Cardinia Creek South

Precinct Structure Plan

March 2018

Victorian Planning Authority

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Cardinia Creek South Precinct Structure Plan

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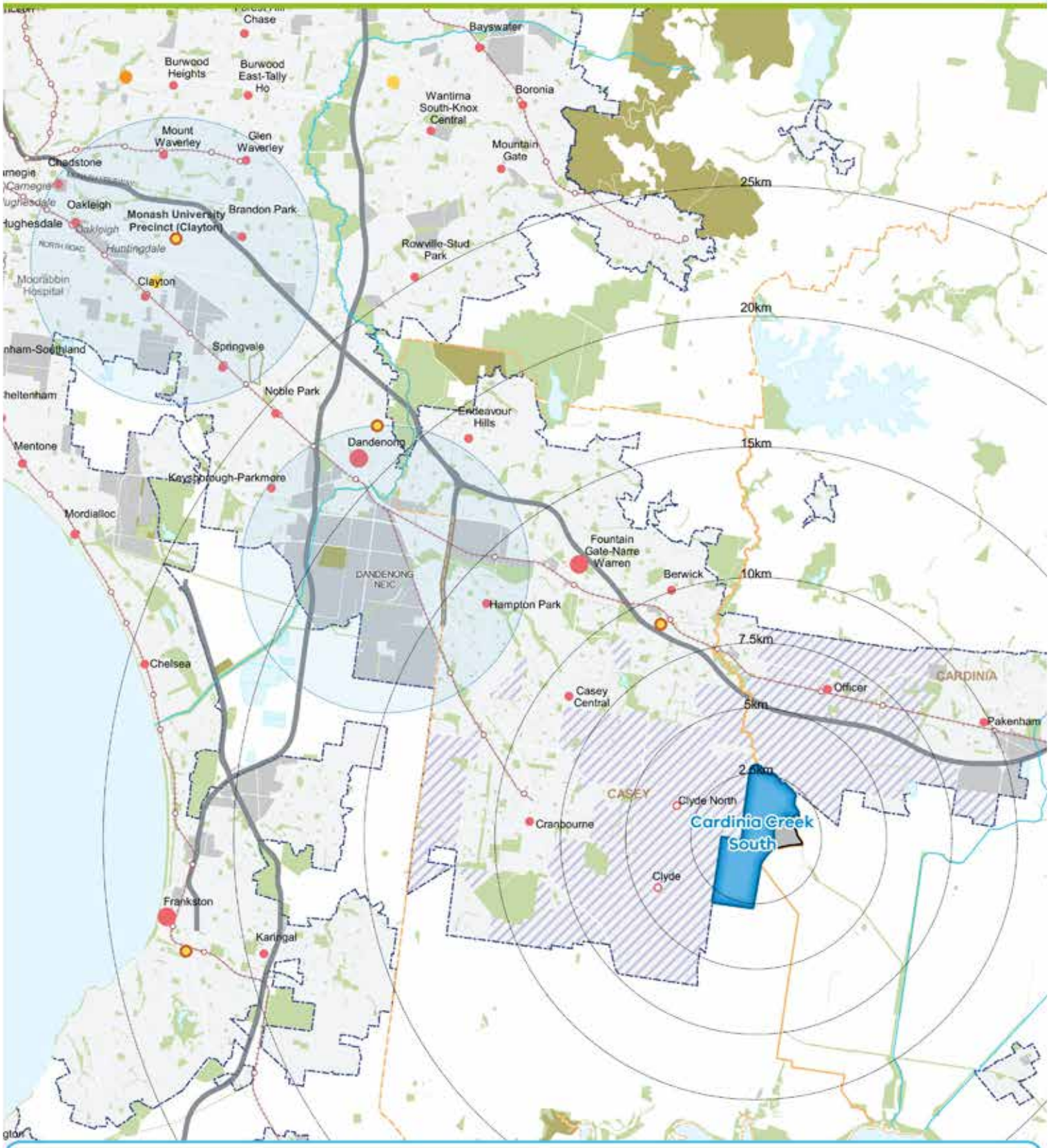

Adapted from source: Plan Melbourne 2017 - 2050 (Department of Environment, Land, Water and Planning, 2017)

- precinct boundary
- Part 2 under investigation
- urban growth boundary
- central business district
- local government area boundary
- urban area
- growth area
- industrial area - existing
- public open space
- waterway
- national employment and innovation cluster
- metropolitan activity centre
- major activity centre - existing
- major activity centre - emerging
- education precinct
- health precinct
- health/education precinct
- state significant growth corridor
- train line
- train station

1.0 INTRODUCTION

The Cardinia Creek South Precinct Structure Plan – Part 1 (the PSP) has been prepared by the Victorian Planning Authority (VPA) with the assistance of the City of Casey, Victorian Government agencies, service authorities and major stakeholders. During the preparation of the PSP it was formerly known as the McPherson PSP.

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 guidelines
- enables the transition of non-urban land to urban land
- sets the vision for how the land should be developed, illustrates the future urban structure and describes the outcomes to be achieved by future development
- outlines the projects required to ensure that the future community, visitors and workers within the area can be 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, 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:

- State Planning Policy Framework set out in the *Casey Planning Scheme.*
- Local Planning Policy Framework set out in the *Casey Planning Scheme*.
- *Growth Corridor Plans: Managing Melbourne's Growth* (Growth Areas Authority, June 2012).
- *Cardinia Creek South Infrastructure Contributions Plan* (the ICP) which sets out the requirements for development proponents to make a contribution toward infrastructure required to support the development of the precinct.
- *The Biodiversity Conservation Strategy and Sub-Regional Species Strategies for Melbourne's Growth Areas* (Department of Environment and Primary industries, 2013).[1]
- The *State Environment Protection Policy (Waters of Victoria)* made under the provisions of the *Environment Protection Act 1970*.

The following planning documents have been developed in parallel with the PSP to inform and direct the future planning and development of the Precinct:

- The *Cardinia Creek South Infrastructure Contributions Plan* (ICP) that requires development proponents to make a contribution toward infrastructure required to support the development of the precinct
- The *McPherson (Cardinia Creek South) Key Issues Paper* (Background Reports)
- *Conservation Area Concept Plan for Cardinia Creek and Clyde Creek– Conservation Area 36 – GGF Corridors (South-eastern)* which sets out the management requirements for the area protected for the Growling Grass Frog, Australian Grayling and Dwarf Galaxis.

1 On 8 July 2010 an approval under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) was issued by the Commonwealth Minister for Environment, Heritage and the Arts. The approval applies to all actions associated with urban development within the 28 precincts identified in page 17 (Map 7) in Delivering Melbourne's Newest Sustainable Communities Program Report (Victoria Government, December 2009). The Commonwealth approval has effect until 31 December 2060. The approval is subject to conditions specified at Annexure 2 of the approval. The Commonwealth Minister has confirmed that for specified precincts, including this precinct, compliance with the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Department of Environment and Primary Industries, 2013) will satisfy the requirements of the conditions specified at Annexure 2.

Provided the conditions of the EPBC Act approval are satisfied individual assessment and approval under the EPBC Act is not required.

Plan 1 - Precinct Location & Features

Cardinia Creek South Precinct Structure Plan

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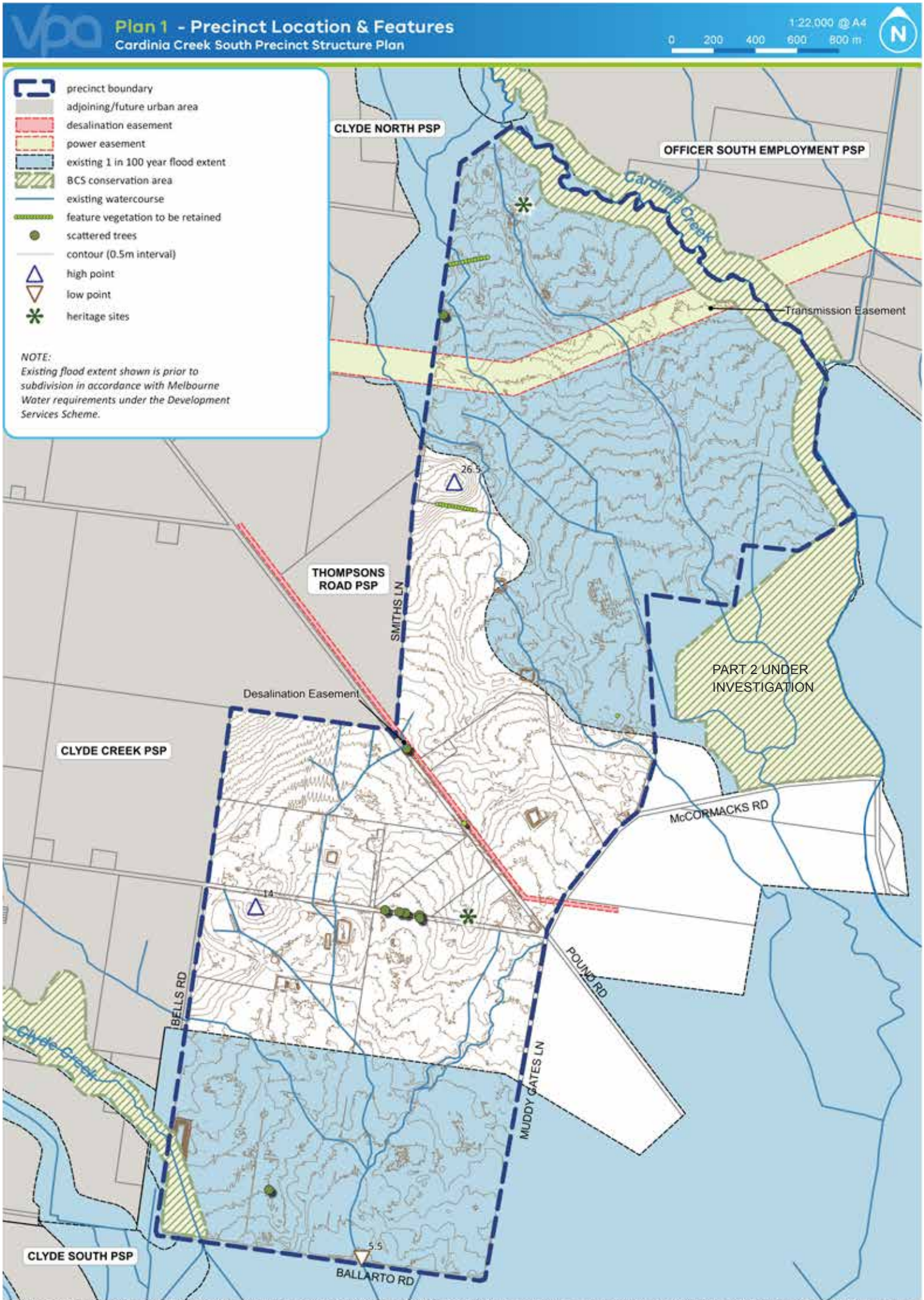

1.1 How to read this document

This structure plan guides land use and development where a planning permit is required under the Urban Growth Zone or any other provision of the *Casey Planning Scheme* that references this structure plan.

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

Each element of the precinct structure plan 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 structure plan. A requirement may 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.

Development that meets these **Requirements** and **Guidelines** will be considered to implement the outcomes of the PSP.

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

Not every aspect of the land use, development or subdivision is addressed in this structure plan. A responsible authority may manage development and issue permits as guided by the relevant planning scheme provisions.

In this precinct structure plan:

- "GGF Conservation Area" has the same meaning as that part of "Conservation Area 36, Growling Grass Frog (GGF) Corridors" shown along Cardinia Creek and Clyde Creek
- Reference to the Cardinia Creek Corridor or Clyde Creek Corridor means the whole of the creek corridor, including the GGF Conservation Area.

1.2 Land to which this PSP applies

The Cardinia Creek South PSP Part 1 applies to an area of approximately 848 ha in the City of Casey as shown on Plan 1 and on *Casey Planning Scheme* maps as Schedule 12 to the Urban Growth Zone. The Cardinia Creek South Part 2 is currently under investigation and will provide for a further 104 ha, resulting in a combined total area of 952 ha.

The PSP is generally defined by Cardinia Creek in the north, Ballarto Road in the south, from Smiths Lane and the future Bells Road in the west and Muddy Gates Lane, McCormacks Road and Cardinia Creek in the east.

Plan 1 identifies the existing natural features of the precinct. Limited vegetation exists across the land. Topography is generally flat with the exception of the banks of Cardinia Creek, which forms a vegetated buffer at the edge of the PSP. As a green corridor, Cardinia Creek dominates the local landscape and provides strong opportunities for regional open space connections.

A high voltage electricity transmission easement traverses the northern section of the precinct from Smiths Lane in the west to Cardinia Creek in the east. A desalination pipeline also bisects the PSP adjacent to the northern boundary of Pound Road.

The planned extension of Thompsons Road will be delivered through the development of the precinct with the reservation of land for its construction into the precinct provided via the Cardinia Creek South ICP.

Plan 2 - Future Urban Structure

Cardinia Creek South Precinct Structure Plan

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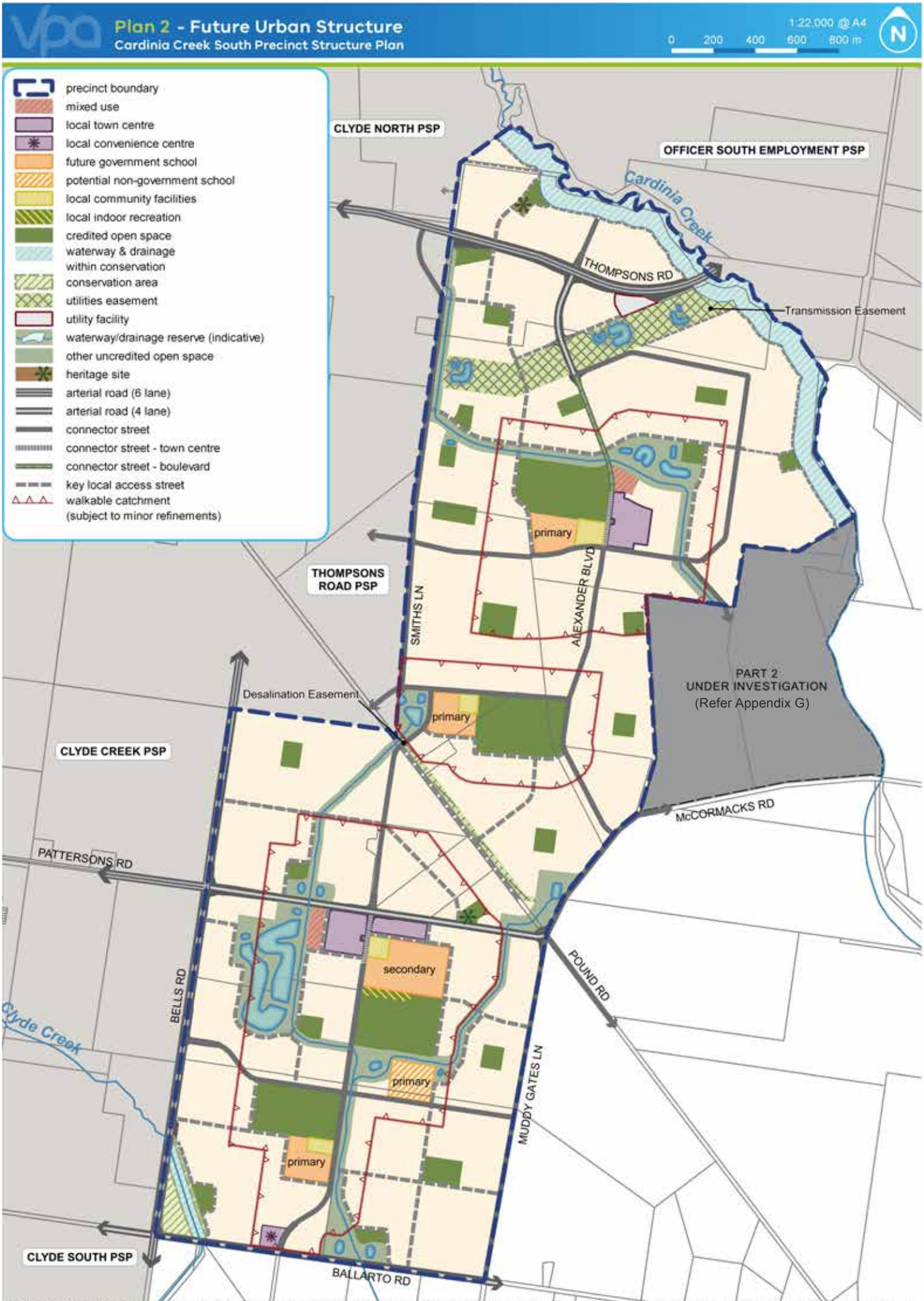


1.3 Infrastructure Contributions Plan

Development proponents within the Cardinia Creek South Precinct are bound by the *Cardinia Creek South Infrastructure Contributions Plan* (the ICP), incorporated in the *Casey Planning Scheme*. The ICP sets out requirements for infrastructure funding across this precinct.

1.4 Background Information

Detailed background information about the precinct is available including its local and metropolitan context, history, biodiversity, landform, drainage, topography, open space and community facilities. This information is provided in the Cardinia Creek South Background Reports and has informed the preparation of the PSP.

2.0 OUTCOMES

2.1 Vision

Cardinia Creek South PSP will deliver a discrete, walkable neighbourhood within a sustainable riverine environment. The strong open space trail network, bookended by Cardinia and Clyde Creeks, will create a distinct, cohesive, urban character. Benefitting from the adjacent Thompsons Road business investment and state significant industrial precinct in Cardinia, the future community will have broad ecological, social and economic regional connections.

The precinct will ultimately support a residential community of approximately 10,030 dwellings and a population of around 28,100 people, and deliver around 1,600 local jobs.

The future urban structure for Cardinia Creek South reflects the residential nature of the precinct, and provides for the protection of biodiversity and heritage values in the area. The prominent landform of the region, Cardinia Creek, forms the pivotal riparian, recreational and environmental corridor in this future urban area.

