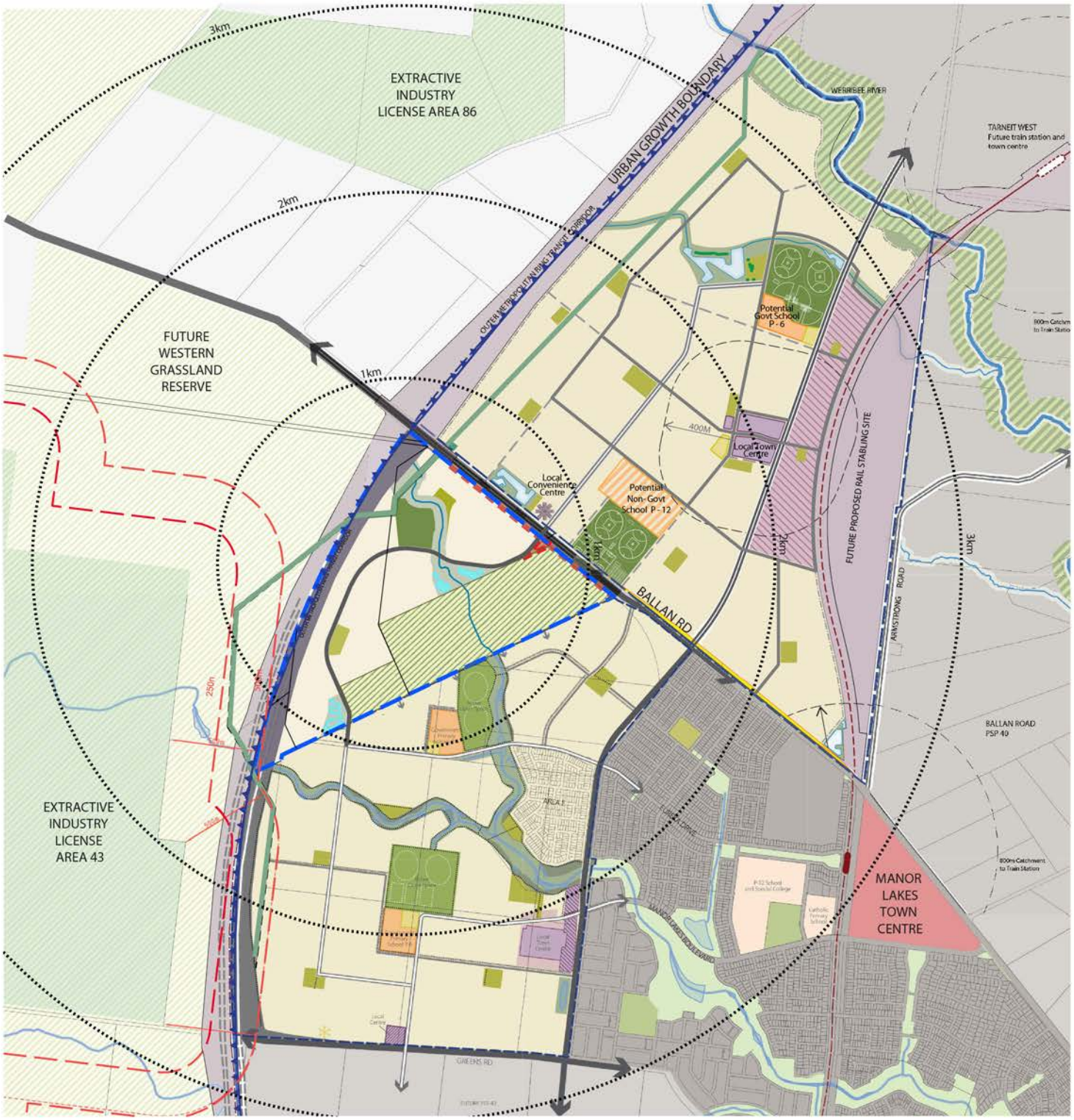
Plan 4 - Local Context

Quandong Precinct Structure Plan



- precinct boundary
- urban growth boundary
- future urban area
- future grassland reserve
- active open space reserves
- passive open space reserves
- government schools
- non government schools
- community facilities
- local town centre
- major town centre
- railway station (existing)
- quarry buffer
- residential
- conservation area
- employment area
- high pressure gas transmission pipeline

2.3 Summary land budget

The Net Developable Area (NDA) is established by deducting the land requirements for transport, open Space, drainage corridors, conservation areas and other encumbered land from the Gross Developable Area (GDA). The NDA for Quandong PSP is 64.47 hectares which equates to approximately 42.14% of the PSP area.

The land budget shows that the PSP will yield approximately 1063 dwellings at minimum average density of 16.5 dwellings per net developable hectare.

An average household size of 2.8 persons for conventional density housing (based on Victoria in Future 2012), is used to estimate the future population of the PSP area. On this basis, the future population of the PSP is estimated at approximately 2976 residents.

Table 1. Summary land budget

DESCRIPTION	HECTARES	% OF PRECINCT	% OF NDA
TOTAL PRECINCT AREA (Ha)	153.00		
TRANSPORT			
6 Lane Arterial Road / Widening	0.10	0.07%	0.15%
Existing Road Reserve (Future OMR)	18.88	12.34%	29.28%
SUB-TOTAL	18.98	12.41%	29.44%
OPEN SPACE			
ENCUMBERED OPEN SPACE			
Power / Gas Easement	1.05	0.69%	1.63%
Waterway / Drainage Reserve	10.19	6.63%	15.81%
Conservation Area (Golden Sun Moth)	51.68	33.78%	80.16%
Dry Stone Wall Protection Buffer	0.17	0.11%	0.26%
SUB-TOTAL	63.10	41.24%	97.87%
UNENCUMERED OPEN SPACE			
Active Open Space	4.52	2.95%	7.00%
Passive Open Space	1.93	1.26%	3.00%
SUB-TOTAL	**6.45**	**4.21%**	**10.00%**
TOTAL OPEN SPACE	**69.55**	**45.46%**	**107.87%**
TOTAL NET DEVELOPABLE AREA (Ha)	**64.47**	**42.14%**	

Estimated Dwelling Yield and Population			
DESCRIPTION	**NDA (Ha)**	**DW/NDHa**	**DWELLINGS**
Residential Yield	64.47	16.5	1063
Population @2.8 persons per dwelling			2976

NOTES:

The *Summary land budget* included in this table clearly sets out the NDA for the PSP. The NDA will not be amended to respond to minor changes to land budgets that may result from the subdivision process for any other reason than those stated above, unless the variation is agreed to by the responsible authority.

3.0 IMPLEMENTATION

3.1 Image, character, heritage & housing

3.1.1 Image & Character

	IMAGE AND CHARACTER REQUIREMENTS
R1	Streetscapes, parks and public spaces must be planted to achieve significant canopy tree cover, to the satisfaction of the responsible authority.
R2	Street trees must be planted on both sides of all roads and streets (excluding laneways) at regular intervals appropriate to tree size at maturity and not exceeding: Interval — Tree Size 8 – 10 metres — Small trees (less than 10 metres) 10 – 12 metres — Medium trees (10 – 15 metres) 10 – 15 metres — Large trees (15 metres or greater) The exception is the side of the road, street or laneway that directly adjoins the Conservation Area, which must not be planted with street trees.
R3	Fences forward of the front building line must not be more than 1.2 metres in height.
R4	All public landscape areas must be planted and designed to the satisfaction of the responsible authority.
R5	Subdivision layout must maximise the number of streets perpendicular to, or with direct views to, waterways, wetlands, retarding basins and open space.
	IMAGE AND CHARACTER GUIDELINES
G1	A consistent suite of lighting and furniture should be used across neighbourhoods, appropriate to the type and role of street or public space, unless otherwise approved by the responsible authority.
G2	Dwellings on corner lots should provide a positive address to both frontages.
G3	Design of dwellings should add to the precinct character by providing an attractive street address that encourages passive surveillance and visual interest.
G4	Where appropriate, the use of indigenous trees is encouraged along streets fronting waterways, wetlands, retarding basins.
G5	Where practical, subdivision applications should have regard to the Wyndham City Council's *Landscape Context Guidelines.*
G6	Proposals should seek to ensure good levels of amenity for future residents by avoiding the provision of 'extended driveways'.

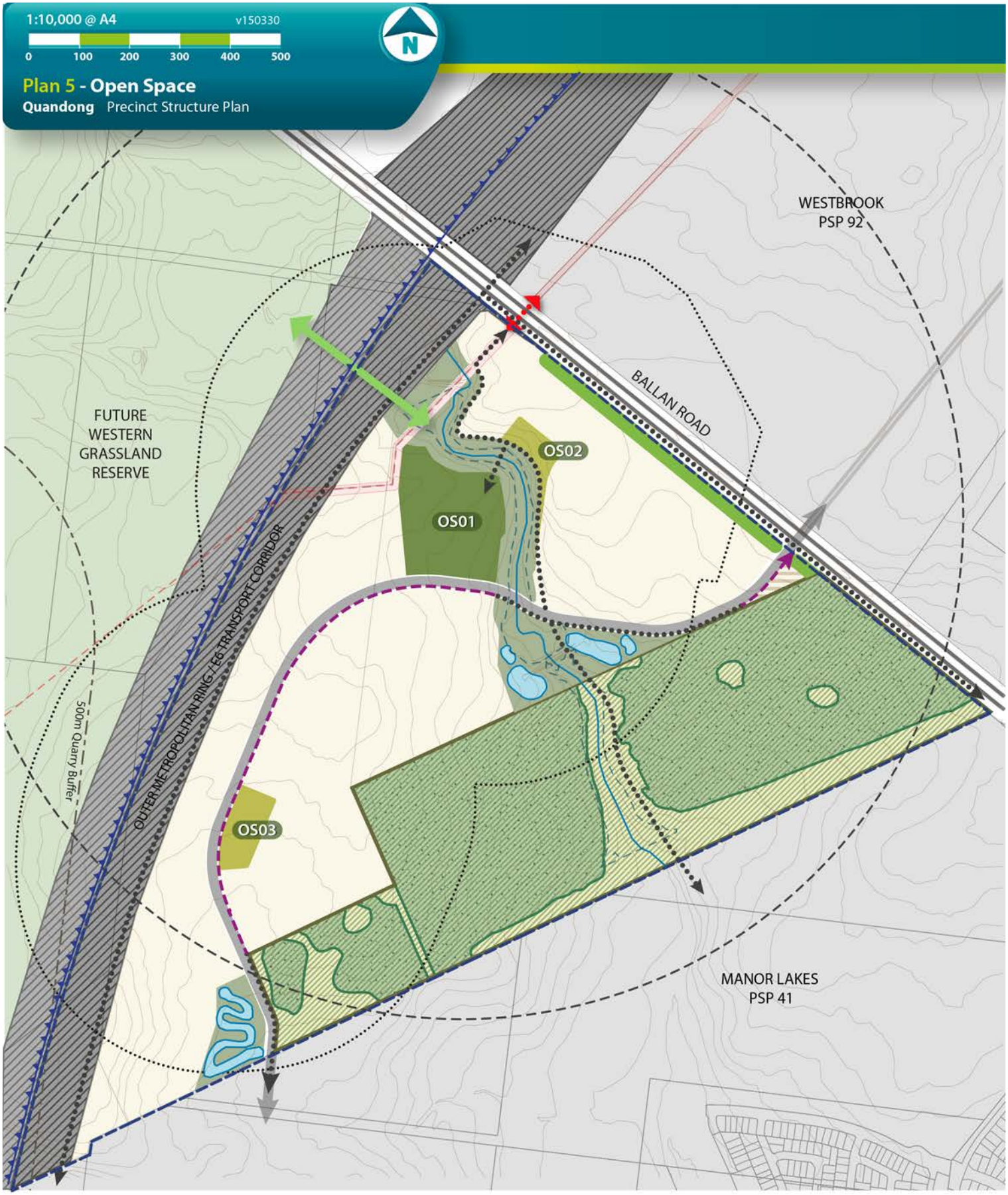
3.1.2 Heritage

	HERITAGE REQUIREMENTS
R6	Retained dry stone walls must: • Be situated within public open space or road reserve to the satisfaction of the responsible authority • Have a suitable landscape interface to minimise maintenance requirements (e.g. mulch, garden bed or gravel) and which does not encourage public access immediately adjacent the retained walls • Be checked by a professional dry stone waller for any loose stones. Any loose stones are to be reinstated in the wall in secure positions • Retain post and wire or post and rail fences situated within the walls, with any wire protruding beyond the vertical face of the wall reinstated to its original position or removed • Be incorporated into subdivision design to minimise disturbance to the walls (e.g. utilisation of existing openings for vehicle and pedestrian access).

R7	Installation of services across the alignment of retained dry stone walls is to be undertaken by boring rather than open trenching. If open trenching or disturbance to the wall is unavoidable, a minimum section of wall may be temporarily removed and then reinstated to original condition.
R8	Any reinstatement or repair of dry stone walls is to be undertaken by a professional dry stone waller and is to be consistent with the construction style of the original wall and reinstated to the satisfaction of the responsible authority. Reinstatement is to use stone from (in order of priority): • The original wall in that location (including fallen stone adjacent to the wall) • A nearby section of the wall approved to be removed • From the adjacent paddock • From walls approved to be removed in the nearby area (including stone stockpiled by Council). A list of professional dry stone wallers can be obtained from Council and the Dry Stone Walls Association of Australia.
R9	Where an existing dry stone wall is to be removed, and where the stones are not proposed for reuse on the land and will otherwise be discarded, the landowner, if requested by Council, must transport the stone to a Council depot or other Council-nominated location for stockpiling and reuse.
R10	Prior to transfer of ownership, land adjoining the waterway must develop and implement an interpretive strategy regarding Wadawurrung occupation of the precinct, to the satisfaction of the Registered Aboriginal Corporation and the responsible authority.