The significant biodiversity that exists within Cardinia Creek has been recognised through the conservation and enhancement of the Growling Grass Frog (GGF) habitat area. Planning for the PSP has integrated stormwater drainage design, open space and trail networks with opportunities for GGF breeding ponds and foraging areas. The GGF conservation areas along Cardinia Creek and Clyde Creek will also provide sub-regional locations for the preservation of Aboriginal cultural heritage sites.

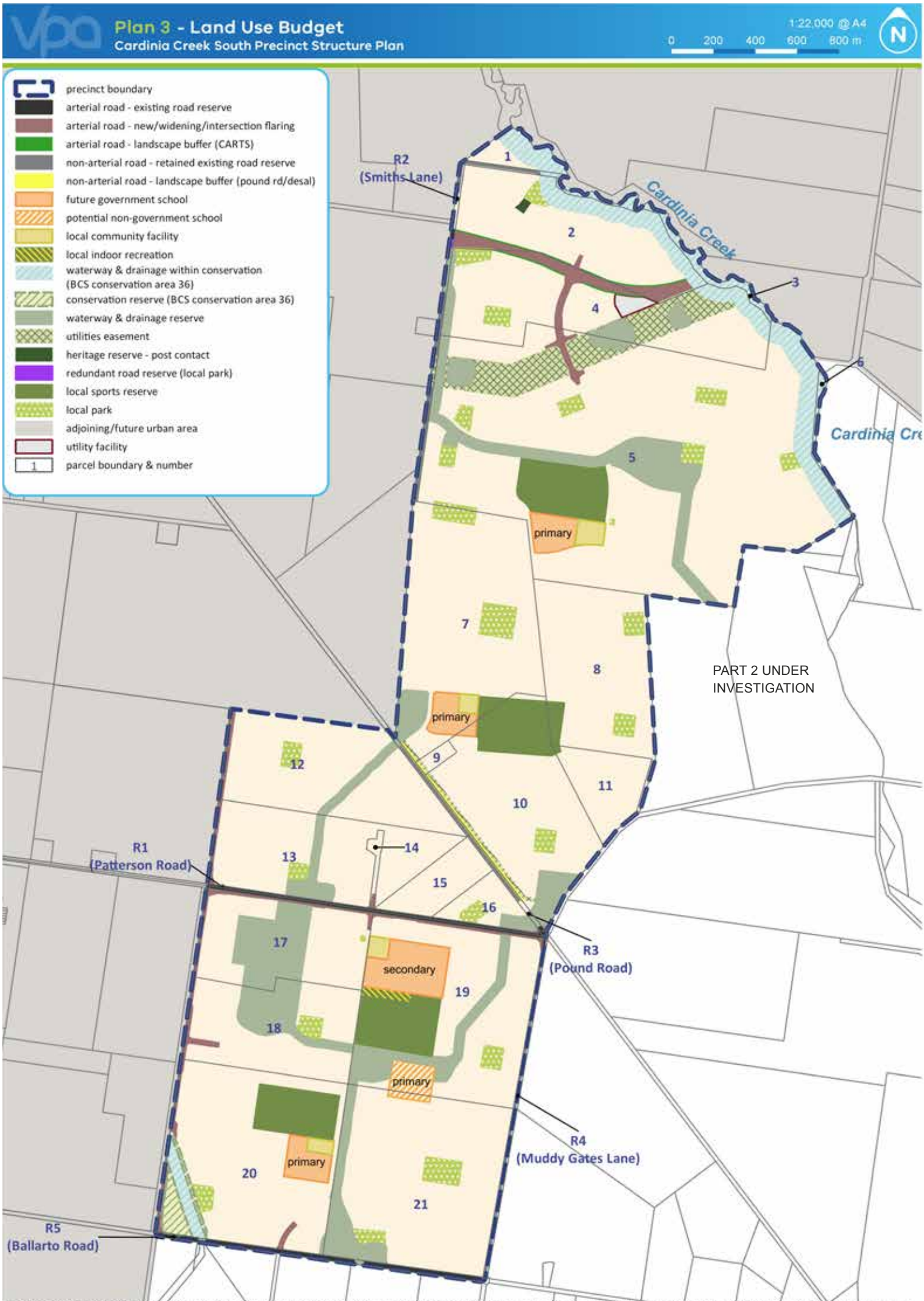
2.2 Objectives

IMAGE, CHARACTER, HERITAGE & HOUSING	
O1	Achieve a diversity of streetscape and open space outcomes to enhance local character and amenity.
O2	Establish a landscape of connecting canopies along streets, parks and waterways.
O3	Deliver a minimum of 10,030 new homes (16.7 dwellings / Net Developable Hectare overall precinct average).
O4	Recognise the history, heritage and character of the Clyde area in a new urban environment that identifies and retains European and Aboriginal cultural heritage elements within the precinct.
O5	Create an urban landscape that integrates with the existing biodiversity, cultural heritage, drainage and landscape values within the precinct and throughout the Cardinia Creek and Clyde Creek Conservation Areas.
O6	Ensure medium and high density development is prioritised within a walkable catchment of high amenity areas and public transport.
O7	Promote housing choice through the delivery of a range of lot sizes capable of accommodating a variety of dwelling types.
TOWN CENTRES & EMPLOYMENT	
O8	Develop local employment opportunities to meet the needs of existing and future residential populations.
O9	Develop town centres, with a civic focus and robust form that will adapt and evolve with the community over time.
O10	Ensure the design of town centres is conducive to a range of commercial enterprises including start-up, small, and home-based businesses.
O11	Encourage the provision of local convenience retail without compromising the functions and roles of nearby town centres.
OPEN SPACE, COMMUNITY FACILITIES & EDUCATION	
O12	Deliver an integrated and linked network of local parks, sports reserves and community infrastructure that meet the needs of the new community.
O13	Provide for non-government school site(s) to meet a strategically justified need for non-government education in the area.

BIODIVERSITY, THREATENED SPECIES & BUSHFIRE MANAGEMENT	
O14	Plan for the long term conservation of significant heritage, vegetation and fauna habitat areas in the Cardinia Creek and Clyde Creek Conservation Areas and in the wider precinct.
O15	Ensure that bushfire protection measures are considered in the layout and development of the local street network.
TRANSPORT & MOVEMENT	
O16	Establish an integrated and permeable transport network that encourages public transport use, walking and cycling, reduced car dependency and maximises safety and connectivity for all road users.
O17	Encourage a high-amenity street network by integrating natural and heritage features in street alignments and design.
O18	Create a range of off-street pedestrian, cycle and equestrian links that promote the use of existing utility easements and waterways as green transport links.
O19	Provide strong external connections to the surrounding transport network to foster accessibility of the precinct.
O20	Ensure that development adjoining Thompsons Road does not affect its function within the Principle Freight Network and is appropriately designed to protect urban amenity.
INTEGRATED WATER MANAGEMENT & UTILITIES	
O21	Deliver an integrated water management system that reduces reliance on reticulated potable water, increases the re-use of alternative water, minimises flood risk, ensures waterway health, and contributes to a liveable, sustainable and green environment.
O22	Protect environments of Western Port downstream of precinct through mitigating the impacts of urbanisation.
PRECINCT INFRASTRUCTURE PLAN & STAGING	
O23	Ensure pre-development property structures do not impede the development of integrated neighbourhoods.
O24	Ensure development staging is co-ordinated with the delivery of key local and state infrastructure.

Plan 3 - Land Use Budget

Cardinia Creek South Precinct Structure Plan



2.3 Summary Land Budget

The net developable area (NDA) is established by deducting the land required for major roads, servicing, community facilities and open space from the total precinct area. The estimated NDA for the precinct is 600 hectares, meaning approximately 71% of the total PSP area is available for development.

Based on an average density of 18 dwellings per hectare within the walkable catchments and 16 dwellings per hectare outside the walkable catchments, the Housing Delivery Guide shows the PSP will yield approximately 10,030 dwellings.

The estimated future population of the PSP area has been based on an average household size of 2.8 persons for conventional density housing (based on *Victoria in Future 2012*). On this basis, the future population of the PSP is estimated to be approximately 28,100 residents.

The table below provides a summary of the land area allocated to the various uses identified in the future urban structure.

Table 1 Summary Land Use Budget

DESCRIPTION	CARDINIA CREEK SOUTH PSP		
	HECTARES	% OF TOTAL	% OF NDA
TOTAL PRECINCT AREA (HA)	**848.51**		
Arterial Road – Existing Road Reserve	6.90	0.81%	1.15%
Arterial Road – New / Widening / Intersection Flaring (ICP land)	18.00	2.12%	3.00%
Arterial Road – Landscape Buffer (CARTS)	0.89	0.10%	0.15%
Non-Arterial Road – Retained Existing Road Reserve	6.11	0.72%	1.02%
Non-Arterial Road – Landscape Buffer (btw Gas Easement)	0.57	0.07%	0.09%
Sub-total Transport	32.46	3.8%	5.41%
COMMUNITY & EDUCATION			
Future Government School	18.91	2.23%	3.15%
Potential Non-Government School	3.50	0.41%	0.58%
Local Community Facility (ICP land)	4.10	0.48%	0.68%
Local Indoor Recreation (ICP land)	1.00	0.12%	0.17%
Sub-total Education	27.51	3.2%	4.6%
OPEN SPACE			
SERVICE OPEN SPACE			
Conservation Area 36	3.15	0.37%	0.52%
Waterway and Drainage (Conservation Area 36)	30.91	3.64%	5.15%
Waterway and Drainage Reserve	70.78	8.34%	11.80%
Heritage Reserve – Post Contact	0.35	0.04%	0.06%
Utilities Easements	17.97	2.12%	3.00%
Redundant Road Reserve (Local Park)	0.05	0.01%	0.01%
Sub-total Service Open Space	123.20	14.52%	20.54%
CREDITED OPEN SPACE			
Local Sports Reserve (ICP land)	41.03	4.8%	6.84%
Local Park (ICP land)	23.17	2.7%	3.86%
Sub-total Credited Open Space	64.20	7.6%	10.70%
TOTAL ALL OPEN SPACE	**187.40**	**22.1%**	**31.24%**
OTHER			
Utilities Sub-stations / facilities (acquired by relevant authority)	1.32	0.16%	0.22%
Sub-total Other	1.32	0.16%	0.22%
TOTAL NET DEVELOPABLE AREA (NDA) HA	**599.82**	**70.69%**	

3.0 IMPLEMENTATION

3.1 Image, Character & Housing

3.1.1 Image & Character

REQUIREMENTS	
R1	Street trees must be provided on both sides of all roads/streets (excluding laneways) in accordance with the cross-sections at Appendix C, and at regular intervals appropriate to tree size at maturity and not exceeding the average intervals below unless otherwise agreed by the responsible authority: AVERAGE INTERVAL: 8–10 metres — TREE SIZE: Small trees (less than 10 metre canopy) AVERAGE INTERVAL: 10–12 metres — TREE SIZE: Medium trees (10–15 metre canopy) AVERAGE INTERVAL: 12–15 metres — TREE SIZE: Large trees (Canopy larger than 15 metres)
R2	Trees in parks and streets must be suitable for local conditions and planted in modified and improved soil, as required, to support tree longevity.
R3	Street tree planting must use locally appropriate species and be consistent with any guidance provided on the relevant cross section within this PSP, unless otherwise approved by the responsible authority.
GUIDELINES	
G1	Street networks within subdivisions should be designed to maximise the number of connections, direct views and access to waterways, open space and town centres.
G2	Significant elements of the landscape and built form should be used as focal points for view lines along streets. Elements may include items such as public buildings and topographical landmarks.
G3	Retained significant trees should be located within the public domain and open space network, including parks and road reserves, unless otherwise approved by the responsible authority.
G4	Street tree species should be consistent across neighbourhoods to reinforce movement hierarchy and local character.
G5	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.
G6	Trees in streets and parks should be the largest species appropriate for the available space to facilitate continuous canopy cover.

Plan 4 - Image, Character, Heritage & Housing

Cardinia Creek South Precinct Structure Plan

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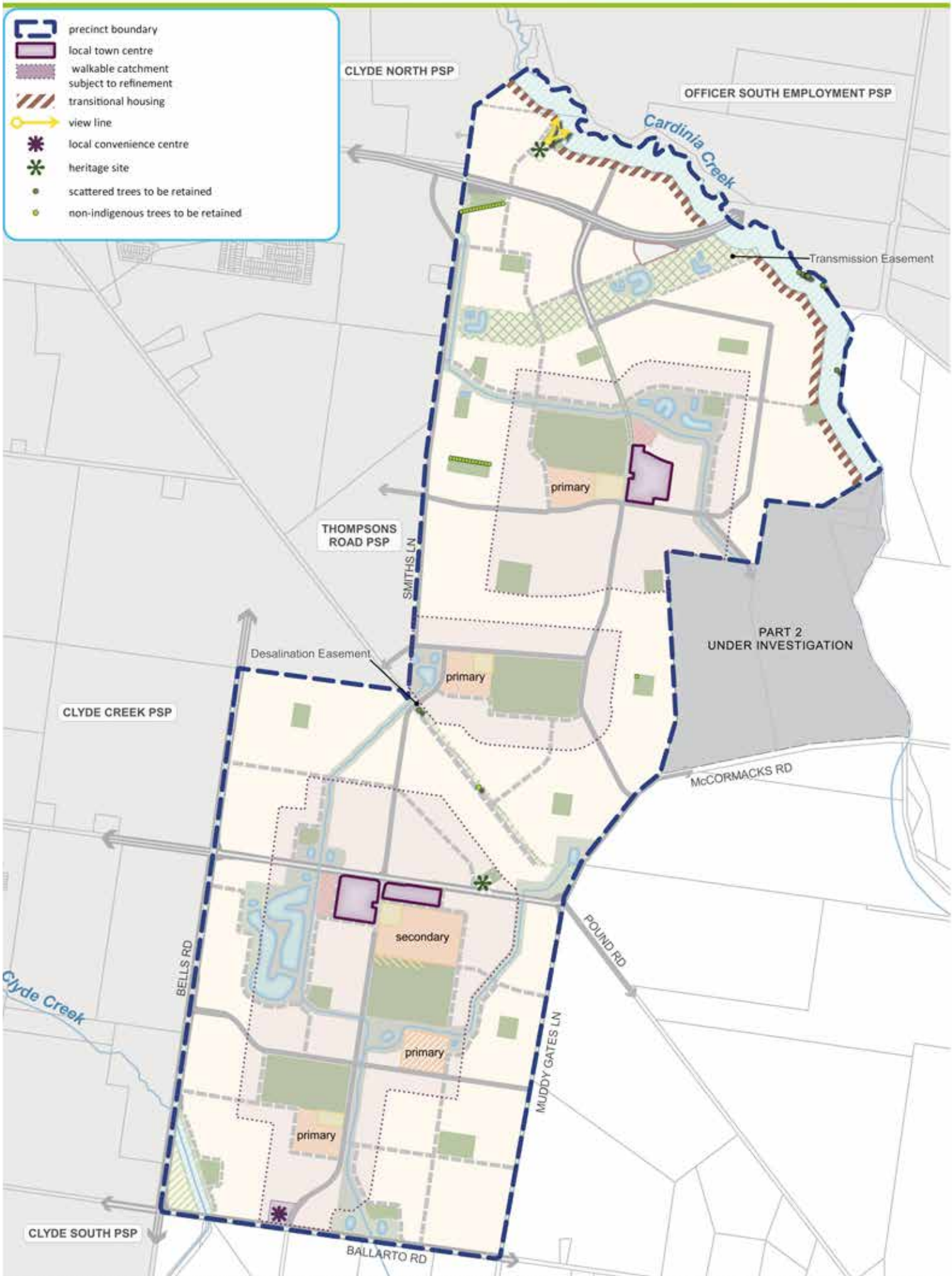
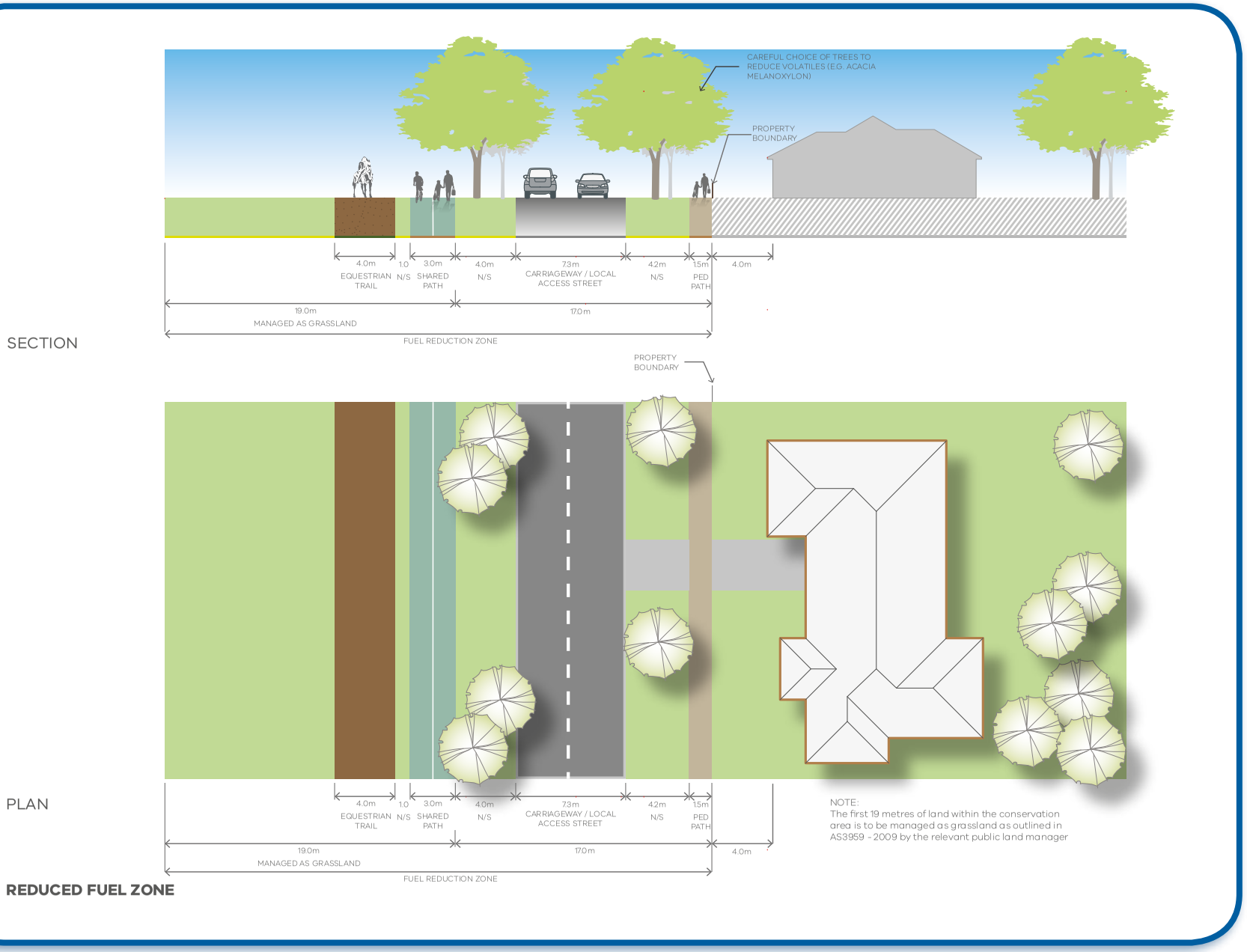


3.1.2 Housing

REQUIREMENTS	
R4	Subdivision of land within walkable catchments shown on Plan 4, which typically comprises residential land within: • 400m of local town centres • 200m of community hubs • 100m of local convenience centres, must create lots suitable for delivery of medium or high density housing as outlined in Table 2, and achieve a minimum average density of 18 dwellings per net developable hectare. Applications for subdivision must demonstrate how the target densities can be achieved over time, to the satisfaction of the responsible authority.
R5	Lots must front (including frontage road and direct frontage/rear loaded outcomes) or side: • BCS conservation areas. • waterways and public open space. • local access streets. • connector roads. • arterial roads.
R6	Subdivision applications must 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 spaces and waterways. • Safe and effective vehicle and pedestrian access and internal circulation, as appropriate.
R7	Development directly opposite the Cardinia Creek riparian corridor as shown on Plan 4, must consist of large allotments to provide a transition in housing density (i.e. transitional housing) between this natural riparian/ conservation environment and the future urban environment.
R8	Development within the transitional housing area must consist of lots with a minimum average area of 500sqm and dwellings must be provided with a front setback of at least of 4 metres.
R9	Transitional housing must front Cardinia Creek in accordance with Figure 1 and cross-section 12 in Appendix C. Lots fronting Cardinia Creek Conservation Area are to have no front fence and side fences are to be no greater than 1.2 metres within the first 3 metres of the lot.
GUIDELINES	
G7	Residential subdivisions should provide a broad range of lot sizes capable of accommodating a variety of housing types as described in Table 2.
G8	Specialised housing forms such as retirement living or aged care should be: • integrated into the wider urban structure. • located within walkable catchments shown on Plan 4. • accessible by public transport.
G9	The shared path shown within the transitional housing road section may be located within the road reserve, to increase the road reserve to 20m, subject to the approval of the responsible authority.

Figure 1 Transitional Housing



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.

Table 2 Housing type by lot size

INDICATIVE HOUSING TYPE	TYPICAL LOT SIZE (M^2)		
	LESS THAN 300m^2	301–600m^2	MORE THAN 600m^2
Small Lot Housing including townhouses, terraces and attached, semi-detached and detached houses (including shop-top)	✓		
Dual occupancies, duplexes	✓	✓	✓
Detached houses		✓	✓
Multi-unit housing sites including terraces, row houses and villas		✓	✓
Stacked housing including apartments, shop-top living and walk up flats			✓

Table 3 Housing Delivery Guide

RESIDENTIAL TYPE	DWELLINGS /NDHA	DWELLINGS
Residential within walkable catchment	18.0	3,528
Residential outside walkable catchment	16.0	6,089
Residential outside walkable catchment – Transitional Housing	14.0	142
Mixed Use	25.0	60
Town Centre	20.0	215
TOTALS RESIDENTIAL YIELD AGAINST NDA	16.7	10,033

3.1.3 Heritage

REQUIREMENTS	
R10	Any subdivision and/or development of land surrounding a heritage site identified under the Heritage Overlay in the *Casey Planning Scheme* must have regard to the heritage significance of the site and provide a sensitive development response.
R11	Development of land close to heritage sites identified under the Heritage Overlay in the *Casey Planning Scheme* must ensure that the elements of heritage significance become a prominent component of the urban structure.
R12	Development of parks, streets, and shared paths within or adjacent to a heritage site identified under the Heritage Overlay in the *Casey Planning Scheme* must not adversely affect the significance of the heritage place.
R13	Identified areas of high sensitivity for Aboriginal cultural heritage within the Cardinia Creek and Clyde Creek corridors as shown on Figure 2 must generally be retained and left undisturbed, while also allowing for drainage works to be undertaken in accordance with the Development Services Schemes prepared by Melbourne Water for the precinct. Drainage works within the BCS conservation areas must be minimal and to the satisfaction of DELWP.
GUIDELINES	
G10	Works for drainage infrastructure and conservation purposes within areas of high sensitivity for aboriginal cultural heritage in the Cardinia Creek and Clyde Creek corridors as shown on Figure 2, should minimise disturbance of the creek corridors.

3.2 Town Centres & Employment

Table 4 Town Centre Hierarchy

TOWN CENTRE	RETAIL FLOOR SPACE	COMMERCIAL FLOOR SPACE	LOCATION AND USES
Alexander Boulevard Town Centre	8,000 m^2	3,000 m^2	Located to service the entire community east of Smiths Lane and north of Pound Road within the precinct. Should include a range of community uses, retail, business, and residential uses.
Pattersons Road Town Centre	8,000 m^2	3,000 m^2	Located to service residents south of Pound Road within the precinct. This centre will also service a broader rural community due to its location on Pattersons Road. Should include a range of community uses, retail, commercial, service businesses and residential uses.
Ballarto Road Local Convenience Centre	1,500 m^2	300 m^2	Located to service residents at the edge of the precinct and a broader rural community due to its location on Ballarto Road.

Table 5 Anticipated Employment Creation

LAND USE	MEASURE	JOBS	QUANTITY IN PSP	ESTIMATED JOBS
Council kindergarten	Jobs/centre	10	3	30
Community centre	Jobs/centre	10	2	20
Government primary school	Jobs/school	40	3	120
Government secondary school	Jobs/school	90	1	90
Non-government primary school	Jobs/school	40	1	40
Local town centres (retail and commercial)	Jobs/centre	367	2	734
Local convenience centre	Jobs/centre	50	1	50
Private child care centre	Jobs/100 places	15	2	30
Home-based business	Jobs/dwelling	0.05	10,030	501
Total estimated				1,615

Figure 2 Aboriginal Cultural Heritage Clyde Sub-corridor

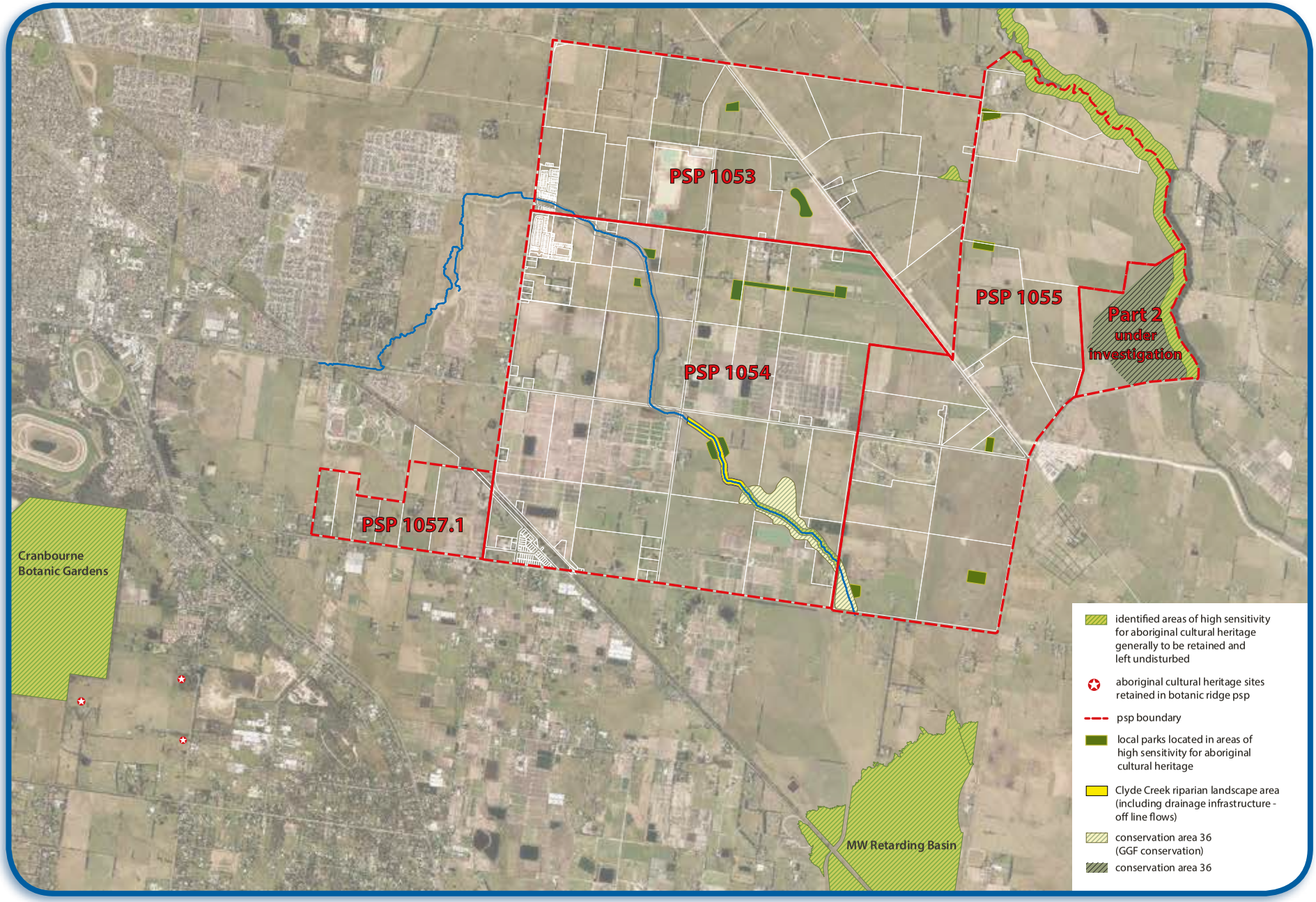
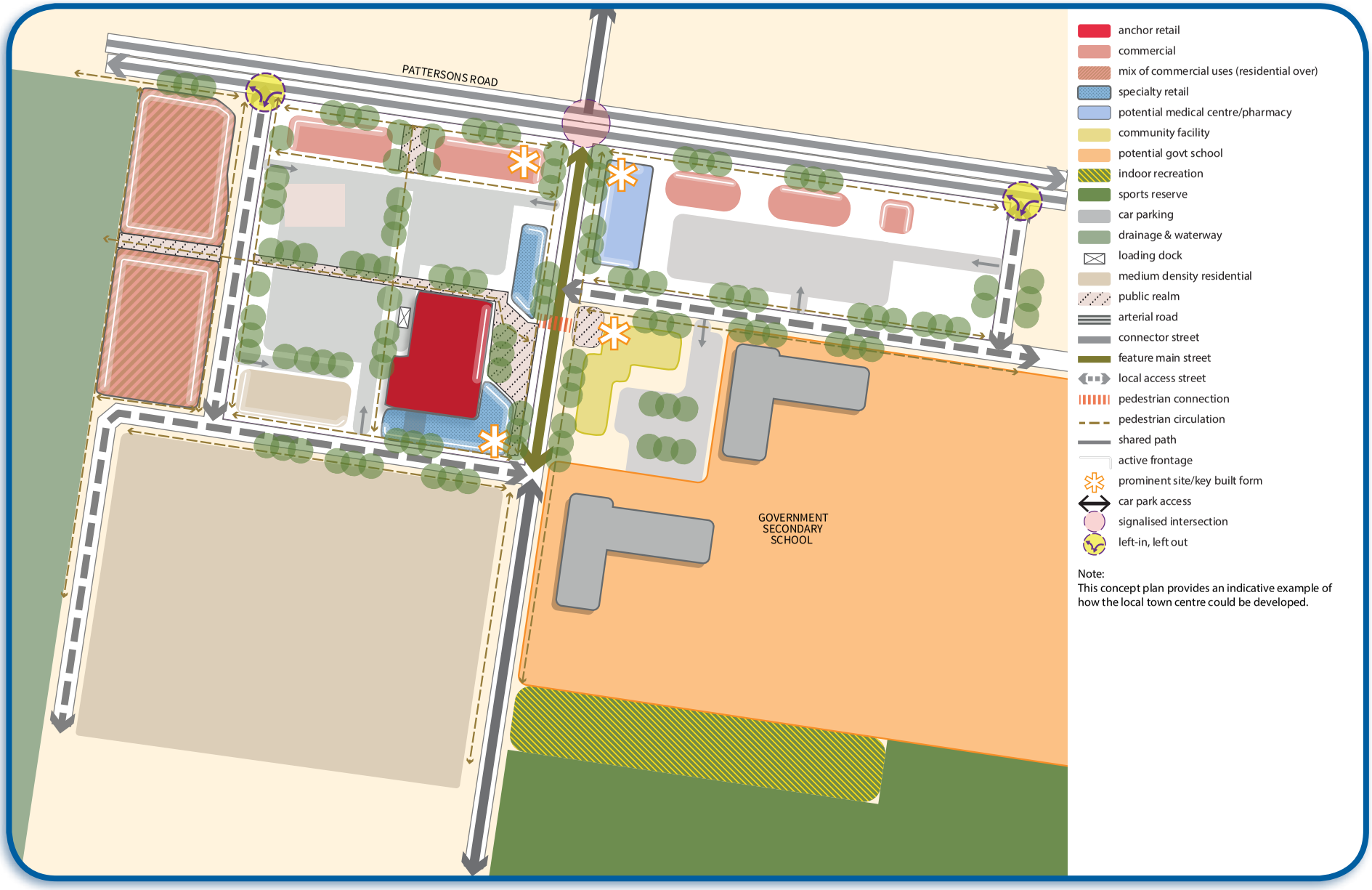


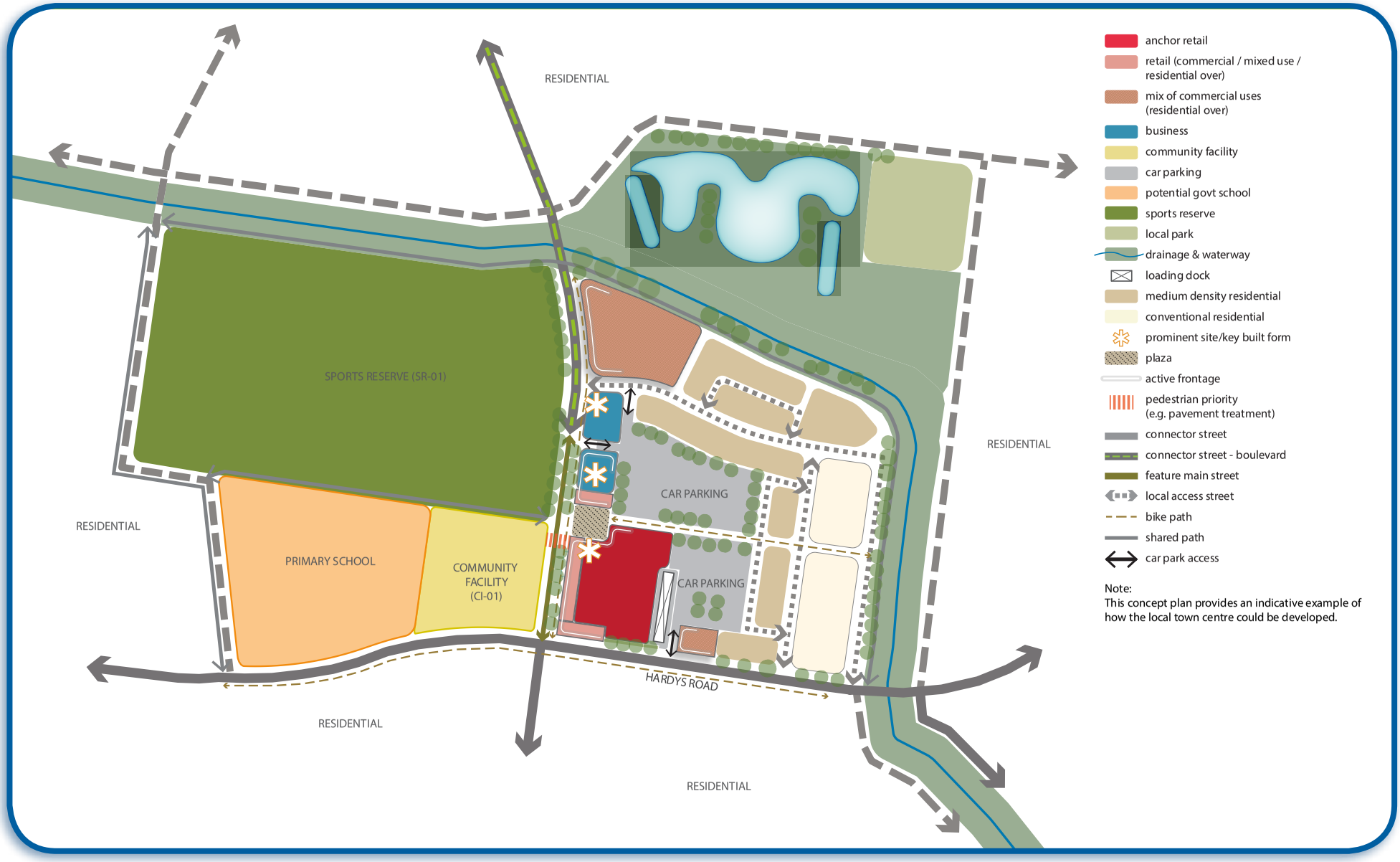
Figure 3 Pattersons Road Local Town Centre Concept