3.1.3 Housing

	HOUSING REQUIREMENTS
R11	Residential subdivisions must deliver a broad range of lot sizes, large to small, capable of accommodating a variety of housing types and sizes as described in Table 2.
R12	Subdivision of land must enable a minimum average density of 16.5 dwellings per Net Developable Hectare (NDHa) across the Precinct. Where a subdivision proposal represents a single stage or limited number of stages, proponents should demonstrate how the subdivision will contribute to the ultimate satisfaction of this requirement through further stages of development.
R13	Lots must front in order of priority: • Passive and active open spaces, waterways, wetlands and retarding basins • Conservation areas • Connector streets • Arterial roads In particular instances, the siding of lots to the priority interface may be accepted as an alternative to fronting, but should be minimised, to the satisfaction of the responsible authority.
R14	Where a subdivision planning application represents a single stage or limited number of stages, proponents must demonstrate how the subdivision will contribute to the eventual satisfaction of the guidance in the property specific yield table (Appendix 1).
R15	Planning applications for subdivision must, for each stage, cater for the provision of lots that will accommodate three or more dwelling types listed in Table 2, or, demonstrate an alternative lot range that achieves the housing diversity objectives.
R16	Where small lots (less than 300 m^2) are proposed and the Small Lot Housing Code is to be applied, the lots must be located in areas that are well served by public transport or have access to good levels of amenity (via open spaces or reserves).



precinct boundary
BCS conservation area 13
active open space
passive open space
future grassland reserve
contours (1.0m interval)
suitable for non-residential uses
waterway & drainage reserve
outer metropolitan ring/E6 Transport corridor (OMR)
OS01 park ID - refer table
native vegetation to be retained
interim shared path crossing point
local sports reserve catchment (1km)
local park walkable catchment (400m)
shared path
bicycle path (within widened road reserve)
dry stone wall protection buffer
potential pedestrian/cycling/environmental habitat connection to Western Grassland Reserve

	HOUSING GUIDELINES
G7	Subdivision of land fronting open space, or within a walkable distance of convenience centres and public transport facilities (including those in/ through neighbouring precincts), should create a lot range suitable for the delivery of medium and higher density housing types listed in *Table 2 - Housing type by lot size.*
G8	Planning applications for subdivision should include indicative concept layouts for any lots identified for the future development of medium density, high-density, or integrated housing that suitably demonstrate: • Active interfaces with adjacent streets, open space and waterways • Safe and effective vehicle and pedestrian access and internal circulation, as appropriate.

Table 2. Housing type by lot size

The following table provides an example of the typical housing types that might be provided on a range of lot sizes that support the housing diversity objectives.

HOUSING TYPES THAT MAY BE SUPPORTED	LOT SIZE CATEGORY (m^2)		
	LESS THAN 300m^2	300-599m^2	600m^2 OR GREATER
Small lot housing (including town houses and attached, semi-detached and detached housing)			
Detached housing			
Dual occupancies (including duplexes)			
Multi-unit housing (including terraces, row houses and villas)			
Stacked housing (including apartments and walk-up flats)			

3.2 Open Space

3.2.1 Open space

	OPEN SPACE REQUIREMENTS
R17	The open space network must: • Provide flexible recreational opportunities that allow for the anticipated range of passive and active recreational needs of the community • Maximise the amenity and value of encumbered open space, in particular, waterways, stormwater treatment wetlands, and retarding basins, where this does not conflict with the primary function of the land and surrounding conservation values.
R18	A local or district passive open space must be accessible to each residential lot without crossing a waterway or arterial road.
R19	Passive open spaces, streetscapes and paths must contain plantings of large canopy tree species, native, indigenous and exotic, that is suitable for urban environments, the local climate, soil conditions, and to the satisfaction of the responsible authority.
R20	Any fencing of open space, whether encumbered or unencumbered, must be low scale and visually permeable to facilitate public safety and surveillance.

R21	All active and passive open spaces must be located, oriented, designed and developed to the satisfaction of the responsible authority in accordance with *Plan 5 – Open Space* and *Table 3 – Open Space Delivery Guide*. Council may consider a variation to the area of the passive open space so long as it remains within the area range for its size category as noted in the *Wyndham Open Space Strategy 2045*. Where a passive open space is smaller than outlined in the table, the land must be added to another passive open space, to the satisfaction of the responsible authority. Where a proposed passive open space is larger than outlined in the table it may be accepted so long as it does not result in the removal of another passive open space allocation.

R22	Further to the 'public open space' contribution required by Clause 52.01 of the *Wyndham Planning Scheme*, this provision sets out the amount of land to be contributed in the precinct and consequently when a cash contribution is required in lieu of land.
	For the purposes of Clause 52.01, a passive open space in this PSP is 'public open space'. A contribution must be made as follows:
	• Where a passive open space shown on the lot in Plan 5 of this PSP is equal to 3% of the lot's NDA that land must be transferred to Council at no cost to Council
	• Where a passive open space shown on the lot in Plan 5 of this PSP is less than 3% of the lot's NDA:
	  • the relevant land must be transferred to Council at no cost to Council; and
	  • a cash contribution must be made to Council to bring total 'public open space' contribution to a value equal to 3% of NDA
	• Where a passive open space shown on the land in Plan 5 of this PSP is greater than 3% of the lot's NDA, the relevant land must be transferred to Council at no cost to Council. In this case Council will compensate the landowner, at a time to be agreed, for the amount of land provided in excess of 3% but no greater than difference between 3% and the amount of land shown as local park on Plan 5.
	Refer to the *Table 1 - Summary land budget* for open space land areas and percentages specified by this PSP.
	The responsible authority may alter the distribution of passive open space as shown in this PSP provided the relevant vision and objectives of this PSP are met.
	A subdivider may provide additional 'public open space' in a subdivision to the satisfaction of the responsible authority. There is no onus on Council, the responsible authority, or any other party to provide compensation for 'public open space' provided above what is required by Clause 52.01 and this PSP.

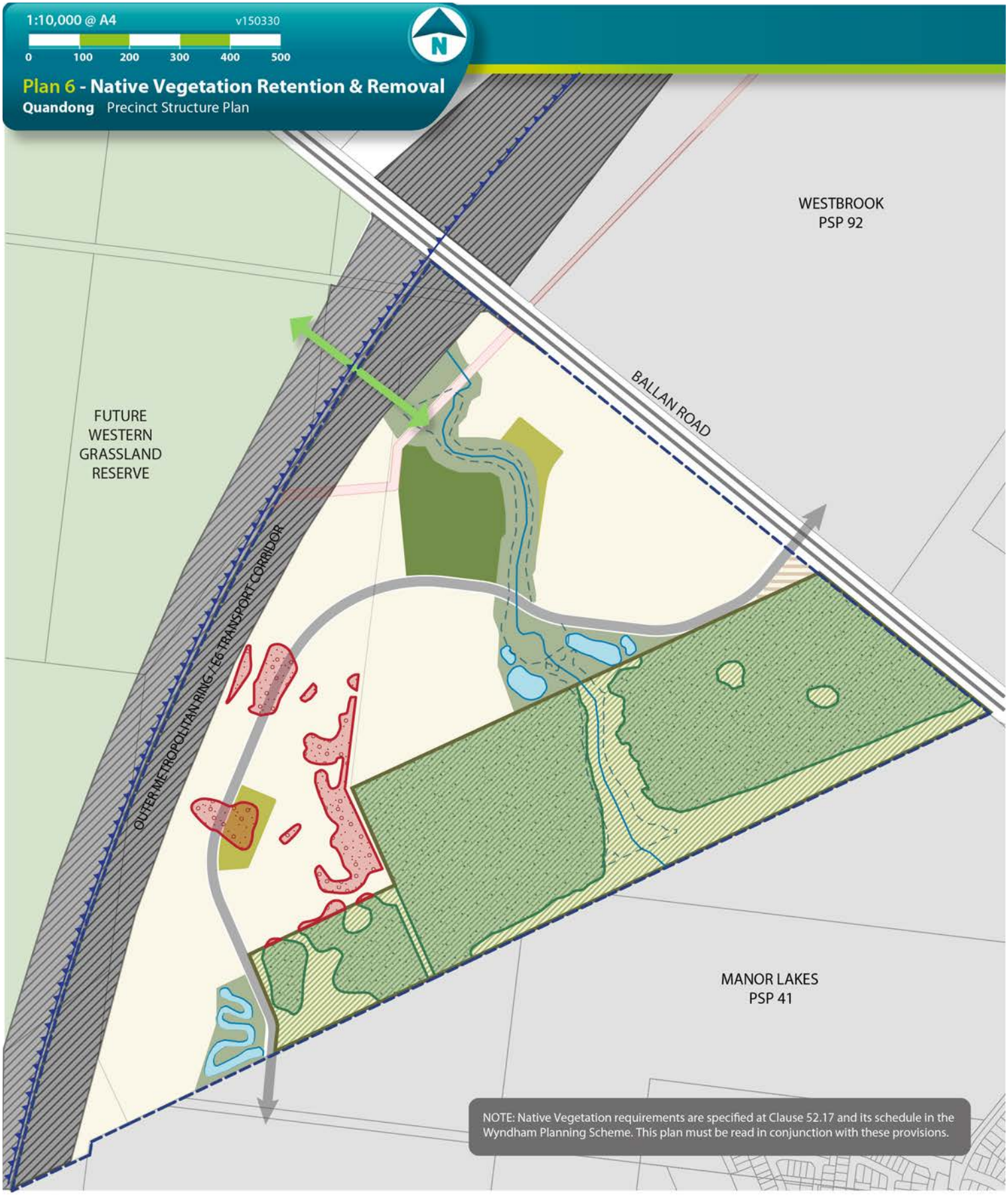
R23	The layout (including design and width) of drainage infrastructure, including open channels, wetlands and retarding basins must be to the satisfaction of the responsible authority and Melbourne Water.
R24	Where passive or active open spaces are to be co-located with waterways, wetlands, retarding basins, or conservation reserves, there must be a clear delineation on the plan of subdivision and the open space land area requirement must be provided free of encumbrances.
R25	Design and construction of any infrastructure or trails located along waterways must connect with those of adjoining precincts and be consistent with: • *Wyndham Waterways Strategy Plan* • Any relevant approved cultural heritage management plan.
R26	Where passive open spaces interface with a waterway corridor or encompass remnant native vegetation, the design of the passive open space must demonstrate integration of the relevant environmental and waterway values.
R27	No utilities infrastructure is to be provided within reserves or Council vested open space, unless required for the development of the open space, to the satisfaction of the responsible authority. without the consent of the responsible authority.

OPEN SPACE GUIDELINES	
G9	Local parks should cater for a broad range of users, support informal recreation activities and incorporate prominent landscape features.
G10	Where residential lots directly abut open space (including waterways, wetlands, retarding basins, dry stone wall protection buffers and conservation reserves), and service vehicle access is not required, a 4.0 metre road reserve to accommodate services and footpath or shared path should be provided to the satisfaction of the responsible authority. The residential lot should provide a primary point of access to the pedestrian or shared path.
G11	The design and layout of open space should maximise water use efficiency, storm water quality, stormwater harvesting opportunities, and the long-term viability of vegetation through passive irrigation with stormwater and the use of Water Sensitive Urban Design initiatives.
G12	The design of waterways, wetlands, retarding basins, and other encumbered land should maximise the potential for the integration of passive and/or active recreation uses where this does not conflict with the primary function of the land.
G13	Active open space must allow sport field placement in a north-south orientation to minimise interference to play by direct sun, and be of dimensions to the satisfaction of the responsible authority.

Table 3. Open space delivery guide

The following table sets out the open space provision expected to be delivered within the PSP area. The table is linked to the *Wyndham Open Space Strategy 2045*.

OPEN SPACE ID	PARK TYPE	AREA	LOCATION AND OTHER ATTRIBUTES	RESPONSIBILITY
OS01	District Active Open Space	4.52 ha	Anchored to waterway reserve and connector street.	Wyndham City Council
OS02	Local Passive Open Space	0.76 ha	Anchored to waterway reserve, opposite the district active open space and central to neighbourhood east of waterway.	Wyndham City Council
OS03	District Passive Open Space	1.18 ha	Anchored to connector street, and central to neighbourhood west of waterway.	Wyndham City Council



- precinct boundary
- BCS conservation area 13
- active open space / playing fields
- passive open space
- grassland reserve
- waterway & drainage reserve
- outer metropolitan ring/E6 Transport corridor (OMR)
- native vegetation to be retained
- native vegetation that can be removed
- potential pedestrian/cycling/environmental habitat connection to Western Grassland Reserve

3.3 Biodiversity & threatened species

3.3.1 Biodiversity & Threatened Species

	BIODIVERSITY AND THREATENED SPECIES REQUIREMENTS
R28	Development within BCS Conservation Area 13 must be in accordance with *Figure 1 – BCS Conservation Area 13 Concept Plan*, to the satisfaction of the Department of Environment, Land, Water and Planning.
R29	Development abutting BCS Conservation Area 13 must be in accordance with the corresponding BCS Conservation Area 13 Interface Cross-section, to the satisfaction of the Department of Environment, Land, Water and Planning.
R30	Any proposed development or works within BCS Conservation Area 13 must obtain the approval of the Department of Environment, Land, Water and Planning.
R31	Drainage from storm water treatment infrastructure must be designed to minimise impacts on biodiversity values, particularly matters of national environmental significance within BCS Conservation Area 13.
R32	Lighting adjacent to BCS Conservation Area 13 must be designed, baffled and located to minimise light spill and glare, unless otherwise agreed by Department of Environment, Land, Water and Planning and the responsible authority.
R33	Any public infrastructure or paths located within BCS Conservation Area 13 must be designed to avoid and minimise disturbance to native vegetation and habitat for matters of national environmental significance and be located in accordance with *Figure 1 - BCS Conservation Area 13 Concept Plan* and *Cross-Section 13 – Shared Path and Sewer - Through BCS Conservation Area 13* to the satisfaction of the Department of Environment, Land, Water and Planning.
R34	Any public infrastructure or paths located around the waterway and wetlands must be designed to minimise disturbance to existing native vegetation and be placed generally in the location shown on *Plan 5 - Open Space*.
	BIODIVERSITY AND THREATENED SPECIES GUIDELINES
G14	Co-locate open space and drainage assets with the waterway corridor and BCS Conservation Area 13 to assist in the buffering of significant habitat and ecosystems.
G15	Landscaping adjacent to waterway corridors and wetlands should be complementary to the natural environment.
G16	Street trees and public open space landscaping should contribute to habitat for indigenous fauna species, in particular arboreal animals and birds.