3.2.1 Local Town Centres

REQUIREMENTS	
R14	Land use and development within each local town centre (as shown on Plan 4) must respond to the relevant concept plan and key design elements shown in Figures 3 and 4. Use and development within the local convenience centre must respond to the Local Convenience Centre Design Guidelines in Appendix 4 D.
R15	Retail, mixed use and office built form must be a minimum of 2 storeys (excluding supermarkets), with the upper floor(s) having an appropriate floorplate and floor to ceiling height to facilitate mixed use outcomes, unless otherwise approved by the responsible authority.
R16	Ground level floor-to-ceiling heights within the retail area must be a minimum of 4 metres.
R17	All buildings must be built to the property boundary (0m setback) to maintain a continuous street frontage, except where buildings are adjacent to usable public spaces, urban plazas or pedestrian paths.
R18	Buildings along the connector street – town centre (see Figures 3 and 4) must provide active street frontages and pedestrian access to tenancies from these main streets.
R19	Ground level facades along each connector street – town centre must be no greater than 8 metres in width, in order to establish a fine-grain built form and create a vertical rhythm to the street.
R20	Canopies, verandahs, awnings and shade structures must be provided for along the entire connector street – town centre, street length within each town centre.
R21	Car parking must be centrally located within development sites, at the rear and to the side of active retail frontages and designed to ensure passive surveillance and public safety.
R22	All car parks must include a minimum 30% tree canopy coverage of car park spaces, unless within a building footprint.
R23	A public space must be provided in the form of a town square, urban plaza, market place or town park, of no less than 500 sqm as shown on Figure 3 and 4, which is activated by integrated with adjoining retail buildings.
R24	The location of land uses, building design, and interface treatment in commercial and service business areas, as shown on Plan 4 and Figure 4, must minimise negative impacts on the amenity of nearby residential areas.
R25	Vehicle access to properties fronting Pattersons Road must be from side streets, rear laneways or internal loop roads.
R26	Development proposals in the commercial and service business areas must address the Urban Design Guidelines for Victoria.
R27	Loading and delivery areas must not front the main street/s and must be located to the rear and/or side street and sleeved or screened from the public realm, unless otherwise shown in Figures 3 and 5.
R28	Main streets must be designed for a low speed environment of 40km/h or less, so vehicles and cyclists can share the carriageway safely and pedestrians can safely cross the road.
R29	Pedestrian movement must be prioritised in the design of main streets while supporting local traffic to assist access and activity.
R30	Pedestrian entrances must be located on main streets and be visually prominent, well-lit and accessible to people with limited mobility.
R31	Safe and easy access for pedestrian and cyclist trips must be provided to the town centre through the layout and design of the surrounding street network and open space network.
R32	Public transport hubs, stops and routes must be located to facilitate access to key destinations including the town centres.
R33	Pedestrian priority must be provided where side roads intersect with higher-order roads, along main streets and across all car park entrances.
R34	Car park entrances must not be provided directly from the main street. Access must be provided from side streets unless shown in Figures 3 and 5.
R35	Pedestrian movements must be prioritised by providing links between key destinations within town centres.

Figure 4 Alexander Boulevard Town Centre Concept



GUIDELINES	
G11	Small office/home office (SOHO) housing options should be incorporated into local town centres to support housing diversity and facilitate small business opportunities.
G12	Buildings within commercial and service business areas shown on Plan 4 and Figure 4 should positively address Pattersons Road.
G13	Buildings should maintain a minimal setback to Patterson Road and the adjoining commercial/community buildings within the Local Town Centre.
G14	Delivery and loading facilities should be located to the side or rear of any buildings with appropriate landscaping and screening elements to conceal these facilities from adjoining residential streets.
G15	Water tanks, service infrastructure and plant equipment, not part of the building, should be located behind building lines and/or behind constructed screening of appropriate material.
G16	Goods/material storage and refuse areas should not be visible from public streets.
G17	Bicycle parking should be provided at entry points in highly visible locations in key destinations, to the satisfaction of the responsible authority. Weather protection, passive surveillance and lighting of bicycle parking areas should be provided to the satisfaction of the responsible authority.
G18	Car parking areas should be consolidated to reduce land take.
G19	Safe pedestrian access should be provided through all car parking areas.
G20	Pedestrian permeability, accessibility and walkability through town centres should be encouraged through linkages.

3.3 Open Space, Community Facilities & Education

Table 6 Open Space Delivery Guide

PARK ID	AREA (HA)	TYPE	ATTRIBUTES	CONTROL
LP-01	0.70	Local Park	Neighbourhood	CCC
LP-02	1.16	Local Park	District	CCC
LP-03	1.01	Local Park	Neighbourhood	CCC
LP-04	1.40	Local Park	Neighbourhood	CCC
LP-05	0.80	Local Park	Neighbourhood	CCC
LP-06	1.00	Local Park	Neighbourhood	CCC
LP-07	0.60	Local Park	Neighbourhood	CCC
LP-08	1.00	Local Park	Neighbourhood	CCC
LP-09	1.65	Local Park	District	CCC
LP-10	2.40	Local Park	District	CCC
LP-11	1.00	Local Park	Neighbourhood	CCC
LP-12	1.00	Local Park	Neighbourhood	CCC
LP-13	1.00	Local Park	Neighbourhood	CCC
LP-14	1.00	Local Park	Neighbourhood	CCC
LP-15	0.70	Local Park	Neighbourhood	CCC
LP-16	0.85	Local Park	Neighbourhood	CCC
LP-17	1.00	Local Park	Neighbourhood	CCC
LP-18	1.00	Local Park	Neighbourhood	CCC
LP-19	1.00	Local Park	Works in conjunction with Conservation Area	CCC
LP-20	0.80	Local Park	Works in conjunction with adjoining waterway	CCC
LP-21	2.00	Local Park	District	CCC
SR-01	11.01	Local Sports Field	2 cricket ovals and 3 soccer fields overlaid, tennis courts and playground	CCC
SR-02	11.02	Local Sports Field	2 cricket/football ovals, netball courts and playground and a joint use oval with the primary school	CCC / DET
SR-03	10.00	Local Sports Field	2 cricket/football ovals, netball courts and playground	CCC
SR-04	9.00	Local Sports Field	2 cricket ovals and 3 soccer fields overlaid, netball courts and playground	CCC
UP-01	0.05	Local Park	Urban Plaza	CCC
UP-02	0.05	Local Park	Urban Plaza	CCC
IR-01	1.00	Indoor Recreation Facility	Joint use – 3 basketball courts and associated sport facilities	CCC/DET

CCC = City of Casey, DET = Department of Education and Training

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Plan 5 - Open Space & Community Facilities

Cardinia Creek South Precinct Structure Plan

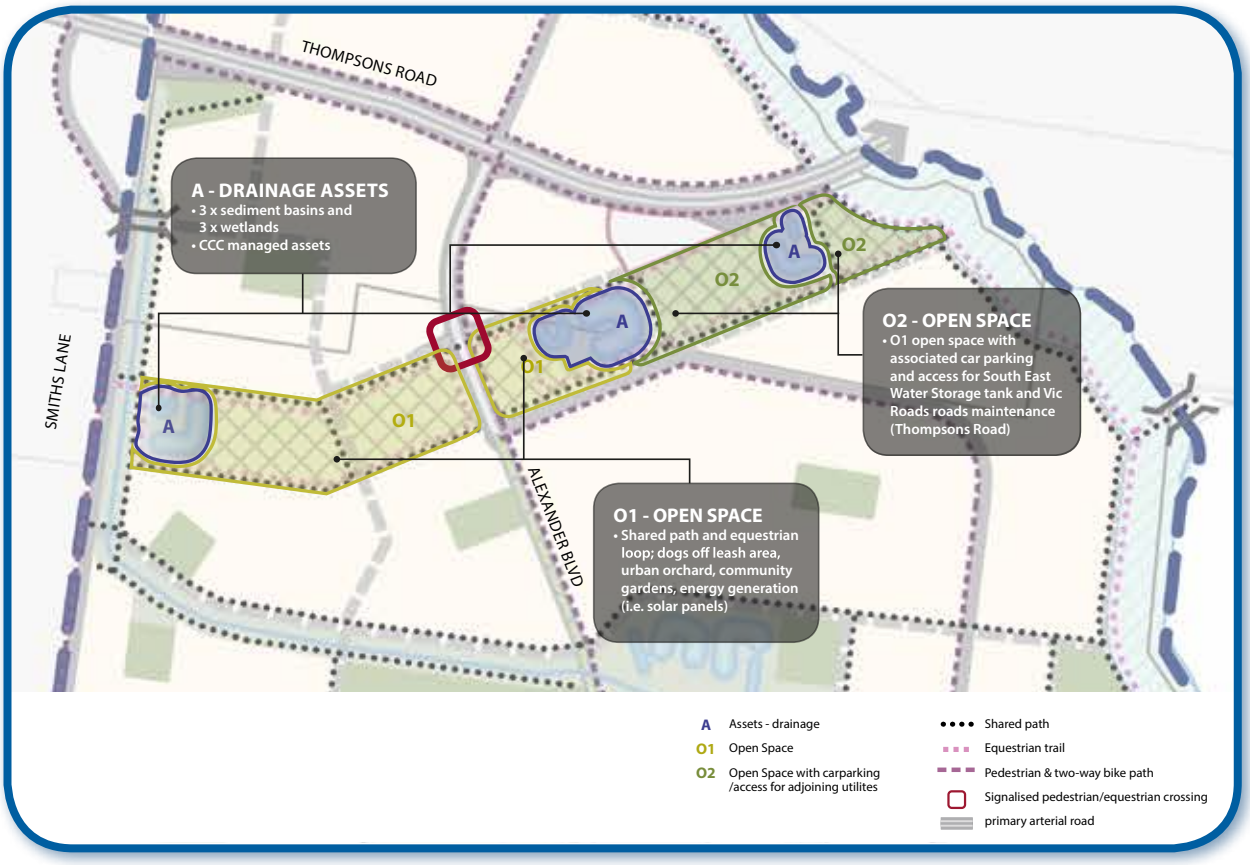
3.3.1 Open Space

REQUIREMENTS	
R36	All public landscaped areas must be designed and constructed to enable practical maintenance, and planted with species suitable to the local climate and soil conditions.
R37	All parks must be located, sized and designed generally in accordance with the location shown on plan 5 and relevant description in Table 6, unless approved by the responsible authority. The location of a local park may be varied provided Table 6 does not nominate a specific location for the park, and provided it does not reduce the walkable access to local parks demonstrated on Plan 5. The area of the park may vary so long as it remains within the area range for its size category (refer Appendix F). Where a park is smaller than that outlined in the table, the difference must be added to another park or used to create a new park in addition to those outlined in the table. Where a proposed park is larger than outlined in the table it may be accepted so long as it does not result in the removal of another park allocation.
R38	Where a local park shown on Plan 5 spans multiple properties, the first development proponent to lodge a permit application for land containing the park must prepare an indicative concept master plan for the entire park to the satisfaction of the responsible authority, unless otherwise agreed by the responsible authority.
R39	Design and layout of waterway corridors, BCS conservation areas, and any other service open space must maximise the potential for integration of recreation uses, utility infrastructure and stormwater quality treatment assets, where this does not conflict with the primary function of the land.
R40	Any fencing of open space must be low scale and visually permeable to facilitate public safety, access and surveillance.
R41	Where local parks and recreation areas occur adjacent to BCS conservation areas, they must be designed and managed to compliment the outcomes required by the BCS conservation area, subject to the primary recreation and function of the local park being retained.
GUIDELINES	
G21	Residential lots directly abutting open space should provide for a primary point of access from a footpath or shared path proximate to the lot boundary.
G22	Sports reserves should be developed consistent with the relevant descriptions in the *Cardinia Creek South Infrastructure Contributions Plan*, unless an alternative master plan is approved by the responsible authority.
G23	Subject to being compatible with Table 6 and Plan 5 parks and open space should contain extensive tree planting.
G24	A proponent delivering a master plan for a local park that spans multiple property ownerships should consult with the landowners of parcels covered by the park to ensure an integrated design.
G25	Land in the electricity transmission line easement should be utilised to support community facilities related to walking, cycling and equestrian paths/trails as part of the broader open space network and service utilities, such as stormwater assets, roads, renewable energy sources and the like.

3.3.2 Community Facilities & Education

REQUIREMENTS	
R42	Schools and community facilities must be designed to front and be directly accessible from a public street with car parks located away from the main entry.
R43	Community facilities, schools and sports fields which are co-located must be designed to maximise efficiencies through the sharing of car parking and other complementary infrastructure.
R44	Where the responsible authority is satisfied that land shown as a non-government school site is unlikely to be needed and used for a non-government school, that land may be used for an alternative purpose which is generally consistent with the surrounding land uses and the provisions of the applied zone.
R45	Any other public facility e.g. educational, community, or civic infrastructure not shown on Plan 2 must be located within or proximate to any town centre or community hub / local convenience centre or council community building, as appropriate
GUIDELINES	
G26	Community centres which are located in a town centre should be designed to maximise efficiency of land use through the sharing and overall reduction of car parking spaces.
G27	Schools should be provided with three street frontages, where practicable.
G28	The indicative layout of Figures 5 may be altered subject to further detailed design, to the satisfaction of the responsible authority.
G29	Any other private facility e.g. childcare, medical or similar not shown on Plan 2 should be located within, or proximate to any town centre or community hub, as appropriate.
G30	The location of key entries to schools and community facilities should allow for activation of the street and safe and convenient pedestrian and cyclist access for all ages and abilities.

Figure 5 Utilites Easement Concept



3.4 Biodiversity, Threatened Species & Bushfire Management

3.4.1 Biodiversity & Threatened Species

REQUIREMENTS	
R46	Removal, destruction or lopping of native vegetation and scattered trees shown on Plan 6 must be carried out in accordance with the 'Final approval for urban developments in south-eastern growth corridor under the Melbourne urban growth program strategic assessment' pursuant to Section 146B of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). Native vegetation shown for retention must be retained unless a permit has been granted for removal of the vegetation.
R47	Development within Conservation Area 36 must be in accordance with the Concept Plans (Figures 6 & 7) and Cross Section 1 and 12 within Appendix C, to the satisfaction of the Department of Environment, Land, Water and Planning;
R48	Public paths or infrastructure located within Conservation Area 36 must be designed to avoid and minimise disturbance to native vegetation and habitat for matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)., and be located in accordance with the Conservation Area Concept Plans shown in Figures 6 & 7 to the satisfaction of the Department of Environment, Land, Water and Planning;
R49	Lighting of public areas must be in accordance with the conservation area concept plan (see Figure 6 and 7). It must include baffling to prevent light spill and glare within and adjacent to Conservation Area 36, unless otherwise agreed by the Department of Environment, Land, Water and Planning.
R50	Development abutting a BCS conservation area must be in accordance with the corresponding conservation interface plan (see Figure 6 and 7), to the satisfaction of the Department of Environment, Land, Water and Planning.
R51	Any proposed development or works within a BCS conservation area must obtain the approval of the Department of Environment, Land, Water and Planning.
R52	Drainage from stormwater treatment infrastructure must be designed to minimise the impacts on biodiversity values, particularly matters of national environmental significance.

Plan 6 - Native Vegetation Retention & Removal

Cardinia Creek South Precinct Structure Plan

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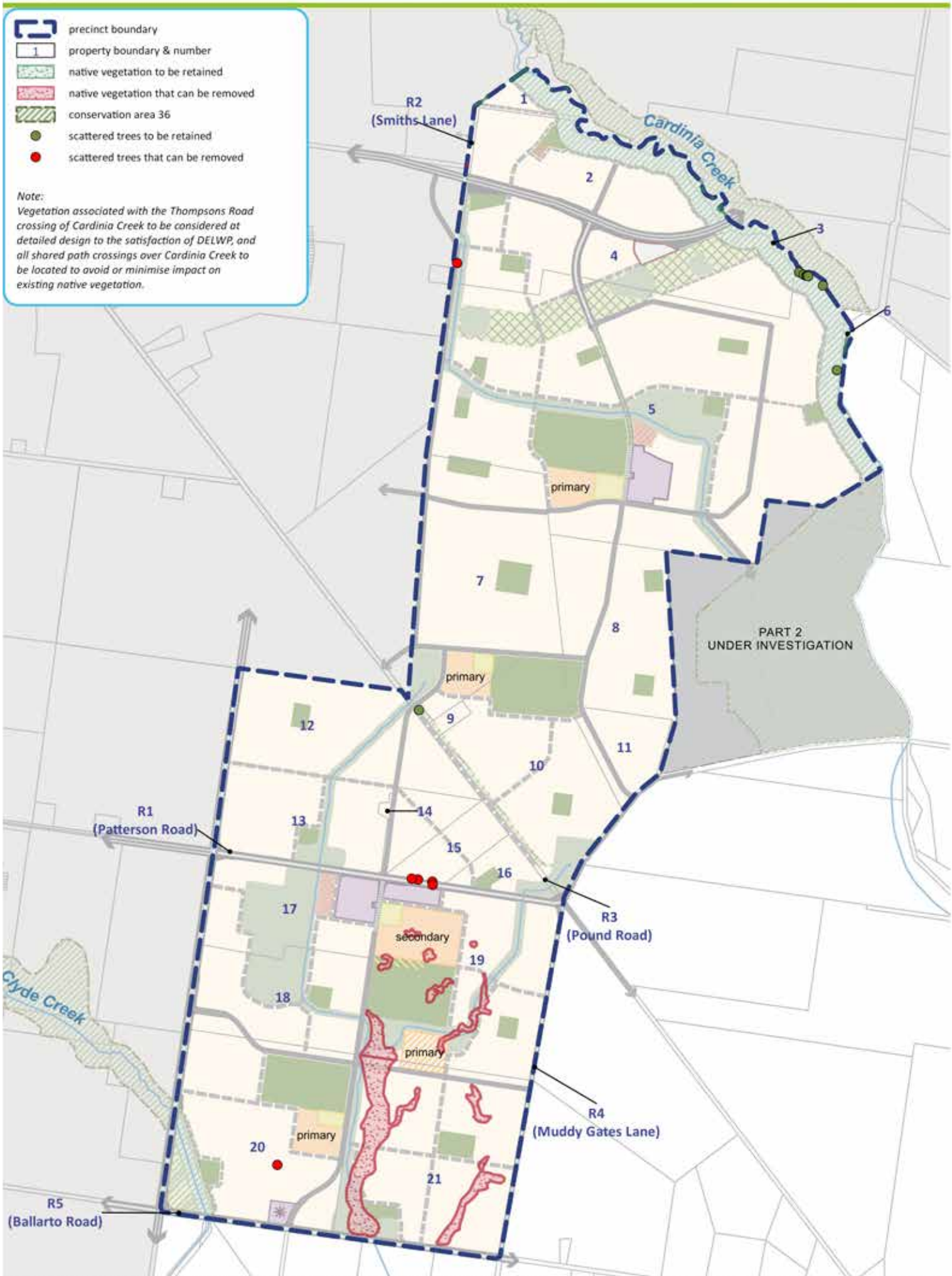


GUIDELINES	
G31	Where located adjacent or nearby BCS conservation areas, local parks should be designed and constructed to maximise integration.
G32	Where appropriate, public open spaces should be co-located with BCS conservation areas and waterways to help buffer the conservation areas.
G33	Indigenous species should be used when planting adjacent to the BCS conservation areas, waterway corridors and retained indigenous vegetation.
G34	Street trees and landscaping in public open spaces should contribute to the habitat of indigenous fauna species.
G35	Planting in streetscapes and parks abutting waterways should make use of indigenous species, to the satisfaction of the Responsible Authorities.

Figure 6 Concept Plan – Conservation Area 36 (Cardinia Creek Corridor)

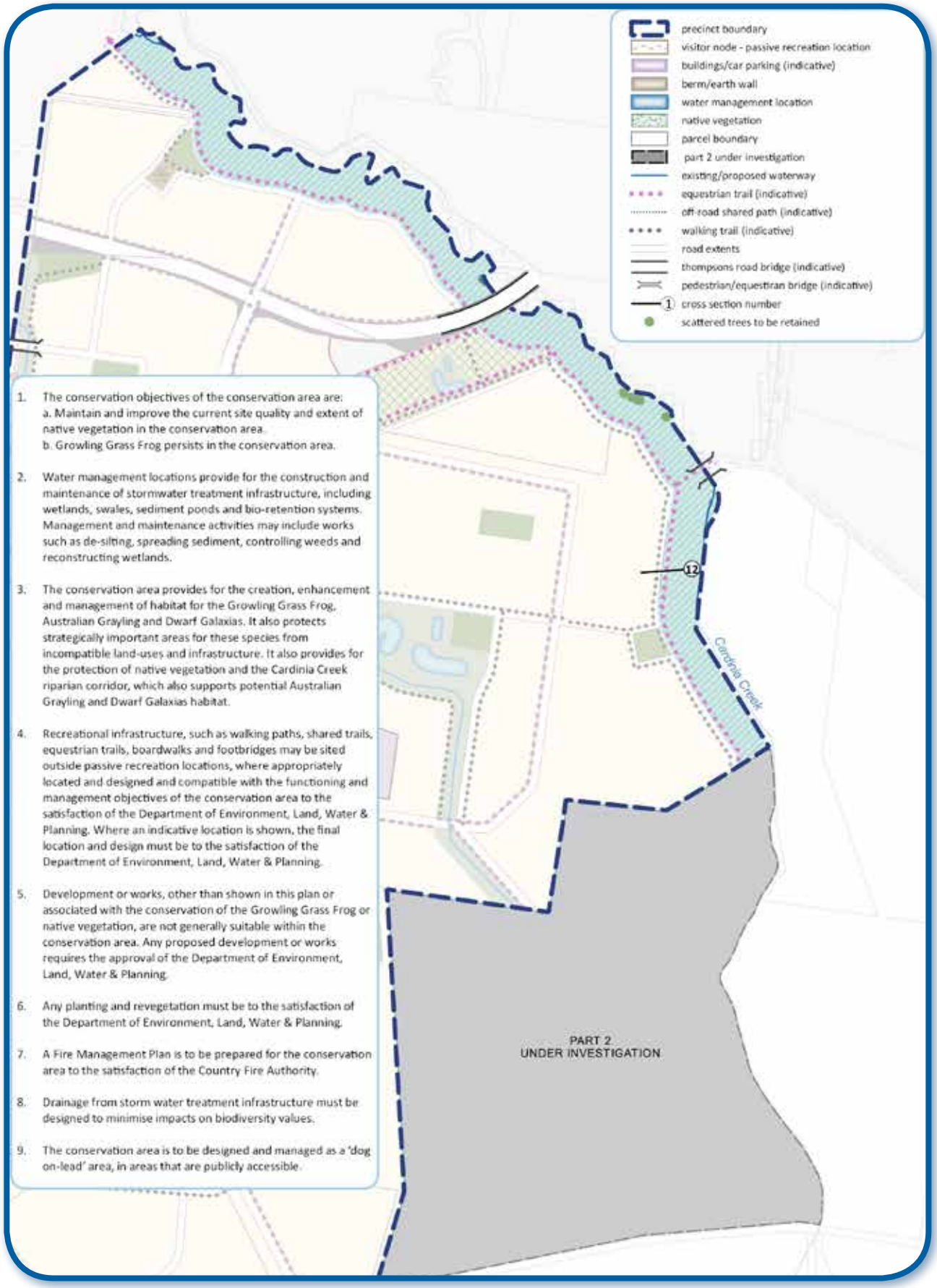
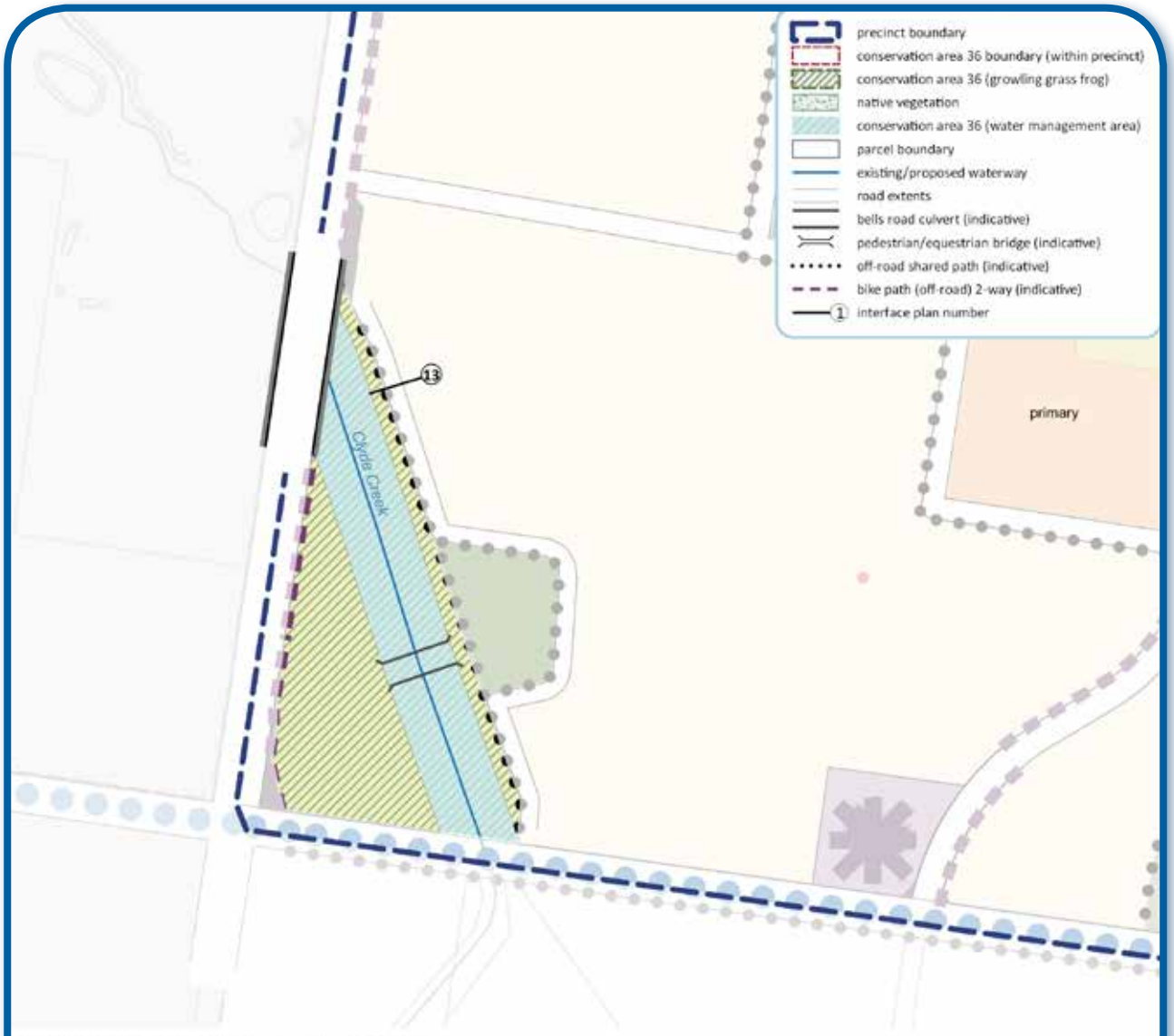


Figure 7 Concept Plan – Conservation Area 36 (Clyde Creek Corridor)



1. The conservation objectives of the conservation area are:
   a. Maintain and improve the current site quality and extent of native vegetation in the conservation area.
   b. Growling Grass Frog persists in the conservation area.
2. Water management locations provide for the construction and maintenance of stormwater treatment infrastructure, including wetlands, swales, sediment ponds and bio-retention systems. Management and maintenance activities may include works such as de-silting, spreading sediment, controlling weeds and reconstructing wetlands.
3. The conservation area provides for the creation, enhancement and management of habitat for the Growling Grass Frog, Australian Grayling and Dwarf Galaxias. It also protects strategically important areas for these species from incompatible land-uses and infrastructure. It also provides for the protection of native vegetation and the Cardinia Creek riparian corridor, which also supports potential Australian Grayling and Dwarf Galaxias habitat.
4. Recreational infrastructure, such as walking paths, shared trails, equestrian trails, boardwalks and footbridges may be sited outside passive recreation locations, where appropriately located and designed and compatible with the functioning and management objectives of the conservation area to the satisfaction of the Department of Environment, Land, Water & Planning. Where an indicative location is shown, the final location and design must be to the satisfaction of the Department of Environment, Land, Water & Planning.
5. Development or works, other than shown in this plan or associated with the conservation of the Growling Grass Frog or native vegetation, are not generally suitable within the conservation area. Any proposed development or works requires the approval of the Department of Environment, Land, Water & Planning.
6. Any planting and revegetation must be to the satisfaction of the Department of Environment, Land, Water & Planning.
7. A Fire Management Plan is to be prepared for the conservation area to the satisfaction of the Country Fire Authority.
8. Drainage from storm water treatment infrastructure must be designed to minimise impacts on biodiversity values.
9. The conservation area is to be designed and managed as a 'dog on-lead' area, in areas that are publicly accessible.

3.4.2 Bushfire Management

REQUIREMENTS	

R53	For the purpose of Clause 56.06-7 of the *Casey Planning Scheme*, the following requirements of the relevant fire authority must be met, unless otherwise approved by the CFA:
	• Constructed roads must be a minimum of 7.3m trafficable width where cars park on both sides, or:
	  • a minimum of 5.5m in trafficable width where cars may park on one side only
	  • a minimum of 3.5m width no parking and 0.5m clearance to structures on either side, and if this width applies, there must be passing bays of at least 20m long, 6m wide and located not more than 200m apart
	• roads must be constructed so that they are capable of accommodating a vehicle of 15 tonnes for the trafficable road width
	• the average grade of a road must be no more than 1 in 7 (14.4% or 8.1º)
	• the steepest grade on a road must be no more than 1 in 5 (20% or 11.3º) with this grade continuing for no more than 50 metres at any one point
	• dips on the road must have no more than 1 in 8 grade (12.5% or 7.1º) entry and exit angle
	• constructed dead end roads more than 60 metres in length from the nearest intersection must have a turning circle with a minimum radius of 8m (including roll over curbs if they are provided).

R54	An equestrian trail/fire access track must be provided in accordance Figure 6 and cross section 12 in Appendix C to the satisfaction of the CFA and DELWP.
GUIDELINES	
G36	Vegetation planted within the fuel reduction zone identified in Figure 1 should be non-volatile. The first 19 metres of land within the conservation area, as shown on Figure 1, should be managed as grassland in accordance with AS3959-2009, by the relevant public land manager.

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Plan 7 - Street Network

Cardinia Creek South Precinct Structure Plan

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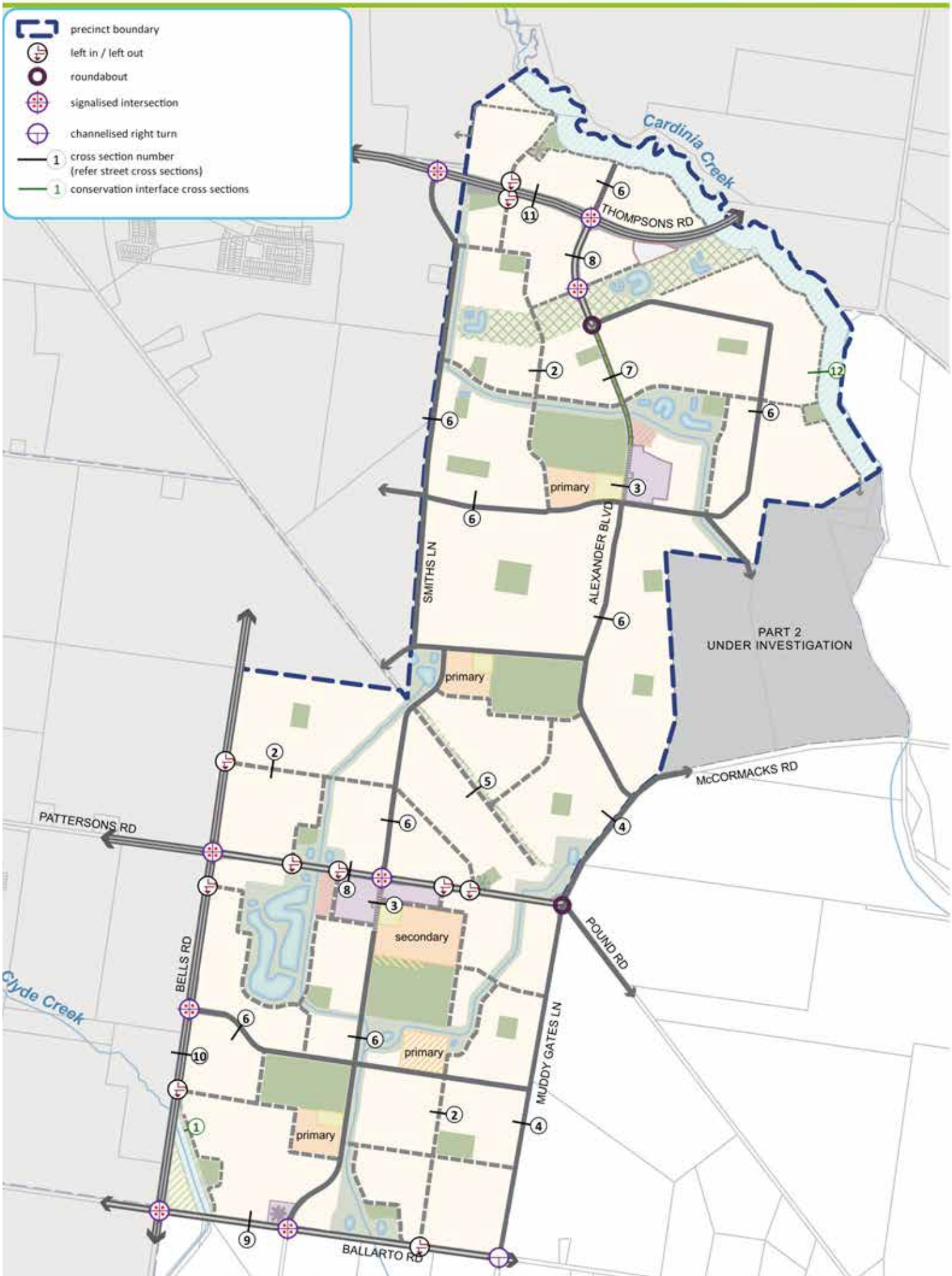

3.5 Transport & Movement

3.5.1 Streets

REQUIREMENTS	
R55	Subdivision layouts must provide: • a permeable and safe network for walking and cycling • a safe and low speed street network that encourages walking and cycling • convenient access to points of interest and destinations • effective integration with neighbouring subdivisions.
R56	Approximately 30% of local streets (including connector streets) within a subdivision must apply an alternative cross section to the 'standard' cross section for these streets outlined in Appendix C. Examples of potential variations are provided in Appendix C, however others are encouraged, including but not limited to: • varied street tree placement • varied footpath or carriageway placement • introduction of elements to create a boulevard effect • end of local street network shared zone/pedestrian priority roads with alternate finishes, materials and edge treatments • varied carriageway or parking bay pavement • differing tree outstand treatments. For the purposes of this requirement, changes to street tree species between or within streets do not constitute a variation. All alternative cross sections must ensure that: • minimum required carriageway dimensions are maintained to ensure safe and efficient operation of emergency vehicles on all streets as well as buses on connector streets. • the performance characteristics of standard cross sections as they relate to pedestrian and cycle use are maintained. • relevant minimum road reserve widths for the type of street (illustrated in Appendix C) are maintained, unless otherwise approved by the responsible authority.
R57	Where a single street spans multiple properties, that street may consist of multiple cross sections so long as a suitable transition is created. Where that street has already been constructed or approved for construction to a property boundary, the onus is on the development connecting into that street to adopt a consistent cross-section until a suitable transition can be made.
R58	Convenient and direct access to the connector road network must be provided through neighbouring properties where a property does not otherwise have access to the connector network or signalised access to the arterial road network, as appropriate.
R59	Vehicle access to lots fronting arterial roads must be provided from a local internal loop road, side road or rear lane only, to the satisfaction of the road authority.
R60	Vehicle access to lots fronting Alexander Boulevard, north of the Town Centre, must be provided with a mix of side road, rear loaded and direct driveway access to the satisfaction of the road authority.
R61	Streets must be constructed to property boundaries where an inter-parcel connection is intended or indicated in the PSP, by any date or stage of development required or approved by the responsible authority.
R62	Where roundabouts are required at cross road intersections, they must be designed to slow vehicles, provide for pedestrian visibility and safety, and ensure connectivity/continuity of shared paths and bicycle paths.
R63	Vehicle access to lots from a public street must allow sufficient separation between crossovers to allow for a minimum of one on-street car park for every two residential lots.
R64	Where a lot is six metres or less in width, vehicle access must be via a rear laneway, unless otherwise approved by the responsible authority.
R65	Development must positively address all waterways in accordance with Plan 9, through the use of frontage roads to the satisfaction of Melbourne Water and the responsible authority.
R66	Any connector road or access street abutting a school must be designed to achieve slow vehicle speeds and provide designated pedestrian crossing points, as required by the responsible authority.
R67	The design and construction of any road or pedestrian crossing of Clyde Creek or Cardinia Creek must ensure that impacts to Dwarf Galaxias, Australian Grayling and Growling Grass Frog are minimised to the greatest feasible extent, to the satisfaction of the Department of Environment, Land Water and Planning. With regard to Growling Grass Frog, the design and construction of any crossing must be consistent with the *Design and construction standards for Growling Grass Frog passage structures* (DELWP 2016).