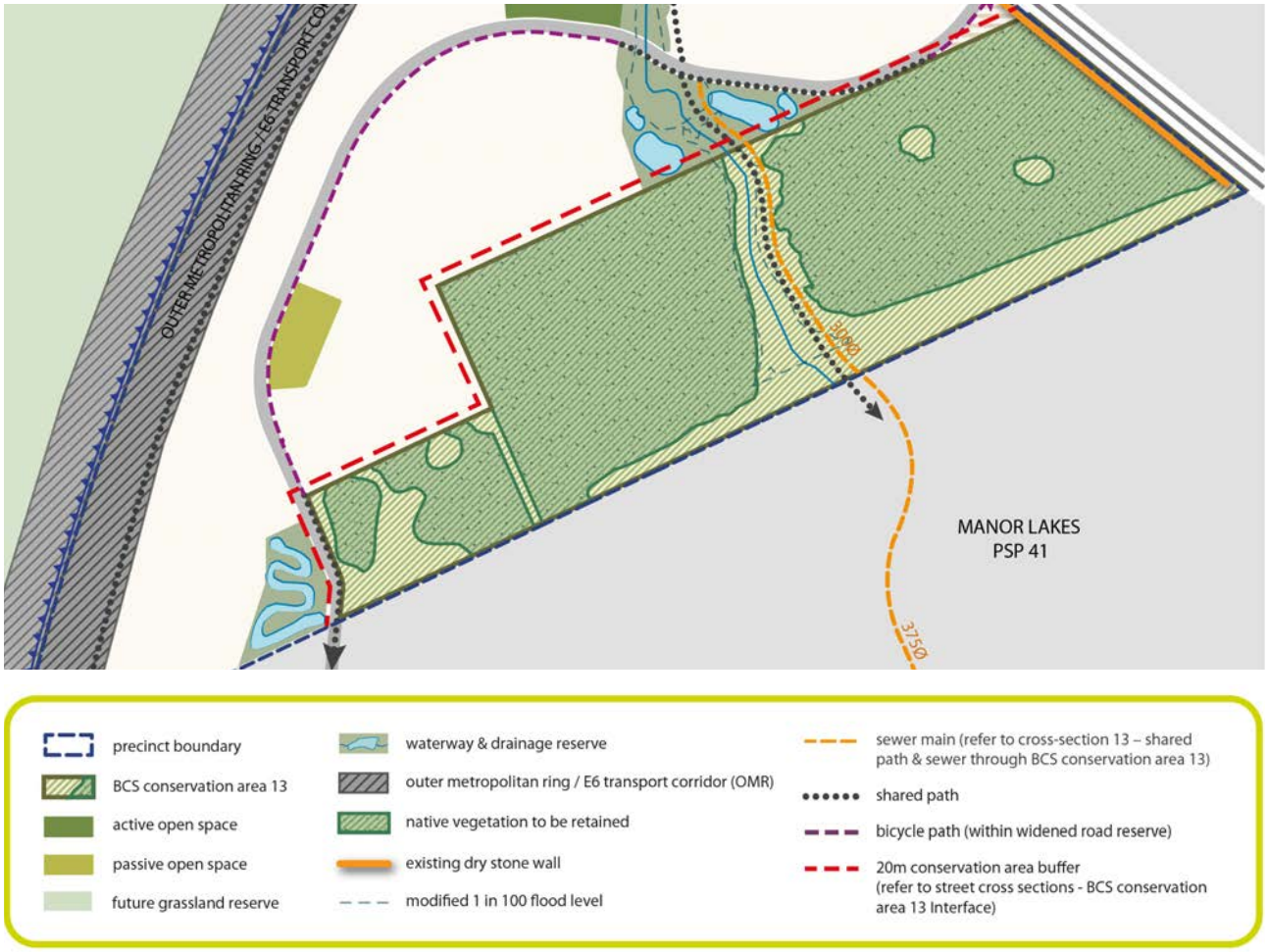


Figure 1 BCS Conservation Area 13 - Concept Plan

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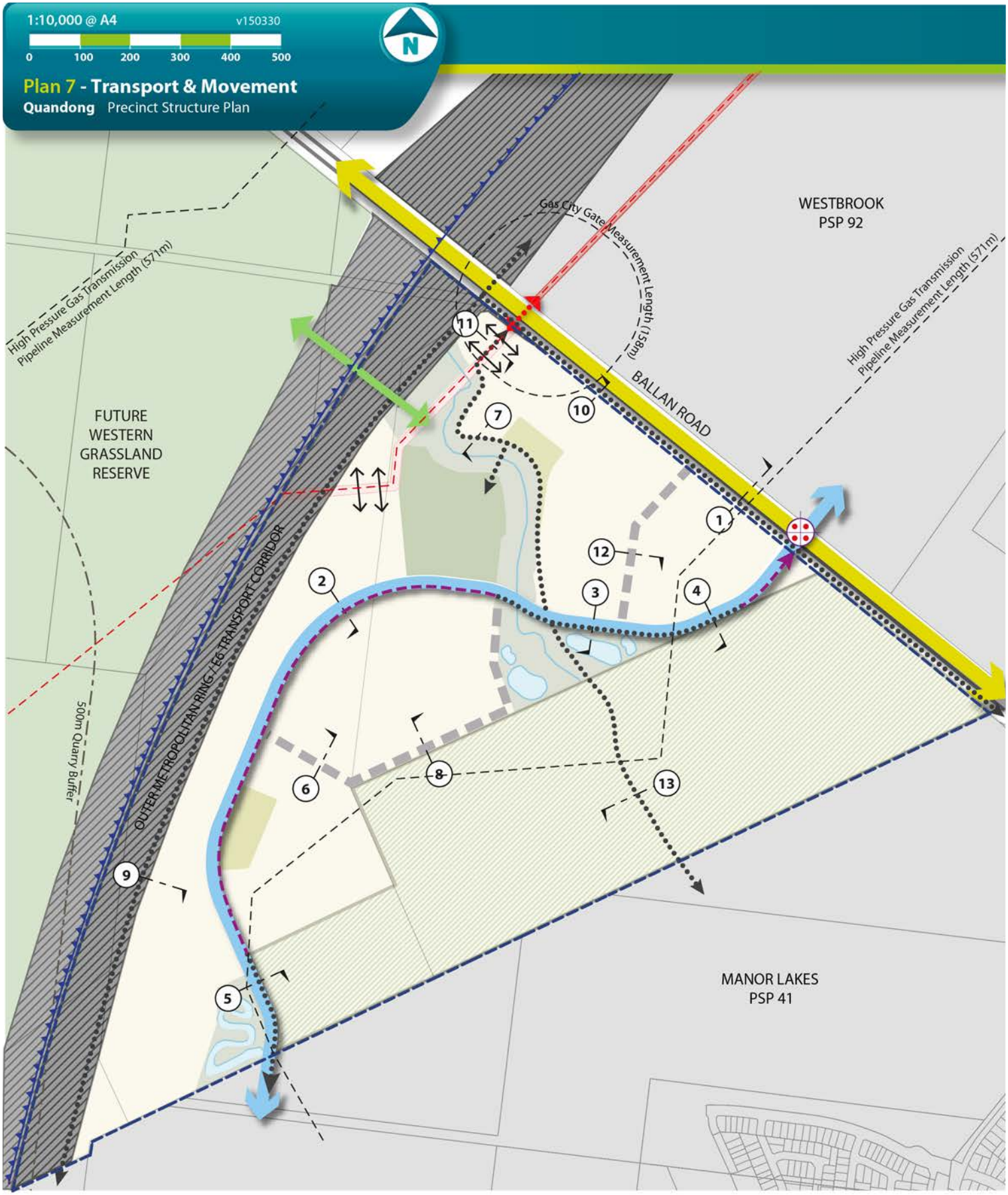
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Plan 7 - Transport & Movement
Quandong Precinct Structure Plan
WESTBROOK
PSP 92
FUTURE
WESTERN
GRASSLAND
RESERVE
MANOR LAKES
PSP 41
BALLAN ROAD
Gas City Gate Measurement Length (15m)
High Pressure Gas Transmission
Pipeline Measurement Length (571m)
High Pressure Gas Transmission
Pipeline Measurement Length (571m)
OUTER METROPOLITAN RING / E6 TRANSPORT CORRIDOR
500m Quarry Buffer
1
2
3
4
5
6
7
8
9
10
11
12
13
precinct boundary
future urban area
grassland reserve
outer metropolitan ring / E6 transport corridor (OMR)
potential pedestrian/cycling/environmental habitat connection to Western Grassland Reserve
BCS conservation area 13
arterial road (bus capable)
connector street (bus capable)
key access street
access - private driveway
signalised intersection
bicycle path (off-road) 2-way
shared path
interim shared path crossing point
cross section number
(refer street cross sections)

3.4 Transport & movement

3.4.1 Public Transport

	PUBLIC TRANSPORT REQUIREMENTS
R35	The bus stop facilities must be provided with *Disability Discrimination Act* compliant direct and safe pedestrian access connected to a pedestrian / shared path.
R36	A road or intersection shown as 'bus capable' on Plan 7 is to be constructed (including partial construction where relevant) to accommodate ultra-low-floor buses in accordance with the corresponding cross section in the PSP and the *Public Transport Guidelines for Land Use and Development* to the satisfaction of Public Transport Victoria and the responsible authority.

3.4.2 Walking & Cycling

	WALKING AND CYCLING REQUIREMENTS
R37	Design of all streets and arterial roads must give priority to the requirements of pedestrians and cyclists by providing: • Footpaths of at least 1.5 metres on both sides of all streets and roads unless otherwise specified by the PSP • Shared paths or bicycle paths where shown on Plan 7 or specified by another requirement in the PSP • Safe, accessible and convenient pedestrian and cycle crossing points must be provided at all intersections, on key desire lines and on regular intervals appropriate to the function of the road and public transport provision • Pedestrian priority crossings on all slip lanes • Safe and convenient transition between on and off-road bicycle networks. All to the satisfaction of the coordinating roads authority and the responsible authority.
R38	Shared trails, paths and any pedestrian walkway within conservation areas, drainage assets and along waterway corridors must be above the 1 in 10 year flood level, and all waterway crossings must be above the 1 in 100 year flood level, to the satisfaction of Melbourne Water and the responsible authority. All road and pedestrian crossings across waterways and drains must maintain the hydraulic function of the drainage asset and be designed to the satisfaction of Melbourne Water and the responsible authority.
R39	Bicycle priority at intersections of minor streets and connector streets with dedicated off-road bicycle paths must be achieved through strong and consistent visual and physical cues and supportive directional and associated road signs.
R40	Cycle connections must be designed to allow for the safe and convenient transition between on-road and off-road networks.
R41	The alignment of off-road bicycle paths must be designed for cyclists travelling up to 30 km/h.

3.4.3 Road Network

	ROAD NETWORK REQUIREMENTS
R42	Subdivision layouts must form a permeable street network that provides convenient access to local open space and allows for the effective integration with neighbouring precincts.
R43	Vehicle access to lots fronting arterial roads must be provided from a service road, local internal loop road or rear lane only, to the satisfaction of the determinating road authority.

R44	Configuration of vehicle access to lots from a public street must ensure that there is sufficient separation between crossovers to allow for a minimum of one on-street car park for every one residential lot.
R45	Residential lots of a width of 8.5 metres or less must only provide vehicle access via a rear laneway, unless otherwise approved by the responsible authority.
R46	Upon completion of any portion of the Outer Metropolitan Ring/E6 Transport Corridor (freeway or railway), any development in proximity to "the Transport Corridor", must respond to the VicRoads's *Requirements of Developers - Noise Sensitive Uses document, the Passenger Rail Infrastructure Noise Policy* (April 2013), or any required freight rail noise mitigation, to the satisfaction of the relevant transport bodies and responsible authority.

ROAD NETWORK GUIDELINES	
G17	Street block lengths should not exceed 240 metres to ensure a permeable and low speed environment for pedestrians, cyclists and vehicles is achieved.
G18	A cul-de-sac should only be used when there is no practical alternative. Where proposed, measures must be incorporated into the design so as to provide convenient pedestrian and vehicular connections.
G19	Where practicable, the frequency of vehicular crossovers on the connector street should be reduced by the use of a combination of: • Rear loaded lots with laneway access • Vehicular access from the side of a lot • Combined or grouped crossovers • Increased lot widths.
G20	Road and street cross sections should be consistent with the cross sections outlined in Appendix B. An alternative to cross sections for roads may be considered by the responsible authority subject to the design satisfying the relevant requirements in the PSP and the *Public Transport Guidelines for Land Use and Development*.
G21	Streets should be the primary interface between development and waterways. Public open space and lots with a direct frontage may be provided as a minor component of the waterway interface. Where lots with direct frontage are provided, they should be set back up to 5.0 metres from the waterway corridor to provide pedestrian and service vehicle access to the satisfaction of Melbourne Water and the responsible authority.
G22	Any road networks running adjacent to or crossing the high pressure gas transmission pipeline should cross at 90 degrees and be engineered to protect the integrity of the asset to the satisfaction of the responsible authority and gas pipeline owner.