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GUIDELINES	
G37	Street layouts should provide multiple convenient routes to major destinations such as the local town centres, the potential Regional Park, and the broader arterial road network.
G38	Street block lengths should not exceed 240 metres to ensure a permeable and low speed environment for pedestrians, cyclists and vehicles is achieved.
G39	Cul-de-sac should not detract from convenient pedestrian, cycle and vehicular connections and should be permeable to enable pedestrian and bike movement.
G40	Slip lanes should be avoided in areas of high pedestrian activity and only provided at intersections between arterial roads and arterial roads where they are necessitated by high traffic volumes, to the satisfaction of the roads authority.
G41	The frequency of vehicular crossovers on verges in excess of six metres and high amenity frontages should be minimised through 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.
G42	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 those lots, to the satisfaction of Melbourne Water and the responsible authority.
G43	All signalised intersections should be designed in accordance with the *VicRoads Growth Area Road Network Planning Guidance & Policy Principles* handbook.
G44	Breaks in medians along Alexander Boulevard should only be permitted where they facilitate right hand turns for the local street network, to the satisfaction of the roads authority.

Plan 8 - Public Transport & Path Network

Cardinia Creek South Precinct Structure Plan

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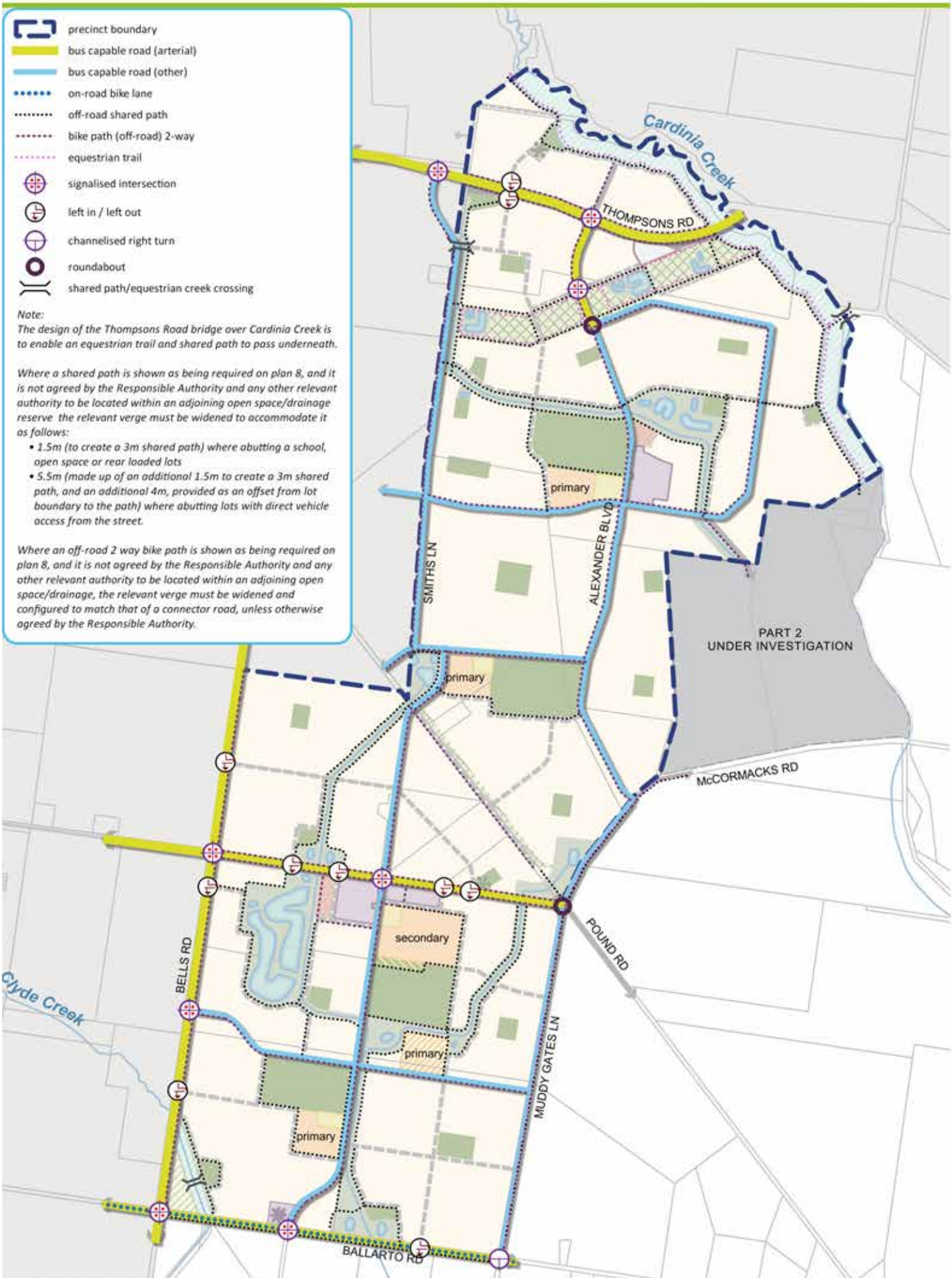

3.5.2 Public Transport

REQUIREMENTS	
R68	All roads and intersections shown as bus capable on Plan 8 must be constructed to accommodate ultra-low-floor buses to the satisfaction of Public Transport Victoria and the responsible authority.
R69	All bus stop facilities, including any transport interchanges, must be designed as an integral part of town centres and activity generating land uses such as schools, sports reserves and employment areas.
R70	The street network must be designed to ensure all households are able to directly and conveniently walk to public transport services.

3.5.3 Walking & Cycling

REQUIREMENTS	
R71	The 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 and relevant cross-sections • shared paths or bicycle paths where shown on Plan 8 or as shown on the relevant cross-sections in Appendix C, or as specified by another requirement in the PSP • safe, accessible and convenient crossing points of connector roads and local streets at all intersections, key desire lines and locations of high amenity (e.g. town centre and open space) • safe pedestrian crossings of arterial roads at all intersections, at key desire lines, and at 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.
R72	Specifications for any bicycle path on a connector road shown on a construction or engineering plan approved under a subdivision permit, must also be to the satisfaction of Public Transport Victoria.
R73	Shared and pedestrian paths along waterways must: • be delivered by development proponents consistent with the network shown on Plan 8 • be above 1:10 year flood level with any crossing of the waterway designed to be above the 1:100 flood level to maintain hydraulic function of the waterway • be constructed to a standard that satisfies the requirements of Melbourne Water • Where a shared path is to be delivered on one side of a waterway as outlined in Plan 8, a pedestrian path is also to be delivered on the other side of the waterway but may be constructed to a lesser standard such as granitic gravel or similar granular material. • be located to minimise disturbance to native vegetation and Growling Grass Frog habitat and be generally located in accordance with conservation area concept plans in Figures 10 and 11. All to the satisfaction of the Melbourne Water and the responsible authority.
R74	Bicycle parking facilities must be provided by development proponents in convenient locations at key destinations such as parks and activity centres. Bicycle parking in activity centres should be centrally located, with some bays including weather protection.
R75	The alignment of the off-road bicycle path must be designed for cyclists travelling up to 30 km/hr.
R76	Bicycle priority at intersections of minor streets and connector roads with dedicated off-road bicycle paths must be achieved through strong and consistent visual and physical cues and supportive directional and associated road signs.
GUIDELINES	
G45	Lighting should be installed along shared, pedestrian, and cycle paths linking key destinations, unless otherwise approved by the responsible authority.
G46	The alignment of the off-road bicycle path should be designed for cyclists travelling up to 30 km/hr, to the satisfaction of the responsible authority.
G47	In addition to the pedestrian crossings shown on Plan 8 and those provided by local street crossings, development proponents should provide additional pedestrian waterway crossings at 400 metre intervals, with the exception of Cardinia Creek.

Plan 9 - Integrated Water Management

Cardinia Creek South Precinct Structure Plan

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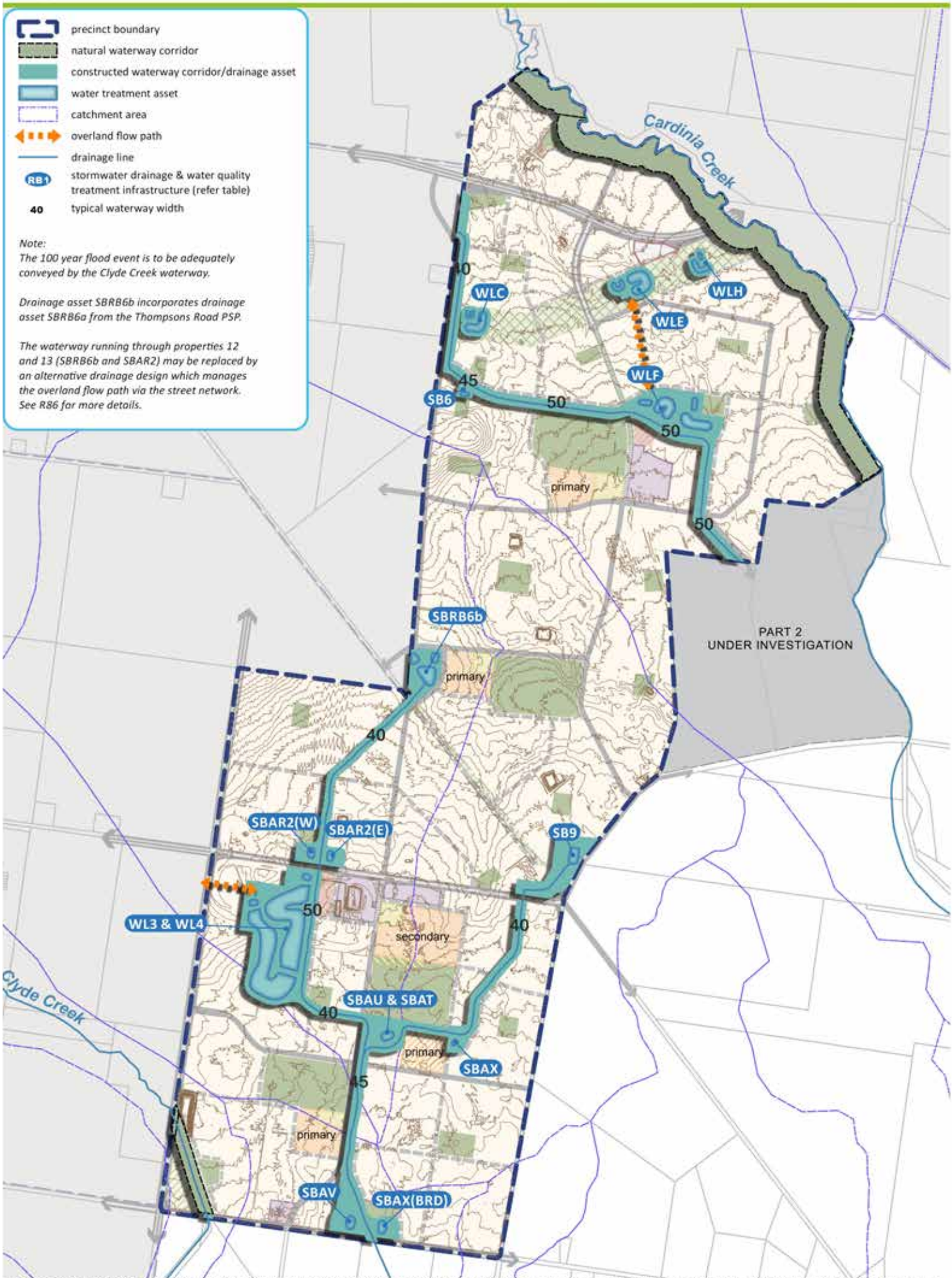

3.6 Integrated Water Management & Utilities

3.6.1 Integrated Water Management

REQUIREMENTS	
R77	A subdivision of 60 or more lots must include an Integrated Water Management Plan, in accordance with Clause 56.01-2 and Clause 56.07 of the *Casey Planning Scheme*.
R78	Development must meet best practice stormwater quality treatment standards prior to discharge to receiving waterways and as outlined on Plan 9, unless otherwise approved by Melbourne Water.
R79	Development must meet stormwater quality treatment standards, related to suspended solid loads (85% reduction) prior to discharge to Cardinia Creek as outlined on Plan 9, unless otherwise approved by Melbourne Water and the responsible authority.
R80	Where a waterway is shown on Plan 9, development works must: • not encroach past the waterway corridor defined in this PSP, unless otherwise agreed by the responsible authority and Melbourne Water • minimise earthworks and impact on the existing landform of the waterway • Retain existing vegetation as part of waterway landscaping. • Incorporate streets as the primary interface between development and waterways. All to the satisfaction of Melbourne Water and the responsible authority.
R81	The final design, location and boundary of constructed waterways, waterway corridors, stormwater quality treatment infrastructure and associated paths, boardwalks, bridges, and planting must be to the satisfaction of Melbourne Water and the responsible authority. The areas and constructed water corridors identified in the table and shown on Plan 9 may be changed or modified to the satisfaction of Melbourne Water and the responsible authority. Management responsibility for drainage and water quality assets may also be subject to change.
R82	Development staging must provide for the delivery of ultimate waterway and drainage infrastructure, including stormwater quality treatment. 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, all to the satisfaction of Melbourne Water and the responsible authority.
R83	The location and design of stormwater management infrastructure must consider matters of state and national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)., particularly where they occur upstream of, within or adjacent to BCS conservation areas and must be designed and located to protect and manage Growling Grass Frog, Australian Grayling and Dwarf Galaxias habitat.
R84	Stormwater conveyance and treatment must be designed in accordance with the relevant Development Services Scheme, to the satisfaction of Melbourne Water.
R85	An overland flow path must be provided from Bells Road (outfall of RB8b) to WL14 in the form of a key local access road as shown on Plan 2 and Plan 9.
R86	Despite any conflicting requirements, the waterway running through properties 12 and 13 may be removed subject to an alternative drainage design that is approved by both Melbourne Water and the responsible authority. An alternative drainage design must safely manage the 1 in 100 year (1% AEP) Overland Flow via a series of widened roads from SBRB6 to WL3 & WL4. Any reduction in drainage reserve must result in additional local park(s) being provided for to ensure the ICP public land equalisation rate is not altered for the overall PSP area. At least one additional bike path must be provided for within one of the local roads to maintain connectivity through the precinct.
GUIDELINES	
G48	The design and layout of roads, road reserves, carparks and public open space should optimise water use efficiency and long-term viability of vegetation and public uses through the use of water sensitive urban design (WSUD) initiatives.
G49	Where practical, development should include integrated water management initiatives to diversify water supply, reduce reliance on potable water and increase the utilisation of storm and waste water, contributing to a sustainable and green urban environment.
G50	Development should have regard to relevant policies and strategies being implemented by the responsible authority, Melbourne Water and South East Water, including any approved Integrated Water Management Plan.

G51	Where practical, integrated water management systems should be designed to: • maximise habitat values for local flora and fauna species. • protect and manage values of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)., particularly within BCS 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 storm water, including those options or opportunities outlined in Plan 9.
G52	Land required for integrated water management initiatives (such as stormwater harvesting, aquifer storage and recharge, sewer mining) should be incorporated within the precinct open space system as depicted on Plan 5 where practical and where primary the waterway, conservation or recreation functions are not adversely affected, to the satisfaction of the responsible authority.