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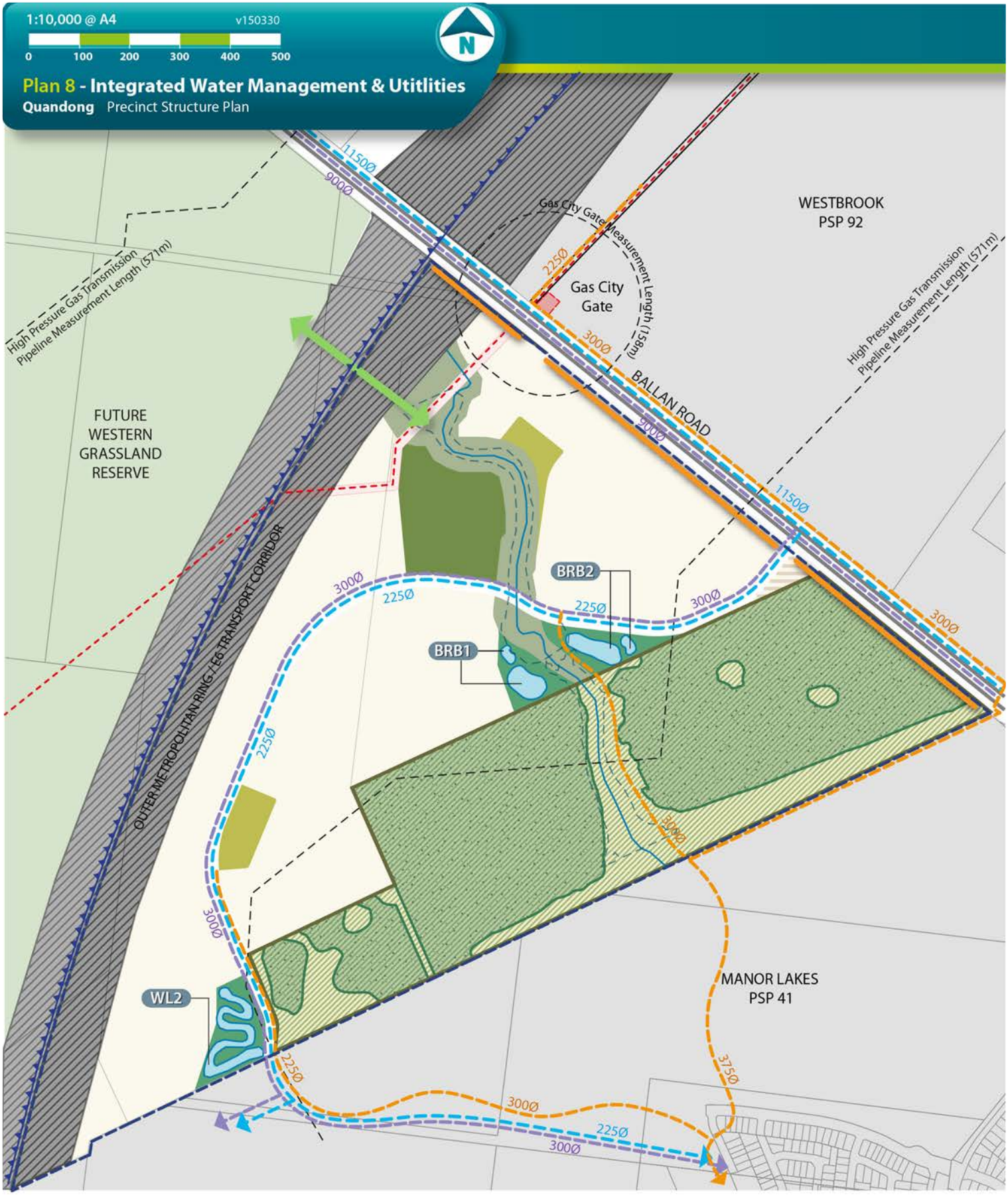

precinct boundary
waterway reserve
BCS conservation area 13
active open space
passive open space
stormwater treatment asset
future urban area
future grassland reserve
outer metropolitan ring / E6 transport corridor (OMR)
existing dry stone wall
BRB1 development services scheme asset ID - refer table
high pressure gas transmission pipeline
sewer main
water main - potable
water main - recycled

NOTE: Stormwater quality treatment assets shown on this plan are subject to confirmation through detailed design, to the satisfaction of the relevant drainage authority.

3.5 Integrated water management & utilities

3.5.1 Integrated Water Management

	INTEGRATED WATER MANAGEMENT REQUIREMENTS
R47	Stormwater conveyance and treatment must be designed in accordance with the relevant Development Services Scheme (DSS), to the satisfaction of Melbourne Water and the responsible authority.
R48	Concept and final design and boundary of retarding basins, stormwater quality treatment infrastructure, and associated paths, boardwalks, bridges, and planting, must be to the satisfaction of Melbourne Water and the responsible authority listed in *Table 4 - Stormwater quality treatment assets*.
R49	Development staging must provide for delivery of ultimate waterway and drainage infrastructure including stormwater quality treatment listed in *Table 4*. Where this is not possible, development proposals must demonstrate how any interim solution adequately manages and treats stormwater generated from the development and how this will enable delivery of an ultimate drainage solution, to the satisfaction of Melbourne Water and the responsible authority as listed in *Table 4*.
R50	Storm water flow path, treatment and harvesting must not impact on the hydrological requirements, the short and long term viability of, or negatively impact on the existing waterway including environmental based recreation land and native vegetation on land surrounding this area.
R51	Stormwater runoff from the development must meet or exceed the performance objectives of the *Best Practice Environmental Management Guidelines* for urban stormwater management prior to discharge to receiving waterways and as outlined on *Plan 8 - Integrated water management & utilities*, unless otherwise approved by Melbourne Water and the responsible authority.
	INTEGRATED WATER MANAGEMENT GUIDELINES
G23	Where practical, integrated water management systems should be designed to: • Maximise habitat values for local flora and fauna species • Protect and manage for MNEX values, particularly within conservation areas, in relation to water quality and suitable hydrological regimes (Both surface and groundwater) • Enable future harvesting and/or treatment and re-use of stormwater.
G24	Development should reduce reliance on potable water by increasing the utilisation of fit-for-purpose alternative water sources such as storm water, rain water and recycled water.
G25	Development should have regard to relevant policies and strategies being implemented by the responsible authority, Melbourne Water and retail water authority, including any approved Integrated Water Management Plan.
G26	Any drainage infrastructure running adjacent to or crossing the high pressure gas transmission pipeline should cross at 90 degrees and be engineered to protect the integrity of the asset to the satisfaction of the responsible authority and gas pipeline owner.

Table 4. Stormwater quality treatment assets

DSS ASSET ID	DESCRIPTION	LOCATION	AREA	RESPONSIBILITY
WL2	Quandong Park Development Services Scheme Wetland	Adjacent to the southern boundary of the precinct, on the western side of the north-south connector street, opposite the BCS Conservation Area 13 as shown on Plan 8.	1.78ha	Melbourne Water
BRB1	Quandong Park Development Services Scheme Bio-Retention Basin	Adjoining the eastern edge of the waterway corridor, adjacent to the northern boundary of BCS Conservation Area 13, as shown on Plan 8.	1.23Ha	Wyndham City
BRB2	Quandong Park Development Services Scheme Bio-Retention Basin	Adjoining the western edge of the waterway corridor, adjacent to the northern boundary of BCS Conservation Area 13, as shown on Plan 8.	0.97Ha	Wyndham City

3.5.2 Utilities

	UTILITIES REQUIREMENTS
R52	Delivery of underground services must be coordinated, located and bundled (utilising common trenching) to facilitate tree and other planting within road verges.
R53	All new electricity supply infrastructure (excluding substations and cables with voltage greater than 66kv) must be provided underground.
R54	All lots must be provided with potable water, recycled water, electricity, a reticulated sewerage, drainage, gas and telecommunications to the satisfaction of the relevant authority.
R55	Above ground utilities must be identified at the subdivision design stage to ensure effective integration with the surrounding neighbourhood to minimise amenity impacts, and be designed to the satisfaction of the relevant authority. Where the infrastructure is intended to be located in public open space, the land required to accommodate that infrastructure will not be counted as contributing to the public open space area required under Clause 52.01 or by the *Wyndham West DCP*.
R56	Before development commences on a property, functional layout plans are to be submitted of the road network showing the location of all: • Underground services • Driveways/crossovers • Street lights • Street trees. A typical cross section of each street is also to be submitted showing above and below ground placement of services, street lights and trees. The plans and cross sections must demonstrate how services, driveways and street lights will be placed so as to achieve the road reserve width (consistent with the road cross sections outlined in this PSP) and accommodate the minimum level of street tree planting (as outlined in this PSP). If required, the plan and cross sections will nominate which services will be placed under footpaths or road pavement. The plans and cross sections are to be approved by the responsible authority and all relevant service authorities before development commences.
R57	Canopy trees planted within the high pressure gas transmission pipeline easement must be of a variety where the root system will not impact the gas pipeline. Tree pits must be offset a minimum 3.0m from the outer edge of the gas pipeline, and a maximum of 3.0m from the easement boundary.
R58	Trees must not be planted in the future gas pipeline easement until after the second gas pipeline has been constructed, unless agreed to by the gas pipeline owner and operator.

R59	Utilities must be placed outside of BCS Conservation Area 13, except for the identified sewer main crossing shown on *Figure 1 – BCS Conservation Area 13 Concept Plan*, which must be to the satisfaction of the Department of Environment, Land, Water and Planning, Melbourne Water and the responsible authority. Utilities must be placed outside of natural waterway corridors or on the outer edges of these corridors to avoid disturbance to existing waterway values, native vegetation, significant landform features and heritage sites to the satisfaction of Melbourne Water and the responsible authority.
R60	All temporary infrastructure must be removed once permanent infrastructure is connected and operating.

UTILITIES GUIDELINES	
G27	Above-ground utilities should be located outside of key view lines and screened with vegetation, as appropriate.
G28	Design and placement of underground services in new or upgraded streets should utilise the service placement guidelines outlined in Appendix C.
G29	Utility easements to the rear of lots should only be provided where there is no practical alternative.
G30	Any utility infrastructure running adjacent to or crossing the high pressure gas transmission pipeline should cross at 90 degrees and be engineered to protect the integrity of the asset to the satisfaction of the responsible authority and gas pipeline owner.

3.6 Infrastructure delivery & development staging

3.6.1 Subdivision Works by Developers

SUBDIVISION WORKS BY DEVELOPERS REQUIREMENTS	
R61	Subdivision of land within the precinct must provide and meet the total cost of delivering the following infrastructure to the satisfaction of the responsible authority: • Connector streets and local streets (including internal loop and service roads that abut arterial roads) • Local bus stop infrastructure (where locations have been agreed in writing by Public Transport Victoria) • Landscaping of all existing and future roads and local streets • Intersection works and traffic management measures along arterial roads, connector streets, and local streets (except those included in the DCP) • Council approved fencing and landscaping (where required) along arterial roads • Local shared, pedestrian and bicycle paths along arterial roads, connector streets, local streets, open space and within local parks including bridges, culverts, intersections, and barrier crossing points (except those included in the DCP) • Bicycle parking as required in this document • Appropriately scaled lighting along all roads, major pedestrian and shared paths traversing public open space and along the cycling network • Basic improvements to passive and active open spaces (refer open space delivery below). • Local drainage system • Local street or pedestrian and bicycle path crossings of waterways and drainage assets unless included in the DCP or outlined as the responsibility of another agency in the Precinct Infrastructure Plan • Infrastructure as required by utility services providers including water, sewerage, drainage (except where the item is funded through a Development Services Scheme), electricity, gas, and telecommunications • Remediation and/or reconstruction of dry stone walls where required • Fencing of conservation areas.

R62	**Open space delivery** All public open space must be finished to a standard that satisfies the requirements of the responsible authority, prior to the transfer of the public open space to Council, including but not limited to: • Removal of all existing disused structures, foundations, contaminated soil, pipelines, and stockpiles • Clearing of rubbish and environmental weeds and rocks, levelled, topsoiled and grassed with warm climate grass (unless conservation reserve requirements dictate otherwise) • Provision of water tapping, potable and recycled water connection points • Sewer, gas and electricity points must be provided to the district active open space and district passive open space listed in *Table 3 - Open space delivery guide* • Trees and other plantings (drought tolerant unless otherwise approved by Council) • Vehicle exclusion devices (fence, bollards, or other suitable method) and maintenance access points • Construction of minimum 1.5m wide pedestrian paths within the road reserve around the perimeter of the open space reserve, connecting and linking into any other surrounding paths or points of interest, except where shown as a shared path on Plan 7 • Additional paths as necessary • Installation of park furniture including BBQs, shelters, tables, local scale playgrounds, bicycle parking, rubbish bins and appropriate paving to support these facilities, consistent with the type of open space listed in the open space delivery guide (*Table 3*).
R63	Any heritage site or conservation area to be vested in the relevant authority must be done so in a standard that satisfies the requirements of that authority. Works required prior to the transfer include, but may not be limited to: • Clearing of rubbish and weeds • Essential repairs to and stabilisation of any structures • Any fencing required to ensure the safety of the public. Any works carried out must be consistent with any relevant Cultural Heritage Management Plan and Conservation Management Plan.

3.6.2 Development Staging

DEVELOPMENT STAGING REQUIREMENTS	
R64	Development staging must provide for the timely provision and delivery of: • Arterial road reservations • Connector streets and connector street bridges • Street links between properties, constructed to the property boundary • Connection of the on- and off-road pedestrian and bicycle network • Passive open space.
R65	Streets must be constructed to property boundaries where an inter-parcel connection is intended or indicated in the structure plan, by any date or stage of development required or approved by the responsible authority.
R66	All open space must be attached to a residential stage, unless agreed by the responsible authority.

DEVELOPMENT STAGING GUIDELINES	
G31	Development staging will be determined largely by the development proposals on land within the precinct and the availability of infrastructure services. Development applications should demonstrate how the development will: • Integrate with adjoining developments, including the timely provision of road and path connections, to the extent practicable. • Integrate with other developments, including timely provision of road and path connections to the extent practicable, where proposed development does not adjoin an existing development front. • Provide sealed road access to each new allotment. • Provide open space and amenity to new residents in the early stages of the development, where relevant. • Deliver any necessary trunk services extensions, including confirmation of agreed approach and timing by the relevant authority.

3.6.3 Precinct Infrastructure Plan

The Precinct Infrastructure Plan (PIP) at Table 5 sets out the infrastructure and services required to meet the needs of proposed development within the precinct. The infrastructure items and services are to be provided through a number of mechanisms including:

- Subdivision construction works by developers
- Agreement under Section 173 of the Act
- Utility service provider requirements
- The Wyndham West DCP
- Relevant development contributions from adjoining areas.
- Capital works projects by Council, State Government agencies and non-government organisations.
- Works in Kind (WIK) projects undertaken by developers on behald of Council or State Government agencies.

Table 5. Precinct infrastructure plan

PROJECT CATEGORY	TITLE	PROJECT DESCRIPTION	LEAD AGENCY	INDICATIVE TIMING
Bridge and culvert projects				
Culvert	Tributary of Lollypop Creek Crossing	Construction of culvert for crossing the tributary of Lollypop Creek	Wyndham City	Medium term (5-10 years)
Intersection projects				
Intersection	Ballan Road / North-South Connector	Construction of a signalised intersection at the intersection of Ballan Road and the North-South Connector	VicRoads	Short term (0-5 years)
Open space				
Open Space	Active Open Space	Land for active open space	Wyndham City	Medium term (5-10 years)

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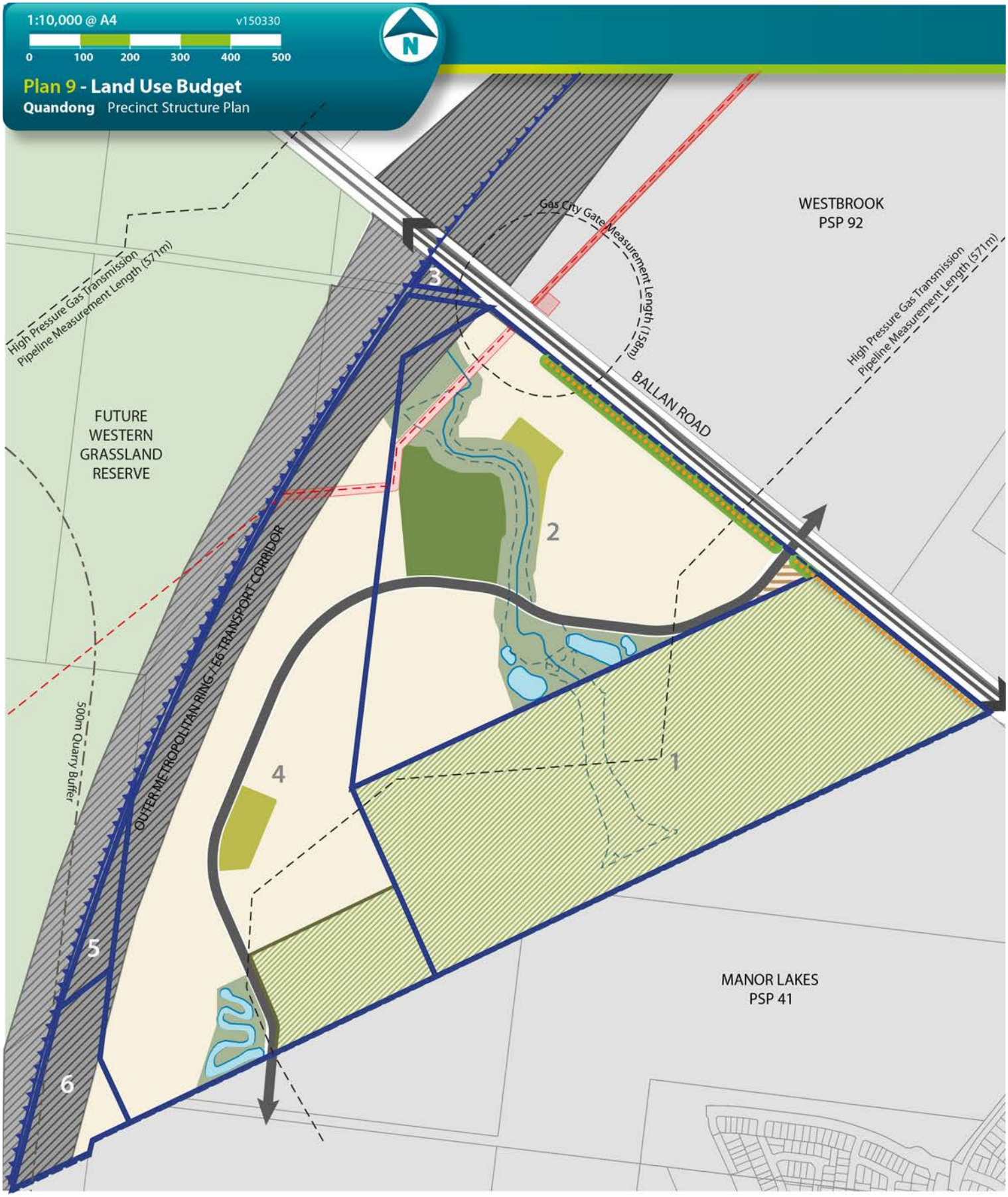
4.0 APPENDICES

4.1 APPENDIX A - Property specific land budget

The Property specific land budget sets out the NDA for every property included in the PSP. The NDA will not be amended to respond to minor changes to land budgets that may result from the subdivision process for any other reason than that stated above, unless the variation is agreed by the responsible authority.

See *Plan 9 - Land use budget* and *Table 6 - Property specific land use budget.*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Quandong Precinct Structure Plan
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PSP 92
Gas City Gate Measurement Length (151m)
High Pressure Gas Transmission Pipeline Measurement Length (571m)
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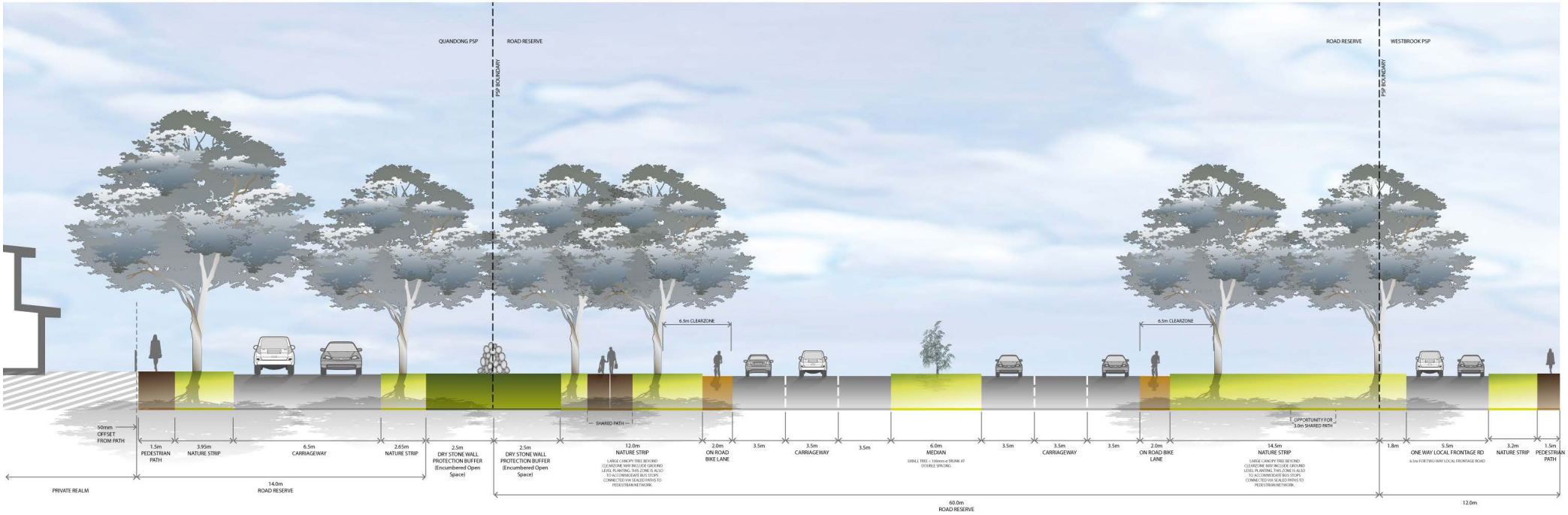
BCS conservation area 13
active open space
passive open space
suitable for non-residential uses
waterway & drainage reserve
future urban area
future grassland reserve
connector street
arterial road
dry stone wall protection buffer
high pressure gas transmission pipeline & easement
residential
outer metropolitan ring / E6 transport corridor (OMR)

Table 6. Property specific land use budget

PSP PROPERTY ID	TOTAL AREA (HECTARES)	TRANSPORT		ENCUMBERED OPEN SPACE				UNENCUMBERED OPEN SPACE		TOTAL NET DEVELOPABLE AREA (HECTARES)	NET DEVPT AREA % OF PROPERTY
		6 LANE ARTERIAL ROAD / WIDENING	EXISTING ROAD RESRVE (FUTURE OMR)	POWER / GAS EASEMENT	WATERWAY / DRAINAGE RESERVE	CONSERVATION AREA (GOLDEN SUN MOTH)	DRY STONE WALL PROTECTION BUFFER	ACTIVE OPEN SPACE	PASSIVE OPEN SPACE		
1092.1-01	45.21					45.21				0.00	0.00%
1092.1-02	45.48	0.10	0.83	0.81	8.41		0.17	4.52	0.76	29.89	65.71%
1092.1-03	0.31		0.31							0.00	0.00%
1092.1-04	55.36		12.10	0.22	1.78	6.47			1.18	33.61	60.71%
1092.1-05	1.78		1.78							0.00	0.00%
1092.1-06	4.86		3.88							0.98	20.11%
PSP TOTAL	**153.00**	**0.10**	**18.88**	**1.05**	**10.14**	**51.68**	**0.17**	**4.52**	**1.94**	**64.52**	**42.17%**

4.2 APPENDIX B - Street cross-sections

CROSS-SECTION 1



EAST

WEST

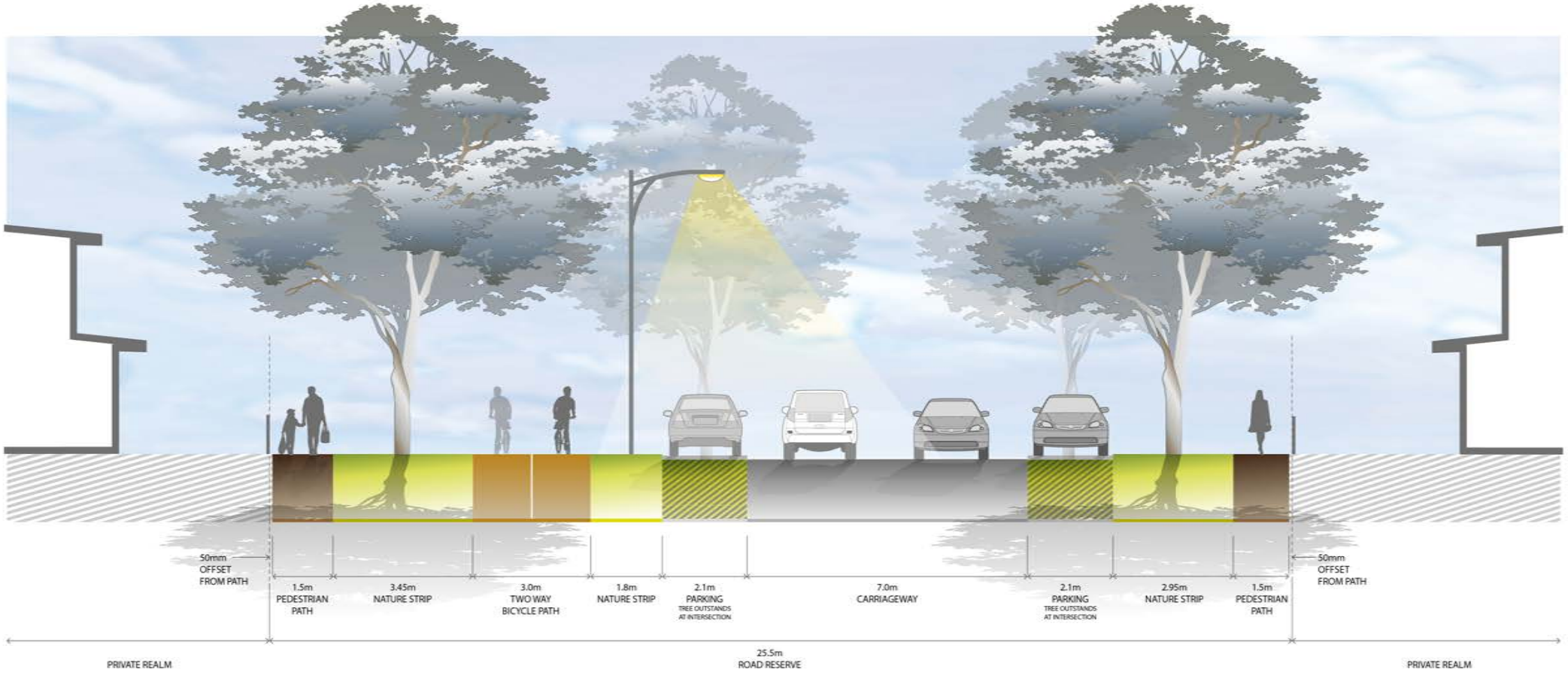
Primary Arterial Road - 6 Lane (60m)

Ballan Road

Notes:

- Minimum street tree mature height 15 metres
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in *Engineering Design and Construction Manual for Subdivision in Growth Areas* (April 2011)
- 6.5m Clearzones assumes 80km/hr speed limit > 5,000 VPD
- Option A (60km/hr) - Opportunity for high profile barrier kerb in strategic locations such as adjacent town centres or significant parkland, to enable large canopy tree planting.