Table 7 Storm Water Drainage and Water Quality Treatment Infrastructure

INFRASTRUCTURE ID	DESCRIPTION	LOCATION	AREA (HA)	RESPONSIBILITY
SB6	Baillieu Creek	East of Smith's Lane	0.335	CCC
WLC	Baillieu Creek	East of Smith's Lane in Transmission easement	1.622	CCC
WLE	Baillieu Creek	East of St.Germains Boulevard in Transmission easement	2.345	CCC
WLH	Baillieu Creek	West of Cardinia Creek in Transmission easement	0.973	CCC
WLF	Baillieu Creek	North of Cardinia Creek South LTC	5.585	MWC
WL3 & WL4	Baillieu Creek	South of Pattersons Road and west of LTC	15.403	MWC
SBRB6	Baillieu Creek	North of Pound Road	2.781	CCC
SB9	Baillieu Creek	West of McCormacks Road, north of Pound Rd	4.469	MWC
SBAR2 (E)	Muddy Gates Drain	North of Pattersons Road	0.784	CCC
SBAR2 (W)	Muddy Gates Drain	North of Pattersons Road	0.839	CCC
SBAX	Muddy Gates Drain	South of Patterson Road LTC, east of ovals	0.556	CCC
SBAU & SBAT	Muddy Gates Drain	South of Pattersons Road LTC, west of SBAX North	1.435	MWC
SBAX(BRD)	Muddy Gates Drain	North of Ballarto Road – east side	1.179	MWC
SBAV	Muddy Gates Drain	North of Ballarto Road – west side	2.223	MWC

CCC = City of Casey, MWC= Melbourne Water Corporation

Note: The areas and constructed water corridors identified in this table and shown on Plan 9 may be changed or modified to the satisfaction of Melbourne Water and the responsible authority. Management responsibility for drainage and water quality assets may also be subject to change.

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Plan 10 - Utilities

Cardinia Creek South Precinct Structure Plan

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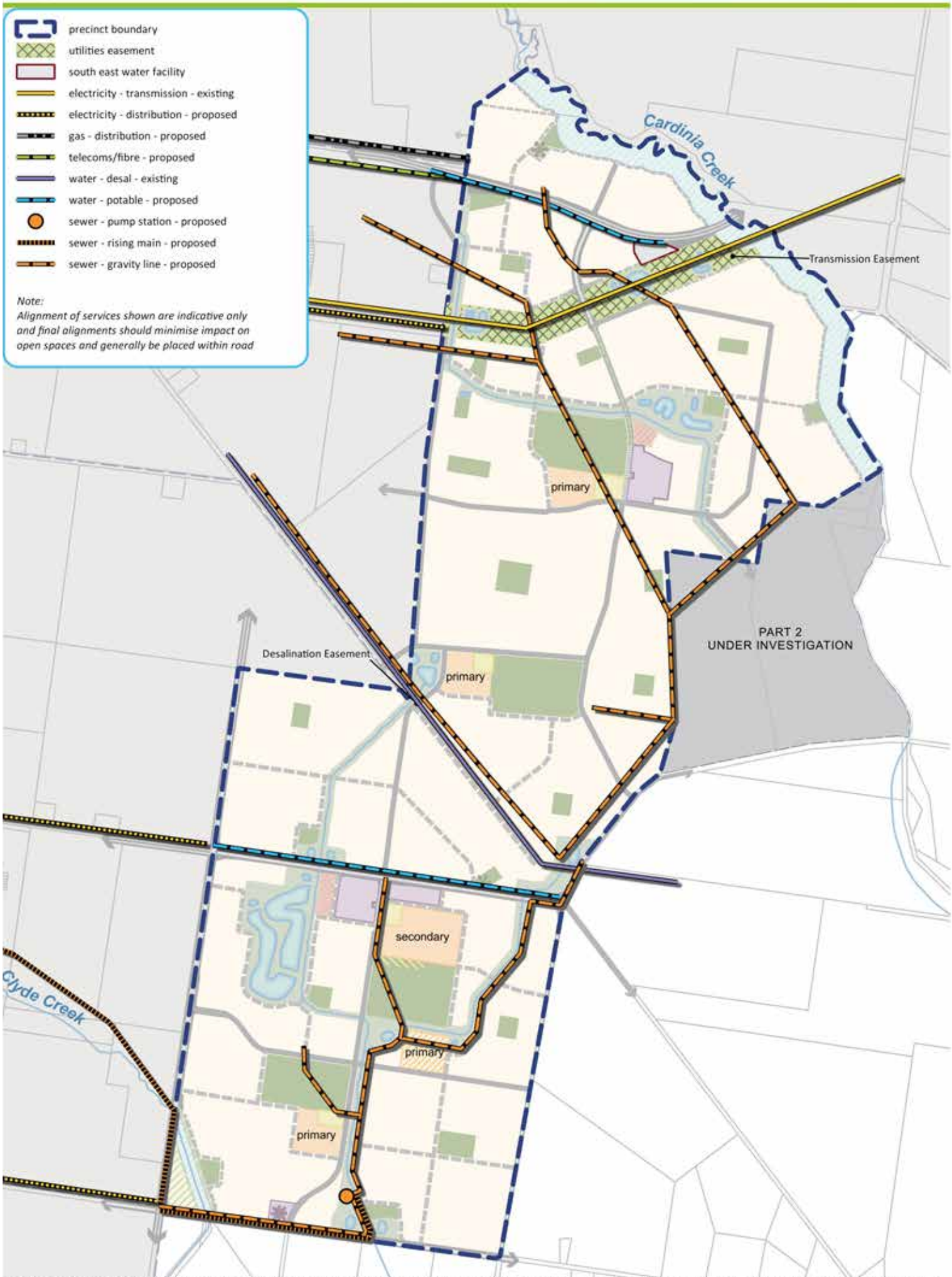

3.6.2 Utilities

REQUIREMENTS	
R87	Trunk services must be placed along the general alignments shown on Plan 10, subject to any refinements as advised by the relevant service authorities.
R88	Before development commences on a stage, plans of the road network are to be submitted 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.
R89	Delivery of underground services must be coordinated, located and bundled (utilising common trenching) to facilitate the planting of trees and other vegetation within road verges.
R90	All existing above ground electricity cables of less than 66kv voltage must be placed underground as part of the upgrade of existing roads.
R91	All new electricity supply infrastructure (excluding substations and cables of a voltage 66kv or greater) must be provided underground.
R92	Above ground utilities must be identified at the subdivision design stage to ensure effective integration with the surrounding neighbourhood and to minimise amenity impacts, and be designed to the satisfaction of the relevant authority. Where that infrastructure is intended to be located in public open space, the land required to accommodate that infrastructure will not be counted as contributions to open space requirements within the *Cardinia Creek South Infrastructure Contributions Plan.*
R93	Utilities must be placed outside of BCS conservation areas or natural waterway corridors, or on the outer edges of these corridors in the first instance. Where services cannot avoid crossing or being located within a conservation area of natural waterway corridor they must be located to avoid disturbance to existing waterway values, native vegetation, areas of strategic importance to Growling Grass Frog, significant landform features and heritage sites, to the satisfaction of the Department of Environment, Land, Water and Planning, Melbourne Water and the responsible authority.
R94	Any road crossings, pathways or open space proposed to be located within the desalination pipe easement must be to the satisfaction of Melbourne Water and the Department of Environment, Land, Water and Planning.
R95	Subject to South East Water agreeing to do so, the developer must enter into an agreement with South East Water requiring the subdivision to be reticulated with a dual pipe recycled water system to provide for the supply of recycled water from a suitable source or scheme to all lots and open space reserves within the subdivision.
R96	Irrespective of whether South East Water has entered into an agreement as contemplated, any plan of subdivision must contain a restriction which provides that no dwelling or commercial building may be constructed on any lot unless the building incorporates dual plumbing for the use of recycled water in toilet flushing and garden watering should it become available.
GUIDELINES	
G53	Above-ground utilities should be located outside of key view lines and screened with vegetation, as appropriate.
G54	Design and placement of underground services in new or upgraded streets should utilise the service placement guidelines outlined in Appendix E.
G55	Utility easements to the rear of lots should only be provided where there is no practical alternative.

3.7 Precinct Infrastructure Plan & Staging

3.7.1 Precinct Infrastructure Plan

The Precinct Infrastructure Plan (PIP) at Appendix A sets out the infrastructure and services required to meet the needs of the 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 S173 of the *Planning and Environment* Act 1987
- utility service provider requirements
- the *Cardinia Creek South Infrastructure Contributions Plan*
- relevant development/infrastructure contributions from adjoining areas
- capital works projects by government agencies and non-government organisations
- works in kind (WIK) projects undertaken by developers on behalf of Victorian Government agencies.

3.7.2 Development Staging

REQUIREMENTS	
R97	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.
R98	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.
R99	Subdivisional development must consolidate utilities into dedicated service corridors within Growling Grass Frog conservation areas
GUIDELINES	
G56	Staging of development should 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 roads and path connections, to a practical extent • provide open space and amenity to new residents in the early stages of the development, where relevant • provide sealed road access to each new allotment • deliver any necessary trunk service extensions, including confirmation of the agreed approach and timing by the relevant service provider • avoid and minimise impacts to BCS conservation areas with regard to the location of essential and other services.
G57	Sports fields, community facilities, local parks and playgrounds should be delivered as early as possible within each neighbourhood and may be delivered in stages.

3.7.3 Subdivision Works by Developers

REQUIREMENTS	
R100	Subdivision of land within the precinct must provide and meet the total cost of delivering the following infrastructure: • connector roads and local streets • local bus stop infrastructure (where locations have been agreed in writing by Public Transport Victoria) • landscaping of all existing and future roads, including the northern boundary of Ballarto Road, and local streets • intersection works and traffic management measures along arterial roads, connector streets, and local streets (except those included in the ICP) • council approved fencing and landscaping (where required) along arterial roads • local shared, pedestrian and bicycle paths along the northern boundary of Ballarto Road, local arterial roads, connector roads, utilities easements, local streets, waterways (including Cardinia Creek) and within local parks including bridges, intersections, and crossing points (except those included in the ICP) • bicycle parking as required in this document • appropriately scaled lighting along all roads, major shared and pedestrian paths, and traversing public open space • basic improvements to local parks and open space (refer open space delivery below) and high voltage transmission easement • local drainage system • local street, pedestrian path or equestrian trail crossings of waterways unless included in the ICP or outlined as the responsibility of another agency in the precinct infrastructure plan • infrastructure as required by utility service providers including water, sewerage, drainage (except where the item is funded through a Melbourne Water development services scheme), electricity, gas, and telecommunications.
R101	Provision of water tapping, potable and recycled water connection points for any potential open space must be installed on the land located within the electricity transmission line easement.
R102	**OPEN SPACE DELIVERY** All public open space (where not otherwise provided via an infrastructure contributions plan) must be finished to a standard that satisfies the requirements of the responsible authority prior to the transfer of the public open space, including but not limited to: • removal of all existing and disused structures, foundations, pipelines, and stockpiles • clearing of rubbish and environmental weeds and rocks, levelled, top soiled 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 connection points must also be provided to land identified as a sports reserve or district level local park • trees and other plantings (drought tolerant unless approved by council) • vehicular exclusion devices (fence, bollards, or other suitable method) and maintenance access points • construction of minimum 1.5m wide pedestrian paths around the perimeter of the reserve, connecting and linking into any other surrounding paths or points of interest, except where shown as a shared paths on Plan 8 • construction of a 3m path along the perimeter of the Cardinia Creek corridor and within the utility easement • installation of park furniture including barbeques, shelters, tables, local scale play grounds and other local scale play elements such as half basketball courts and hit-up walls, rubbish bins and appropriate paving to support these facilities, consistent with the type of public open space listed in the open space delivery guide (Table 6) • installation of paving and planters, furniture including seating, shelters and bollards, tree and other planting, lighting, waterway and water tapping in town squares, urban plazas and urban parks.

R103	Active sports reserves required as identified by an infrastructure contributions plan must be vested in the relevant authority in the following condition: • free from surface/protruding rocks and structures. • reasonably graded and/or top soiled to create a safe and regular surface (with a maximum 1:6 gradient). • bare, patchy and newly graded areas seeded, top-dressed with drought resistant grass. In accordance with the *Cardinia Creek South Infrastructure Contributions Plan*, these works are eligible for a works in kind credit against a landowner/developers ICP obligation where they are not considered to be temporary works. Works associated with adjacent road construction (e.g. earthworks for a road embankment) are not eligible for works in kind credit.
R104	Any heritage site or BCS conservation area to be vested in the relevant authority must be done so to 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. • completion of essential repairs to and stabilisation of any structures • installation of any fencing required to ensure public safety. Any works carried out must be consistent with any relevant Cultural Heritage Management Plan and/or Conservation Management Plan.
R105	**UTILITIES EASEMENT WORKS** Open space shown in the utilities easement in Figure 9 which are subject to further detailed design at subdivision stage must be finished to a basic standard by the owner of the property in which the utilities easement is located. These works are to be undertaken prior to the issue of statement of compliance for any subdivision adjacent the utilities easement, and to the satisfaction of the responsible authority and any Service Authority with rights to the easement. The basic works must include: • clearing of rubbish and environmental weeds • clearing of surface/protruding rocks and structures • reasonable grading and/or application of top soil to create a safe and regular surface (with a maximum 1:6 gradient) • top-dressing and seeding with drought resistant grass of bare, patchy and newly graded areas • provision of water tapping • installation of vehicular exclusion devices (fence, bollards or other suitable method) to the perimeter of the easement including vehicle maintenance access points • construction of all paths and trails as shown in Figure 9.

4.0 APPENDICES

Plan 1 - Transport Projects

Cardinia Creek South Infrastructure Contribution Plan

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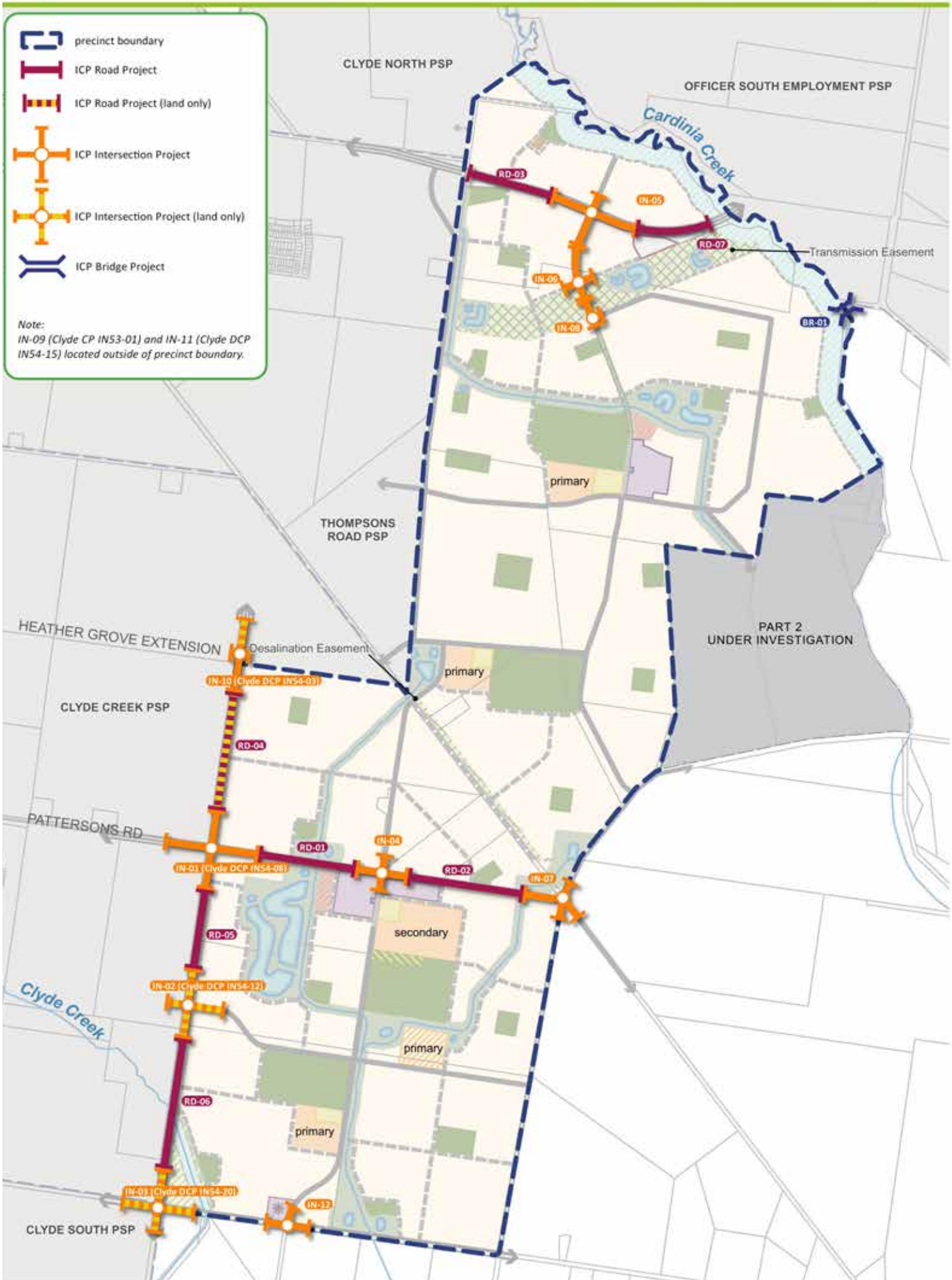