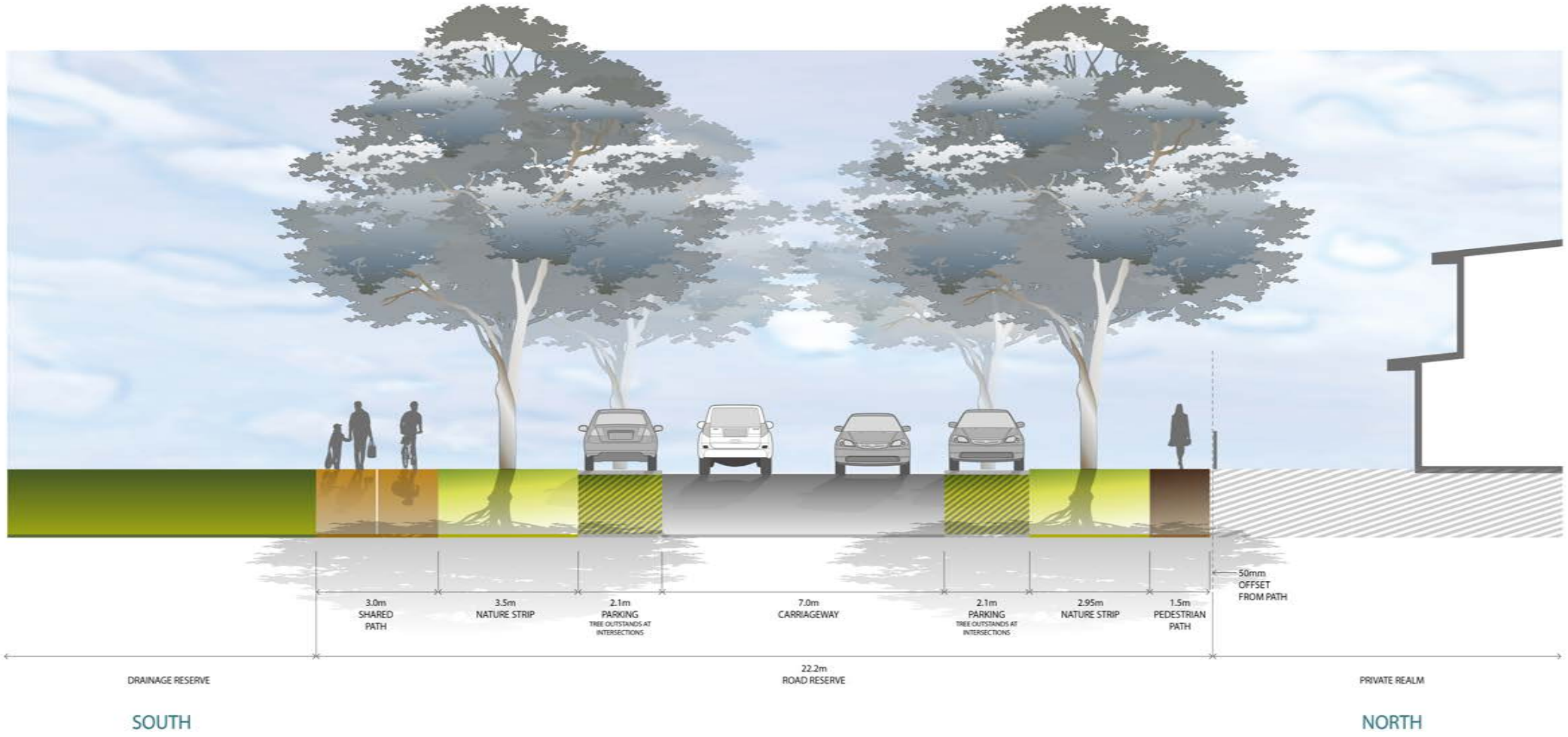
CROSS-SECTION 2



Connector Street - with Off Road Bike Path (25.5m)

Standard

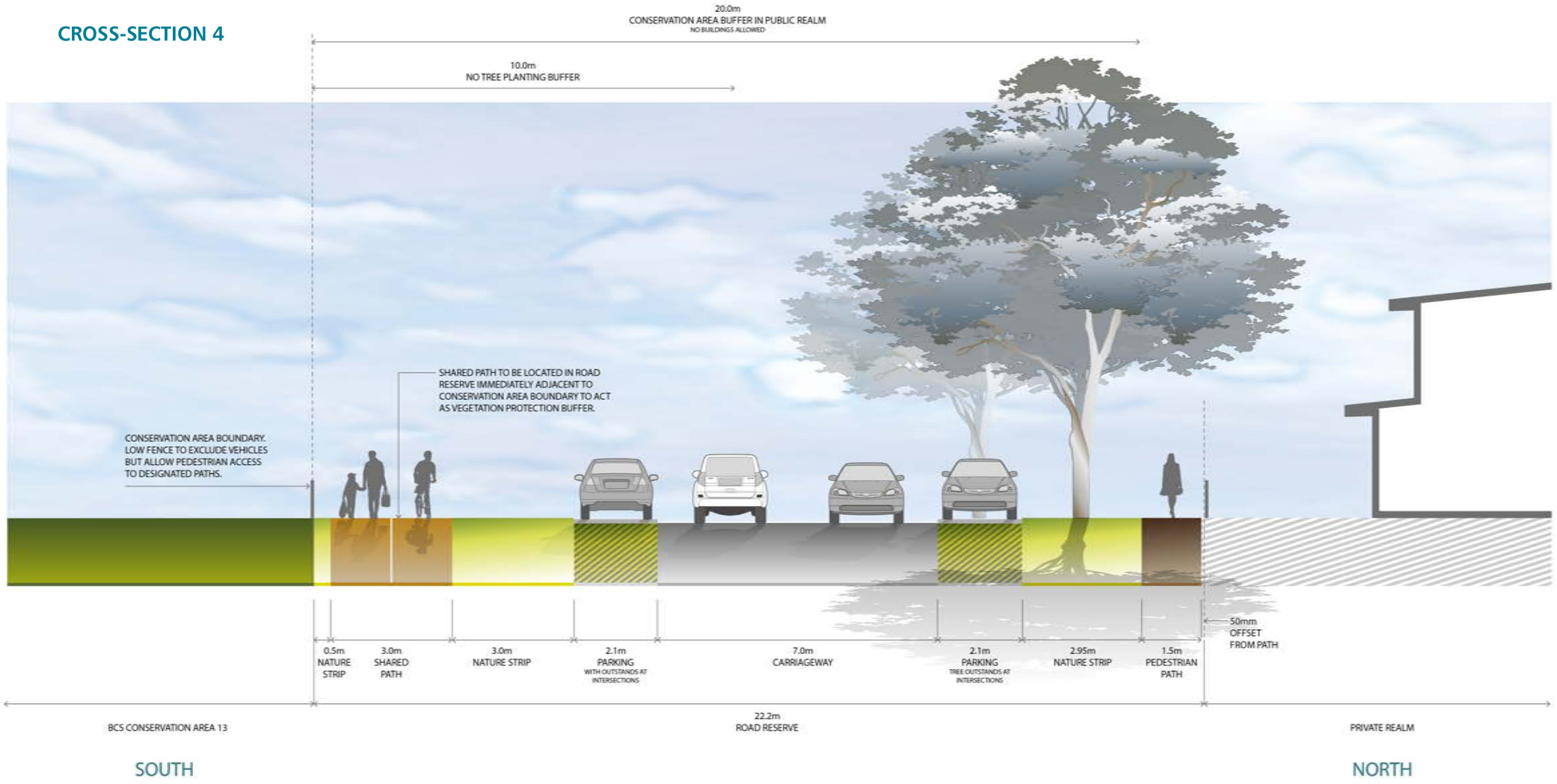
CROSS-SECTION 3



Connector Street - with Shared Path (22.2m)

Adjacent to Drainage Reserve

CROSS-SECTION 4



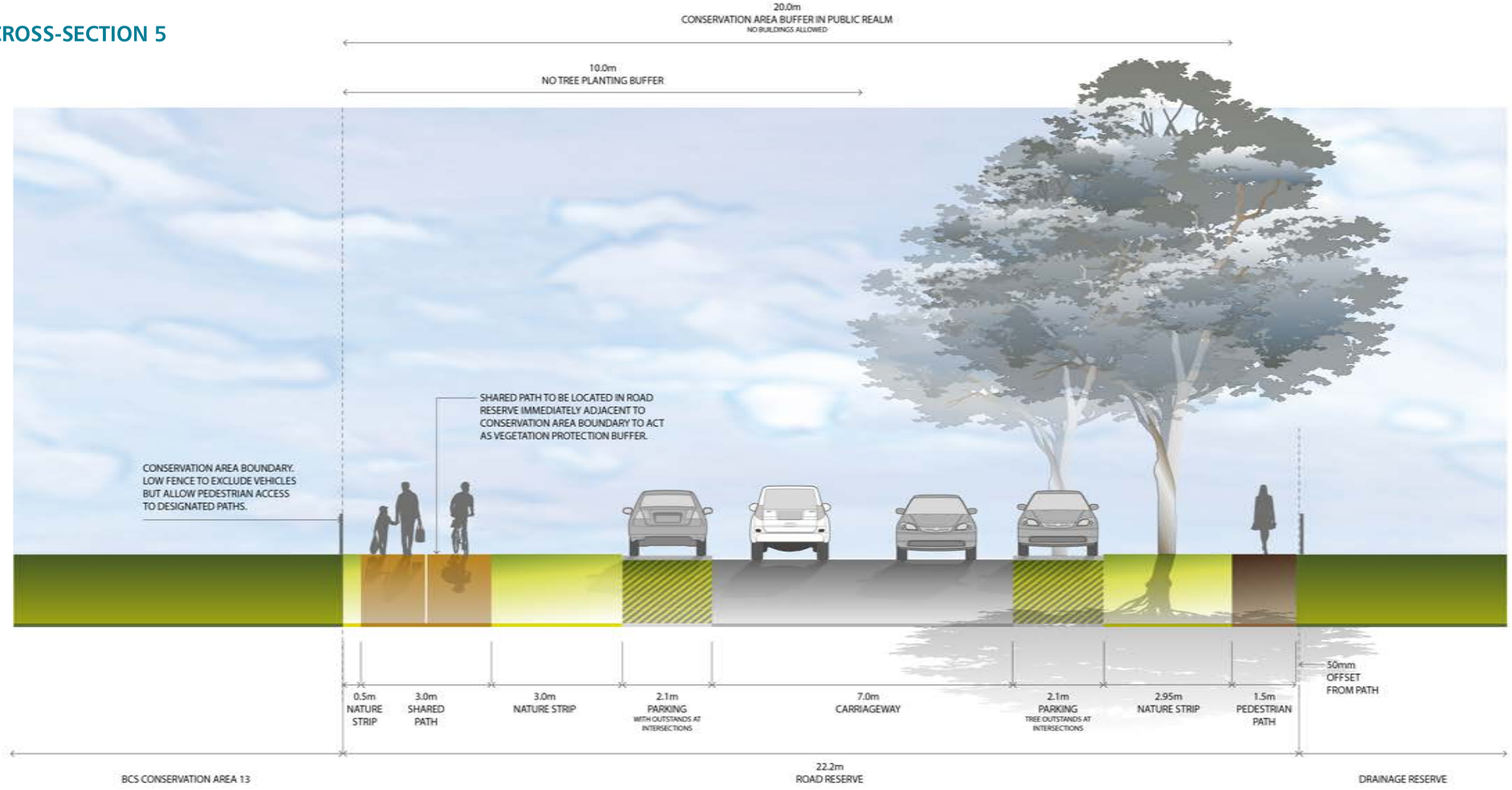
Connector Street - with Shared Path (22.2m)

BCS Conservation Area 13 Interface - Residential Frontage

Notes

1. Trees should not be planted within 10 metres of the BCS Conservation Area 13 boundary.
2. The BCS Conservation Area 13 must be fenced appropriately to protect biodiversity values to the satisfaction of the Department of Environment, Land, Water, and Planning (DELWP).
3. All necessary fire breaks must be located outside the BCS Conservation Area 13.

CROSS-SECTION 5



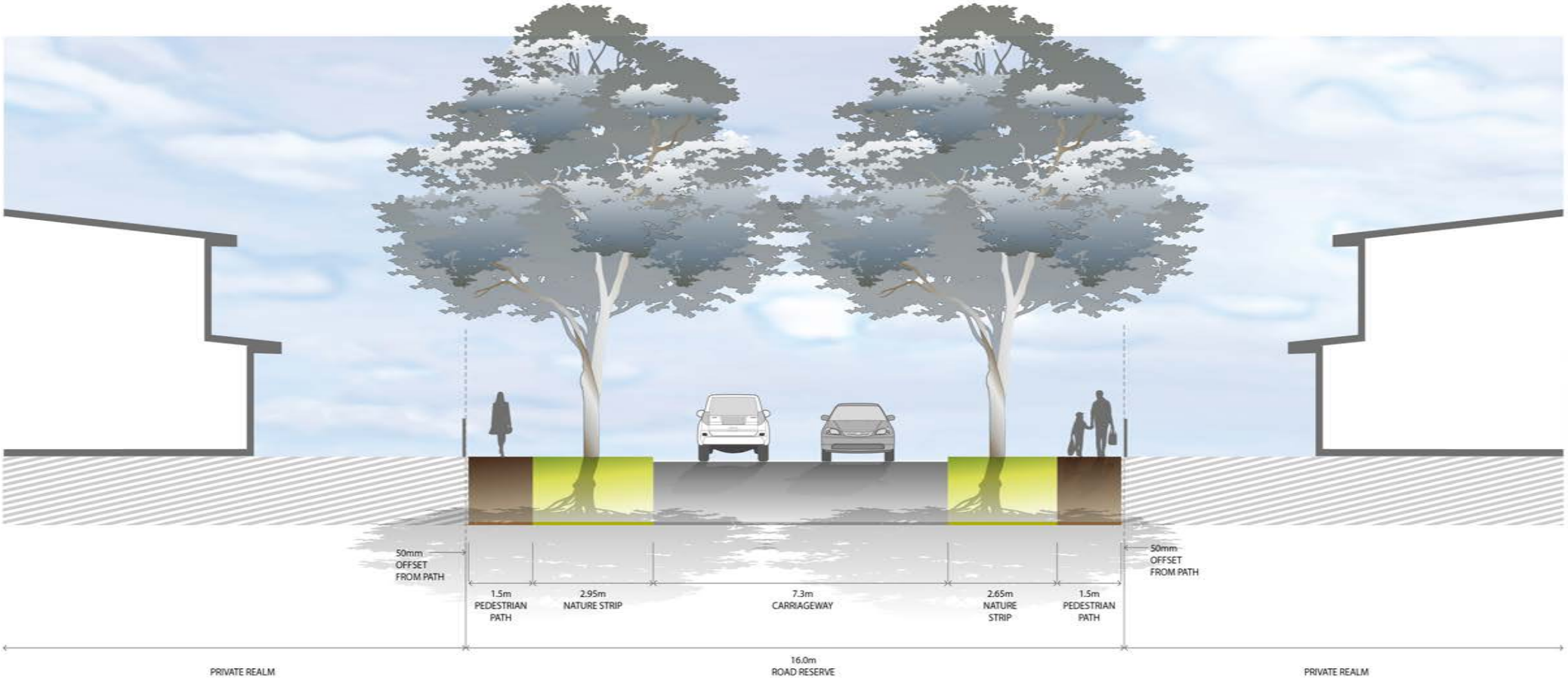
NB: Transition will need to be made to Manor Lakes PSP 's Cross Section 6: Connector Street for Residential (26m) which has on road bicycle lanes.

Connector Street - with Shared Path (22.2m)

BCS Conservation Area 13 Interface - Drainage Reserve

Notes
1. Trees should not be planted within 10 metres of the BCS Conservation Area 13 boundary.
2. The BCS Conservation Area 13 must be fenced appropriately to protect biodiversity values to the satisfaction of the Department of Environment, Land, Water, and Planning (DELWP).
3. All necessary fire breaks must be located outside the BCS Conservation Area 13.

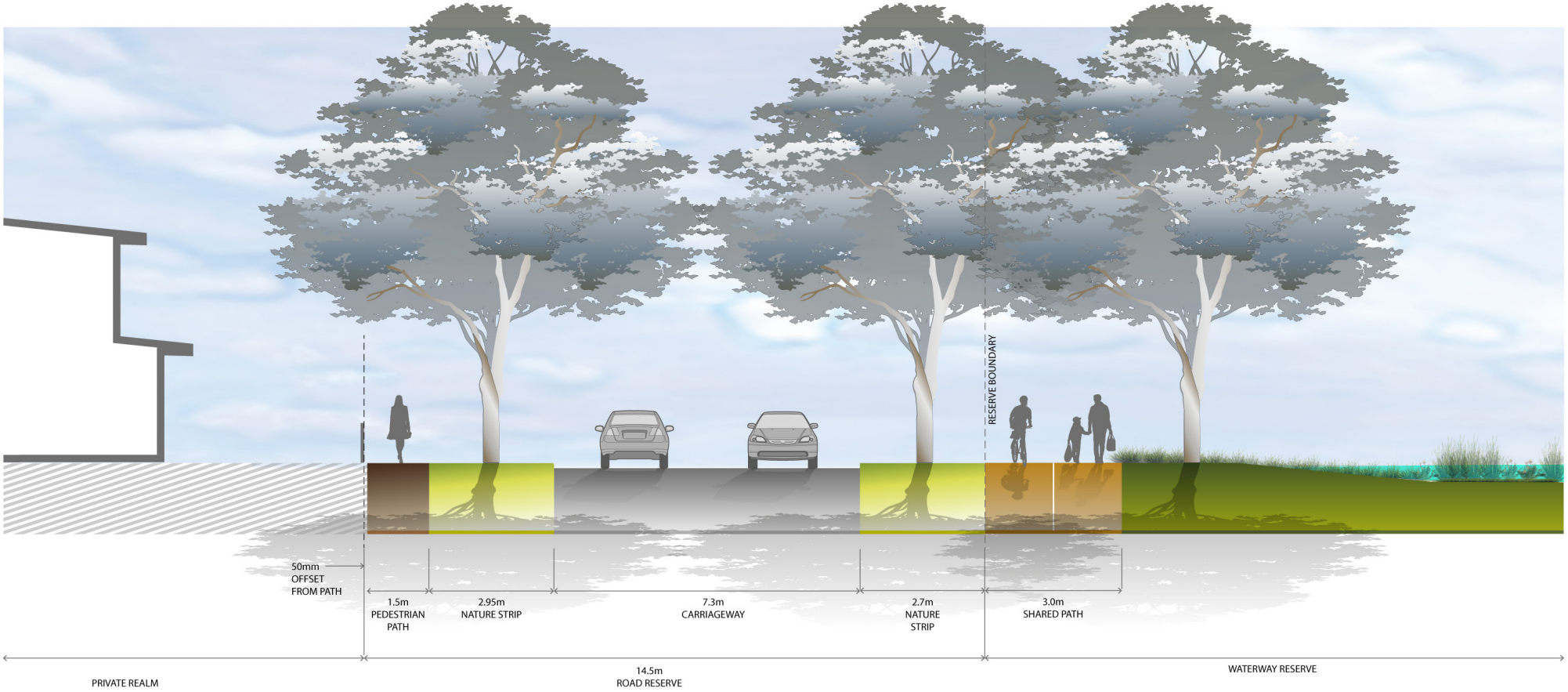
CROSS-SECTION 6



Access Street Level 1 (16.0m)

Standard

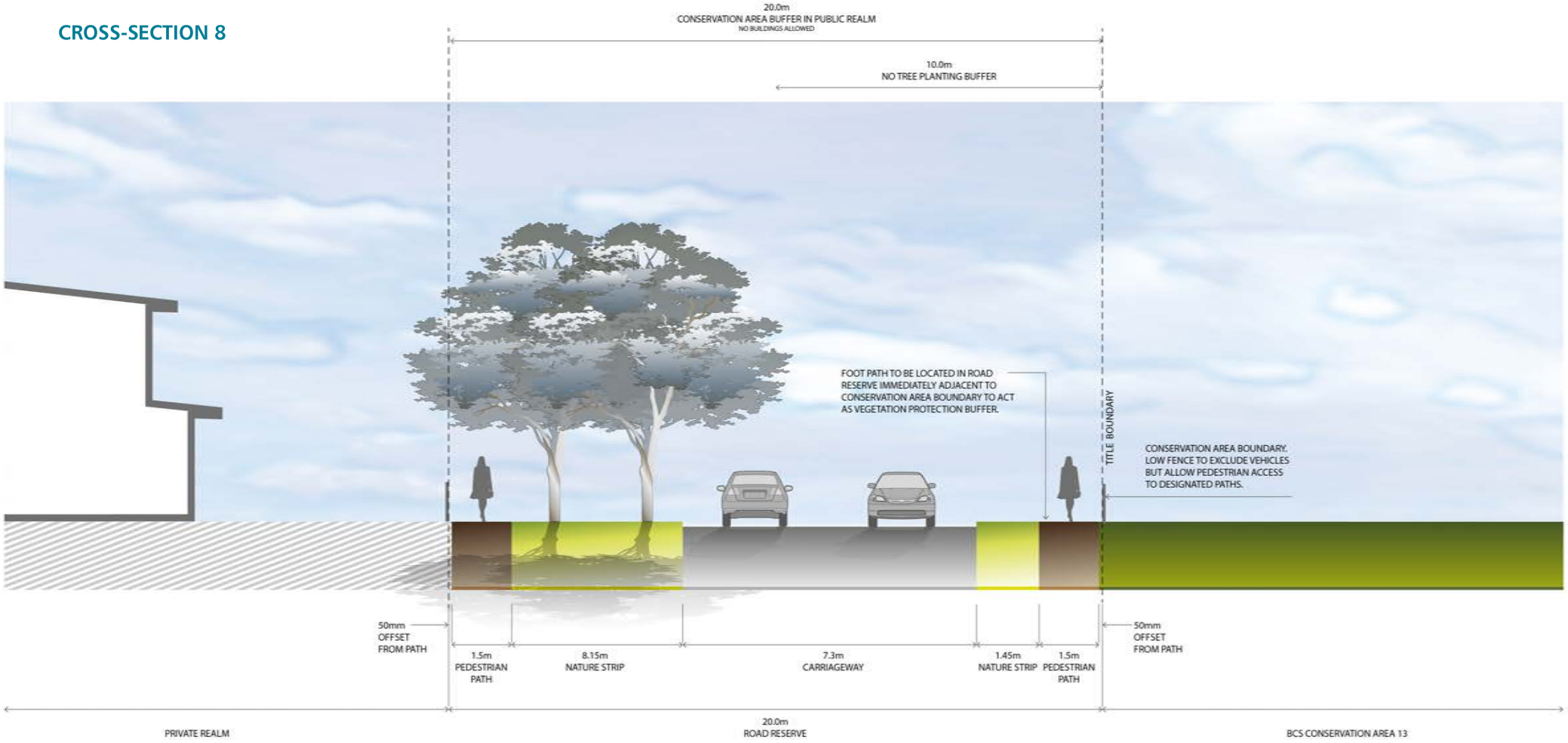
CROSS-SECTION 7



Modified Access Street Level 1 (14.5m)

Adjacent to Waterway

CROSS-SECTION 8



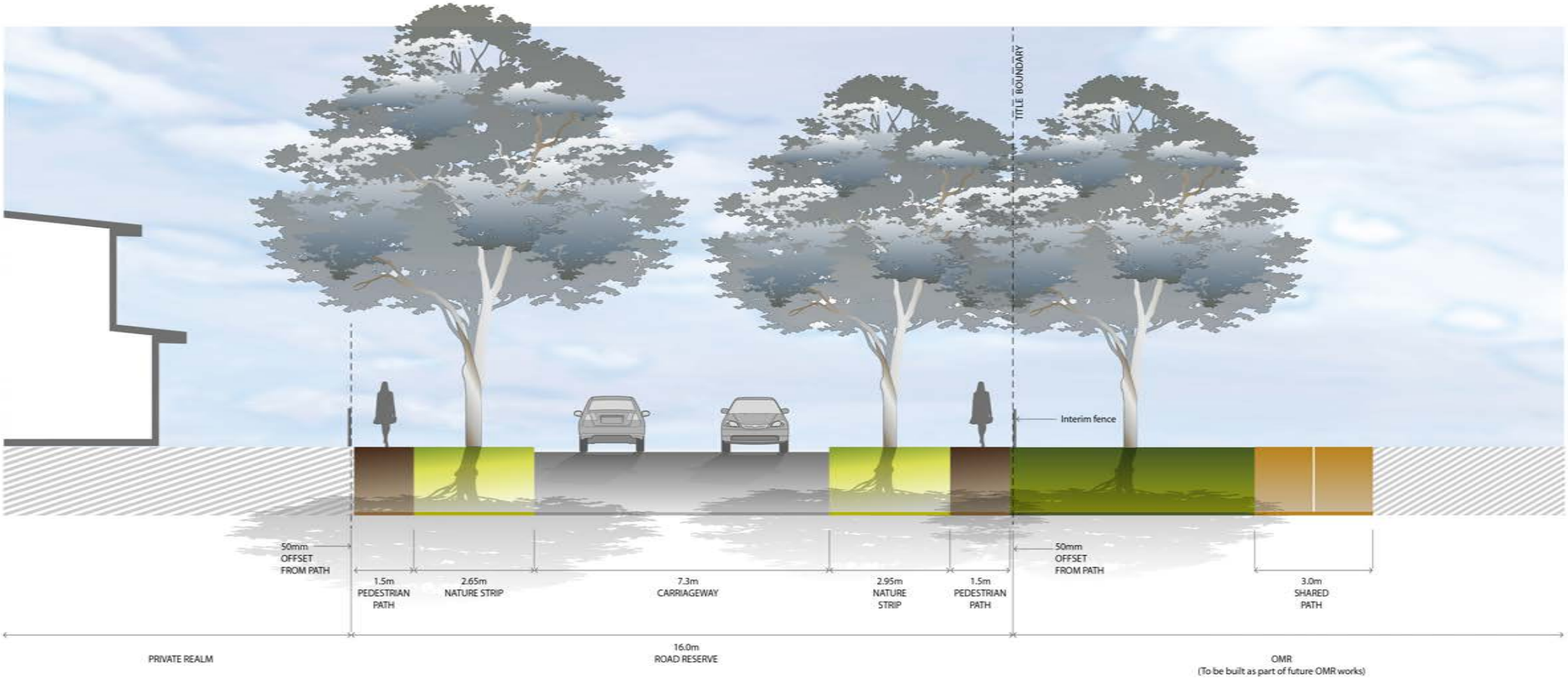
Modified Access Street Level 1 (20.0m)

BCS Conservation Area 13 Interface

Notes

1. Trees should not be planted within 10 metres of the BCS Conservation Area 13 boundary.
2. The BCS Conservation Area 13 must be fenced appropriately to protect biodiversity values to the satisfaction of the Department of Environment, Land, Water, and Planning (DELWP).
3. All necessary fire breaks must be located outside the BCS Conservation Area 13.

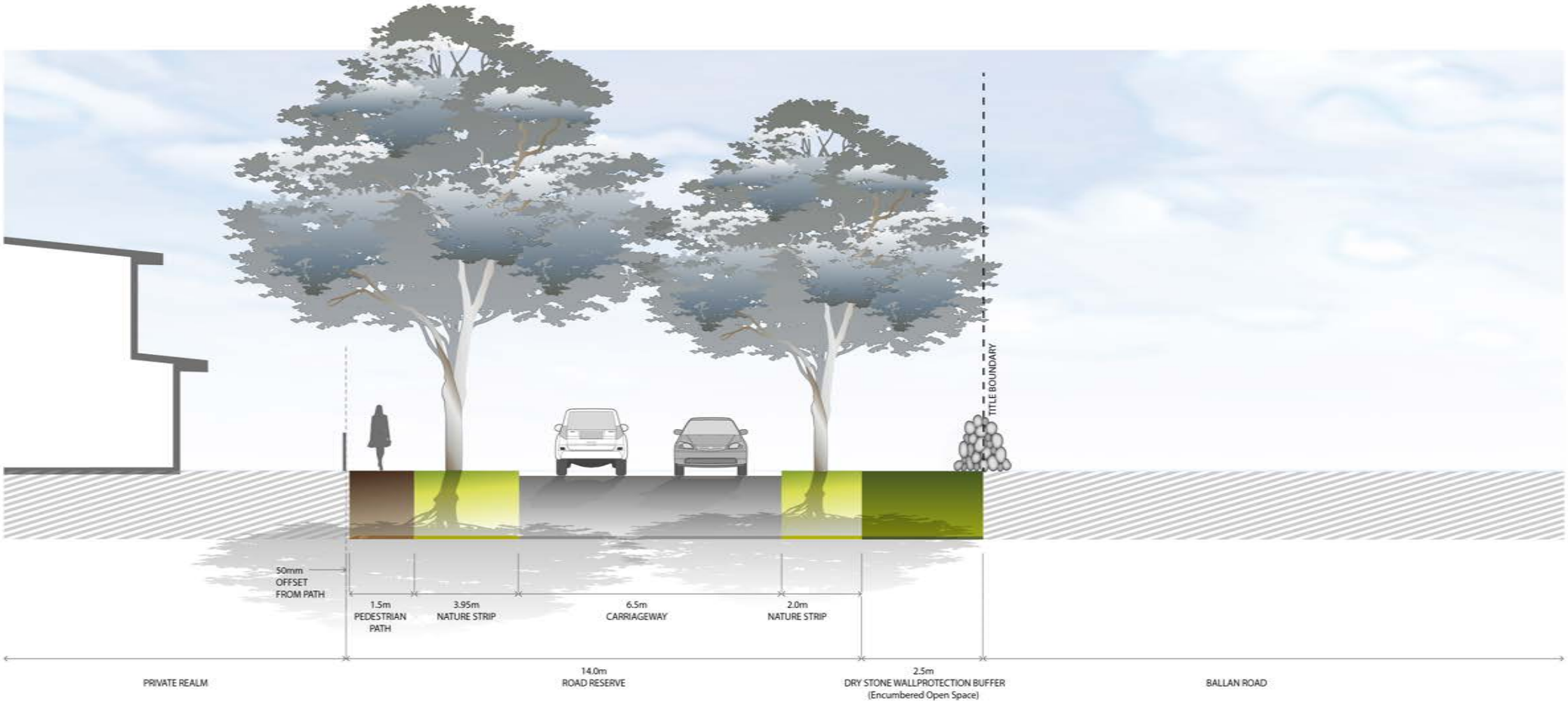
CROSS-SECTION 9



Modified Access Street Level 1 (16.0m)

Adjacent to OMR

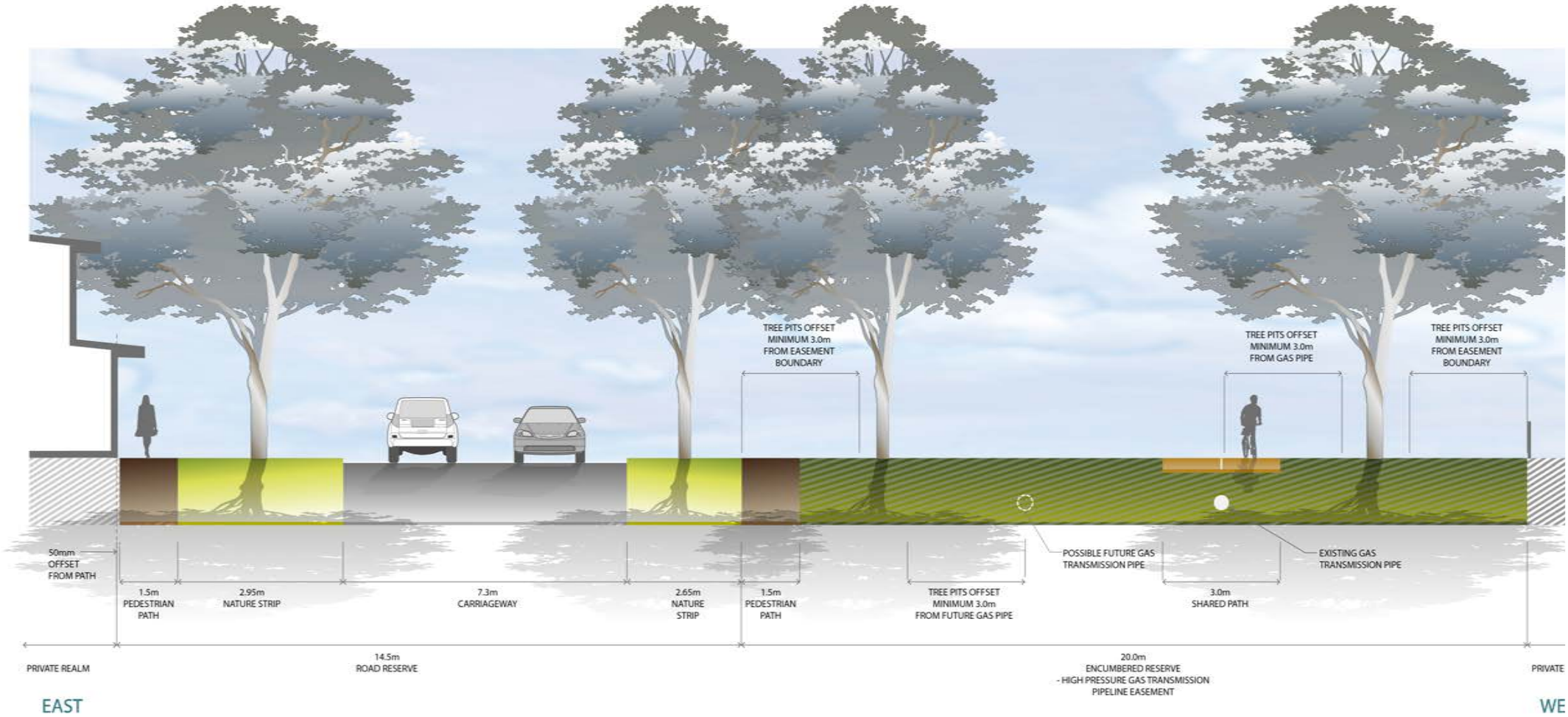
CROSS-SECTION 10



Modified Access Street Level 1 (14.0m)

Adjacent to Dry Stone Wall and Arterial Road

CROSS-SECTION 11

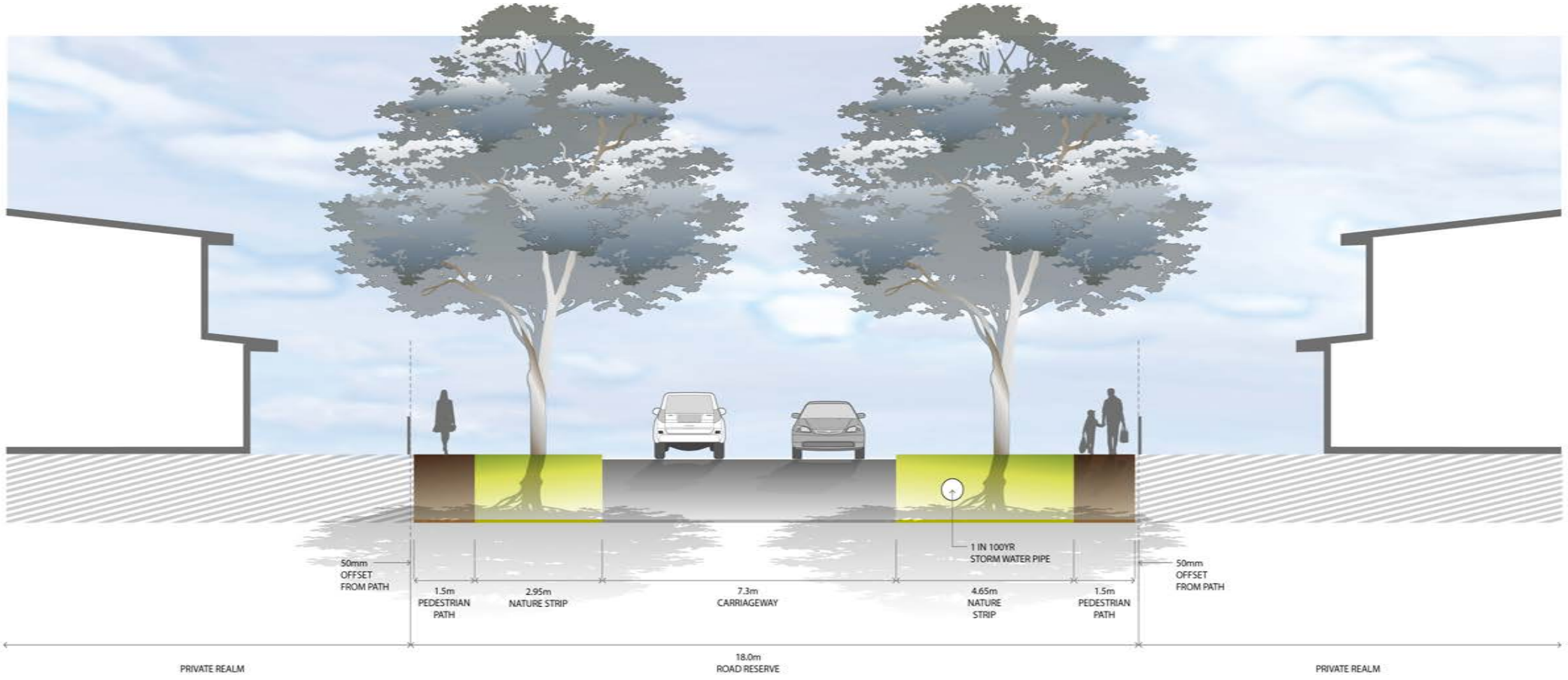


**NB: Gas easement cross section to apply to residential lots east of the creek only.
Any landscape plan concerning the high pressure gas transmission pipeline easement must be submitted to and endorsed by the operator of the high pressure gas transmission pipeline.**

Modified Access Street Level 1 (14.5m)

Adjacent to Gas Easement

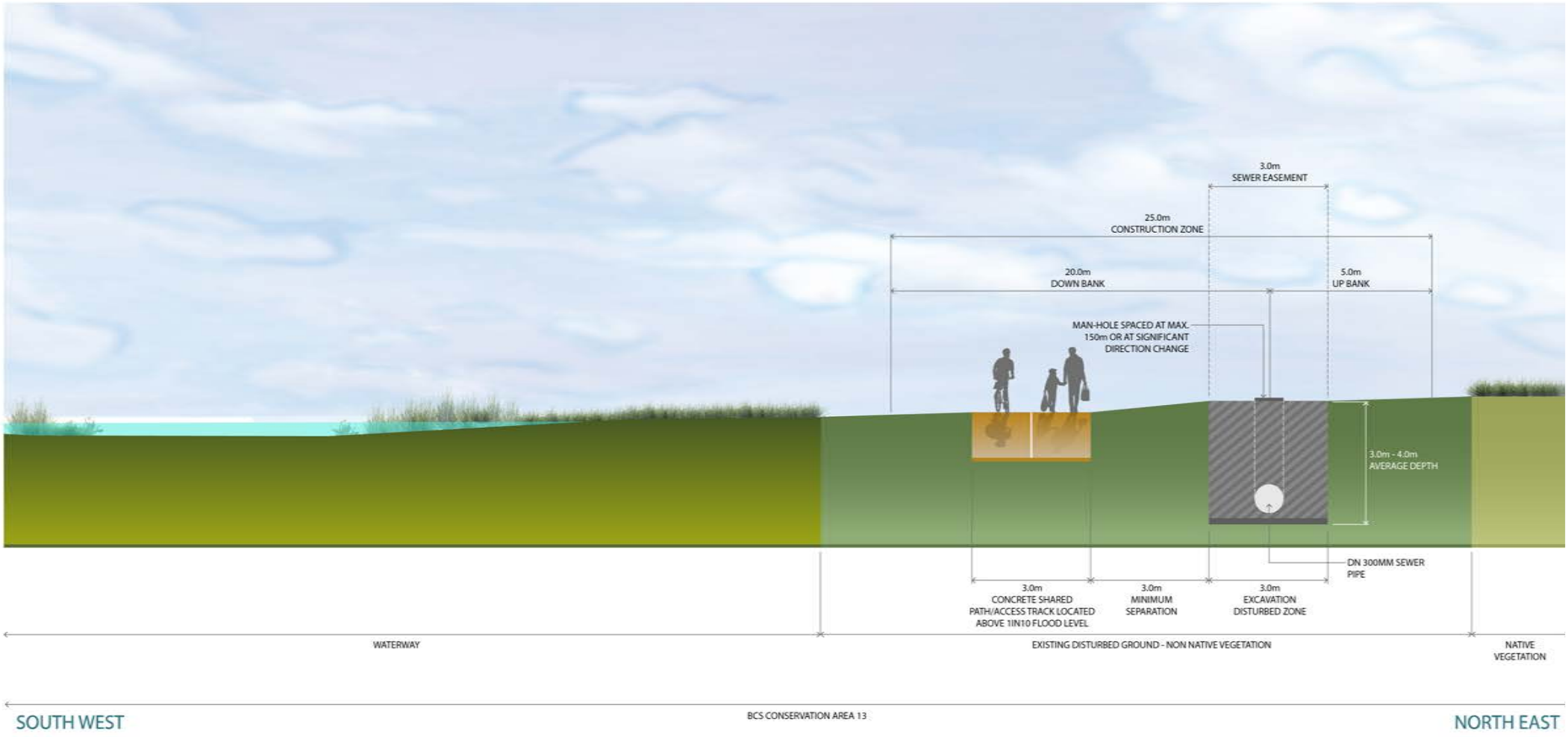
CROSS-SECTION 12



Modified Access Street Level 1 (18.0m)

1 in 100 Year Storm Water Pipe

CROSS-SECTION 13



NB: Cross-section is indicative only. Any proposed development or works within Conservation Area 13 requires the approval of the Department of Environment, Land, Water & Planning. Any proposed development or works within the Waterway Corridor requires the approval of Melbourne Water.

Shared Path & Sewer

Through BCS Conservation Area 13

4.3 APPENDIX C - Service placement guidelines

Figures 003 and 004 in the *Engineering Design and Construction Manual for Subdivision in Growth Areas* (April 2011) outline placement of services for a typical residential street environment. This approach is appropriate for the majority of the 'standard' street cross sections outlined in *Appendix A* containing grassed nature strips, footpaths and road pavements. For all other situations refer to the service placement guidance provided in *Table 7* below.

Table 7. Preferred service placement locations

	UNDER PEDESTRIAN PAVEMENT	UNDER NATURE STRIPS	DIRECTLY UNDER TREES[1]	UNDER KERB	UNDER ROAD PAVEMENT[2]	WITHIN ALLOTMENTS	NOTES
SEWER	Possible	Preferred	Possible	No	Possible	Possible[3]	
POTABLE WATER	Possible[4]	Preferred	Possible	No	Possible	No	Can be placed in combined trench with gas
RECYCLED WATER	Possible[4]	Preferred	Possible	No	Possible	No	
GAS	Possible[4]	Preferred	Possible	No	No	No	Can be placed in combined trench with potable water
ELECTRICITY	Possible[4]	Possible	Possible	No	No	No	Pits to be placed either fully in footpath or nature strip
FTTH / TELCO	No	Possible	Possible	No	No	No	Pits to be placed fully in nature strip.
DRAINAGE	Possible	Possible	Possible	Preferred	Preferred	Possible[3]	
TRUNK SERVICES	Possible	Possible	Possible	Possible	Preferred	No	

TABLE NOTES

1. Trees are not to be placed directly over property service connections.
2. Placement of services under road pavement is to be considered when service cannot be accommodated elsewhere in road reserve. Placement of services beneath edge of road pavement/parking bays is preferable to within traffic lanes.
3. Where allotment size/frontage width allows adequate room to access and work on a pipe.
4. Where connections to properties are within a pit in the pedestrian pavement/ footpath.

General principles for service placement

- Place gas and water on one side of road, electricity on the opposite side.
- Place water supply on the high side of road.
- Place services that need connection to adjacent properties closer to these properties.
- Place trunk services further away from adjacent properties.
- Place services that relate to the road carriageway (e.g. drainage, street light electricity supply) closer to the road carriageway.
- Maintain appropriate services clearances and overlap these clearances wherever possible.
- Services must be placed outside of waterways/environmental based recreation areas to avoid disturbance to vegetation values.


wyndhamcity
city. coast. country