Plan 2 - Community & Recreation Projects

Cardinia Creek South Infrastructure Contribution Plan

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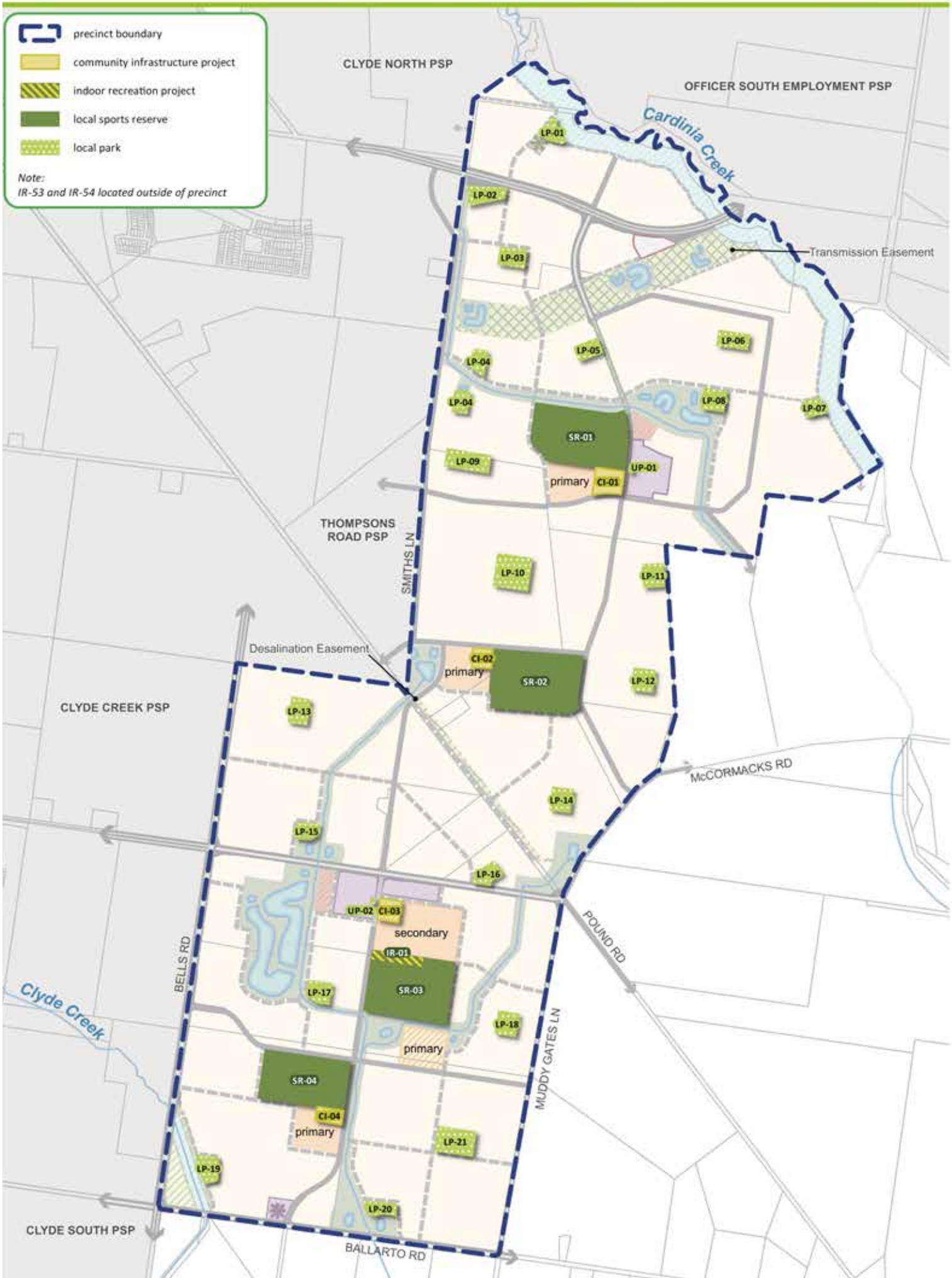


Appendix A Precinct Infrastructure Plan

TITLE	DESCRIPTION	LEAD AGENCY	COMPONENT INCLUDED IN ICP				TIMING*	APPORTION-MENT	ICP REFERENCE
			ULTIMATE LAND	ULTIMATE LAND AREA (HA)	INTERIM CONSTRUCTION	ULTIMATE CONSTRUCTION			
TRANSPORT									
ROAD PROJECTS									
Pattersons Road from Bells Road to North–South Connector Road	Purchase of ultimate land and construction of a 2 lane carriageway (interim treatment) (related to Clyde DCP Project IN-54-08).	Casey City Council	Yes	0.51	Yes	No	S–M	100%	RD-01
Pattersons Road from North–South Connector Road to Muddy Gates Lane/McCormacks Road.	Purchase of ultimate land and construction of a 2 lane carriageway(interim treatment).	Casey City Council	Yes	0.56	Yes	No	S–M	100%	RD-02
Thompsons Road from Smiths Lane to Alexander Boulevard	Purchase of ultimate land to create a 41m wide road reserve including all land within PAO3 and construction of a 2-lane carriageway (interim treatment) (related to Clyde DCP Project IN-53-06).	Casey City Council	Yes	1.65	Yes	No	S–M	100%	RD-03
Bells Road from Heather Grove (extension) intersection to Pattersons Road	Purchase of land (relevant part within Clyde Creek South PSP only) to upgrade road reserve from 20m to 41m. (balance land delivered via Clyde DCP Projects RD-54-04, IN-54-03 & IN-54-08).	Casey City Council	Yes	1.36	No	No	S–M	100%	RD-04
	Construction of a 2 lane carriage way (interim treatment) (fully funded by Clyde DCP – related projects RD-54-04, IN-54-03 & IN-54-08).	Casey City Council	No	No	No	No	S–M	0%	
Bells Road from Pattersons Road to Southern Connector Road	Purchase of ultimate land and construction of a 2-lane carriageway (interim treatment).	Casey City Council	Yes	0.71	Yes	No	S–M	100%	RD-05
Bells Road from South Connector Road to Ballarto Road	Purchase of ultimate land and construction of a 2-lane carriageway (interim treatment).	Casey City Council	Yes	1.03	Yes	No	S–M	100%	RD-06
Thompson Road from Alexander Boulevard to Cardinia corridor	Purchase of ultimate land to create a 41m wider road reserve.	Casey City Council	Yes	2.05	No	No	M-L	100%	RD-07
Thompson Road from Alexander Boulevard to Cardinia Creek corridor	Construction of 2 lane arterial road (interim treatment).	VicRoads	No	No	No	No	M-L	–	–
Arterial Roads	Duplication and ultimate construction of arterial roads and associated intersections.	Casey City Council or VicRoads when declared	No	No	No	No	L	–	–

TITLE	DESCRIPTION	LEAD AGENCY	COMPONENT INCLUDED IN ICP				TIMING*	APPORTION-MENT	ICP REFERENCE
			ULTIMATE LAND	ULTIMATE LAND AREA (HA)	INTERIM CONSTRUCTION	ULTIMATE CONSTRUCTION			
INTERSECTION PROJECTS									
Bells Road / Pattersons Road Intersection	Purchase of the land for arterial-arterial signalised 4-way intersection (ultimate), (apportionment related to Clyde DCP Project IN-54-08).	Casey City Council	Yes	1.24	No	No	S–M	50%	IN-01
	Construction of arterial-arterial signalised 4-way intersection (interim treatment).		Yes	-	Yes	No	S–M	100%	
Bells Road / South Connector Intersection	Purchase of land for intersection (ultimate). (apportionment related to Clyde DCP IN-54-12).	Casey City Council	Yes	1.10	No	No	S–M	50%	IN-02
	Construction of intersection (interim treatment). (Note: Clyde DCP covers 100% of construction costs - related to Clyde DCP Project IN-54-12).		Yes	-	Yes	No	S–M	0%	
Bells Road / Ballarto Road Intersection	Purchase of land for 75% of intersection. (Clyde DCP covers remaining 25% - via related Project IN-54-20).	Casey City Council	Yes	0.39	No	No	S–M	75%	IN-03
	Construction of intersection (interim treatment). (Note: Clyde DCP covers 100% of construction costs - related to Clyde DCP DCP Project IN-54-20).		Yes	-	Yes	No	S–M	0%	
Pattersons Road / North-South Connector Intersection	Purchase of ultimate land and construction of arterial-connector-main street signalised 4-way intersection (interim treatment).	Casey City Council	Yes	1.10	Yes	No	S–M	100%	IN-04
Thompsons Road / Alexander Boulevard Intersection	Purchase of ultimate land, including all land for Alexander Boulevard reservation up to project IN-06. Construction of an arterial-Arterial / connector 4-way intersection (interim treatment) Including interim road construction up to project IN-06.	Casey City Council	Yes	2.97	Yes	No	S–M	100%	IN-05
Alexander Boulevard / Key Local Access Street Intersection	Purchase of ultimate land including all land for Alexander Boulevard reservation up to project IN-05 and IN-08. Construction of arterial-local access street signalised 4-way intersection with equestrian crossing signals (interim treatment) including interim road construction up to project IN-05 and IN-06.	Casey City Council	Yes	1.29	Yes	No	S–M	100%	IN-06
Pattersons Road / McCormacks Road / Muddy Gates Lane / Pound Road Roundabout	Purchase of ultimate land and construction arterial connector roundabout (interim treatment).	Casey City Council	Yes	0.45	Yes	No	S–M	100%	IN-07

TITLE	DESCRIPTION	LEAD AGENCY	COMPONENT INCLUDED IN ICP				TIMING*	APPORTION-MENT	ICP REFERENCE
			ULTIMATE LAND	ULTIMATE LAND AREA (HA)	INTERIM CONSTRUCTION	ULTIMATE CONSTRUCTION			
Alexander Boulevard / Connector Roundabout	Purchase of ultimate land including all land for Alexander Boulevard reservation up to project IN-06. Construction of arterial connector roundabout (interim treatment) including interim road construction up to project IN-06.	Casey City Council	Yes	0.48	Yes	No	M	100%	IN-08
Thompsons Road / Berwick–Cranbourne Road Intersection	Contribution to ultimate land of one third of 50% of arterial to arterial signalised 4-way intersection (apportionment related to Clyde DCP Project IN-53-01 and future Casey Fields South and Clyde South ICPs (33%).	Casey City Council	Yes	-	No	No	S–M	17%	IN-09
	Contribution to interim construction of one third of 50% of arterial to arterial signalised 4-way intersection (interim treatment) (apportionment related to Clyde DCP Project IN-53-01 and future Casey Fields South and Clyde South ICPs (33%).	Casey City Council	No	-	Yes	No	S–M	17%	
Bells Road / Heather Grove connector intersection	Purchase of ultimate land (relevant part within Clyde Creek South PSP only) for arterial to connector signalised 4-way intersection (balance land delivered via Clyde DCP Project IN-54-03).	Casey City Council	Yes	0.38	No	No	S–M	100%	IN-10
	Construction of intersection (interim treatment). (Note: Clyde DCP covers 100% of construction costs via Project IN-54-03).	Casey City Council	No	-	No	No	S–M	0%	
Berwick Cranbourne Road / Ballarto Road intersection	Contribution to ultimate land of one third of 50% of arterial to arterial signalised 4-way intersection (apportionment related to Clyde DCP Project IN-54-15 (50%) and future Casey Fields South and Clyde South ICPs (33%).	Casey City Council	Yes	-	No	No	S–M	17%	IN-11
	Contribution to interim construction of one third of 50% of arterial to arterial signalised 4-way intersection (interim treatment) (apportionment related to Clyde DCP Project IN-54-15 (50%) and future Casey Fields South and Clyde South ICPs (33%).	Casey City Council	No	-	Yes	No	S–M	17%	
Ballarto / North Connector	Ultimate land and interimn construction of T signalised intersection (interim treatment).	Casey City Council	Yes	0.38	Yes	No	M–L	100%	IN-12
BRIDGE PROJECTS									
Cardinia Creek Shared Pedestrian/ Bicycle/Equestrian Bridge	Construction of a shared pedestrian/bicycle/ equestrian bridge (3m internal width) over Cardinia Creek to connect to Banjo Place in Cardinia Shire.	Casey City Council	–	–	–	Yes	M	100%	BR-01

TITLE	DESCRIPTION	LEAD AGENCY	COMPONENT INCLUDED IN ICP				TIMING*	APPORTION-MENT	ICP REFERENCE
			ULTIMATE LAND	ULTIMATE LAND AREA (HA)	INTERIM CONSTRUCTION	ULTIMATE CONSTRUCTION			
Thompsons Road bridge over Cardinia Creek to Cardinia Shire – interim and ultimate delivery.	Construction of a Road bridge over Cardinia Creek to Cardinia Shire - interim and ultimate delivery.	VicRoads	No	No	No	No	L	–	–
PUBLIC TRANSPORT PROJECTS									
Bus services	Delivery of bus services.	PTV	No	No	No	No	S–L	–	–
COMMUNITY & RECREATION									
COMMUNITY & RECREATION PROJECTS									
Alexander Boulevard Family and Community Centre and Integrated Community Centre	Purchase of land and construction of Level 2 facility, including 3 x kindergarten rooms, MCH, community rooms, and additional community spaces.	Casey City Council	Yes	1.50	No	No	S–M	100%	CI-01
Old Pound Road Family and Community Centre	Purchase of land and construction of Level 1 facility, including 3 x kindergarten rooms, MCH, and community rooms.	Casey City Council	Yes	0.80	No	No	S–M	100%	CI-02
Pattersons Road Integrated Community Centre	Purchase of land and construction of Level 2 facility, including Neighbourhood House, dedicated social support space, meeting and community spaces.	Casey City Council	Yes	1.00	No	No	S–M	100%	CI-03
Ballarto Road Family and Community Centre	Purchase of land and construction of Level 1 facility, including 3 x kindergarten rooms, MCH, and community rooms.	Casey City Council	Yes	0.80	No	No	S–M	100%	CI-04
Pattersons Road Indoor Sports Facility	Purchase of for indoor sports facility (joint use facility with government secondary school).	Casey City Council	Yes	1.00	No	No	S–M	100%	IR-01
Indoor Sports Facility Contribution	Purchase of land for indoor sports facility within Thompsons Road PSP 1053. (Note balance of land contribution covered by the Clyde DCP (66%) and future Clyde South ICP (17%).	Casey City Council	Yes	1.60	No	No	S–M	17%	IR-53
Indoor Sports Facility Contribution	Purchase of land for indoor sports facility within Clyde Creek PSP 1054. (Note balance of land contribution covered by the Clyde DCP (66%) and future Clyde South ICP (17%).	Casey City Council	Yes	6.06	No	No	S–M	17%	IR-54
OPEN SPACE PROJECTS									
Alexander Boulevard Local Sports Reserve	Purchase of land and construction of 2 x cricket ovals (3 x soccer pitches overlaid), 8 x tennis courts, 1 x cricket/soccer/tennis pavilion, and basic landscaping.	Casey City Council	Yes	11.01	No	No	S–M	100%	SR-01

TITLE	DESCRIPTION	LEAD AGENCY	COMPONENT INCLUDED IN ICP				TIMING*	APPORTION-MENT	ICP REFERENCE
			ULTIMATE LAND	ULTIMATE LAND AREA (HA)	INTERIM CONSTRUCTION	ULTIMATE CONSTRUCTION			
Old Pound Road Local Sports Reserve	Purchase of land and construction of 2 x AFL/ cricket ovals, 2 x netball courts, 1 x AFL/cricket/ netball pavilion, 1 x joint use oval with the primary school and basic landscaping.	Casey City Council	Yes	11.02	No	No	S–M	100%	SR-02
Pattersons Road Local Sports Reserve	Purchase of land and construction of 2 x AFL/ cricket ovals, 2 x netball courts, 1 x AFL/cricket/ netball pavilion, and basic landscaping.	Casey City Council	Yes	10.00	No	No	S–M	100%	SR-03
Ballarto Road Local Sports Reserve	Purchase of land and construction of 2 x cricket ovals with 3 x soccer pitches overlaid, 1 x cricket/soccer pavilion, and basic landscaping.	Casey City Council	Yes	9.00	No	No	S–M	100%	SR-04
Local Park	Purchase of land for local park.	Casey City Council	Yes	0.70	No	No	S–M	100%	LP-01
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.16	No	No	S–M	100%	LP-02
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.01	No	No	S–M	100%	LP-03
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.40	No	No	S–M	100%	LP-04
Local Park	Purchase of land for local park.	Casey City Council	Yes	0.80	No	No	S–M	100%	LP-05
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-06
Local Park	Purchase of land for local park.	Casey City Council	Yes	0.60	No	No	S–M	100%	LP-07
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-08
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.65	No	No	S–M	100%	LP-09
Local Park	Purchase of land for local park.	Casey City Council	Yes	2.40	No	No	S–M	100%	LP-10
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-11
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-12
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-13
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-14
Local Park	Purchase of land for local park.	Casey City Council	Yes	0.70	No	No	S–M	100%	LP-15
Local Park	Purchase of land for local park.	Casey City Council	Yes	0.85	No	No	S–M	100%	LP-16

TITLE	DESCRIPTION	LEAD AGENCY	COMPONENT INCLUDED IN ICP				TIMING*	APPORTION-MENT	ICP REFERENCE
			ULTIMATE LAND	ULTIMATE LAND AREA (HA)	INTERIM CONSTRUCTION	ULTIMATE CONSTRUCTION			
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-17
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-18
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-19
Local Park	Purchase of land for local park.	Casey City Council	Yes	0.80	No	No	S–M	100%	LP-20
Local Park	Purchase of land for local park.	Casey City Council	Yes	2.00	No	No	S–M	100%	LP-21
Local Park	Purchase of land for urban plaza	Casey City Council	Yes	0.05	No	No	S–M	100%	UP-01
Local Park	Purchase of land for urban plaza	Casey City Council	Yes	0.05	No	No	S–M	100%	UP-02
Clyde Creek Conservation Area	Land and provision of conservation areas.	DELWP	No	No	No	No	M-L	-	-
Cardinia Creek Conservation Area	Land and provision of conservation areas.	DELWP	No	No	No	No	M-L	-	-
SCHOOLS									
Government Primary (Alexander Bvd P–6)	Land and construction of government school (incorporating potential joint-use oval with adjoining Council sports reserve as relevant)	DET	No	No	No	No	S–M	-	-
Government Primary (Old Pound Road P–6)	Land and construction of government school (incorporating potential joint-use oval with adjoining Council sports reserve as relevant)	DET	No	No	No	No	S–M	-	-
Government Secondary (7–12)	Land and construction of government school (incorporating potential joint-use oval and indoor recreation facility with adjoining Council sports reserve as relevant)	DET	No	No	No	No	S–M	-	-
Government Primary (Southern P–6)	Land and construction of government school (incorporating potential joint-use oval with adjoining Council sports reserve as relevant)	DET	No	No	No	No	S–M	-	-
Non-Government Primary	Land and construction of non-government school.	Non-government school provider	No	No	No	No	M	-	-
OTHER INFRASTRUCTURE									
Drainage Infrastructure	Land and construction of precinct drainage infrastructure	Melbourne Water	No	No	No	No	S–L	-	-

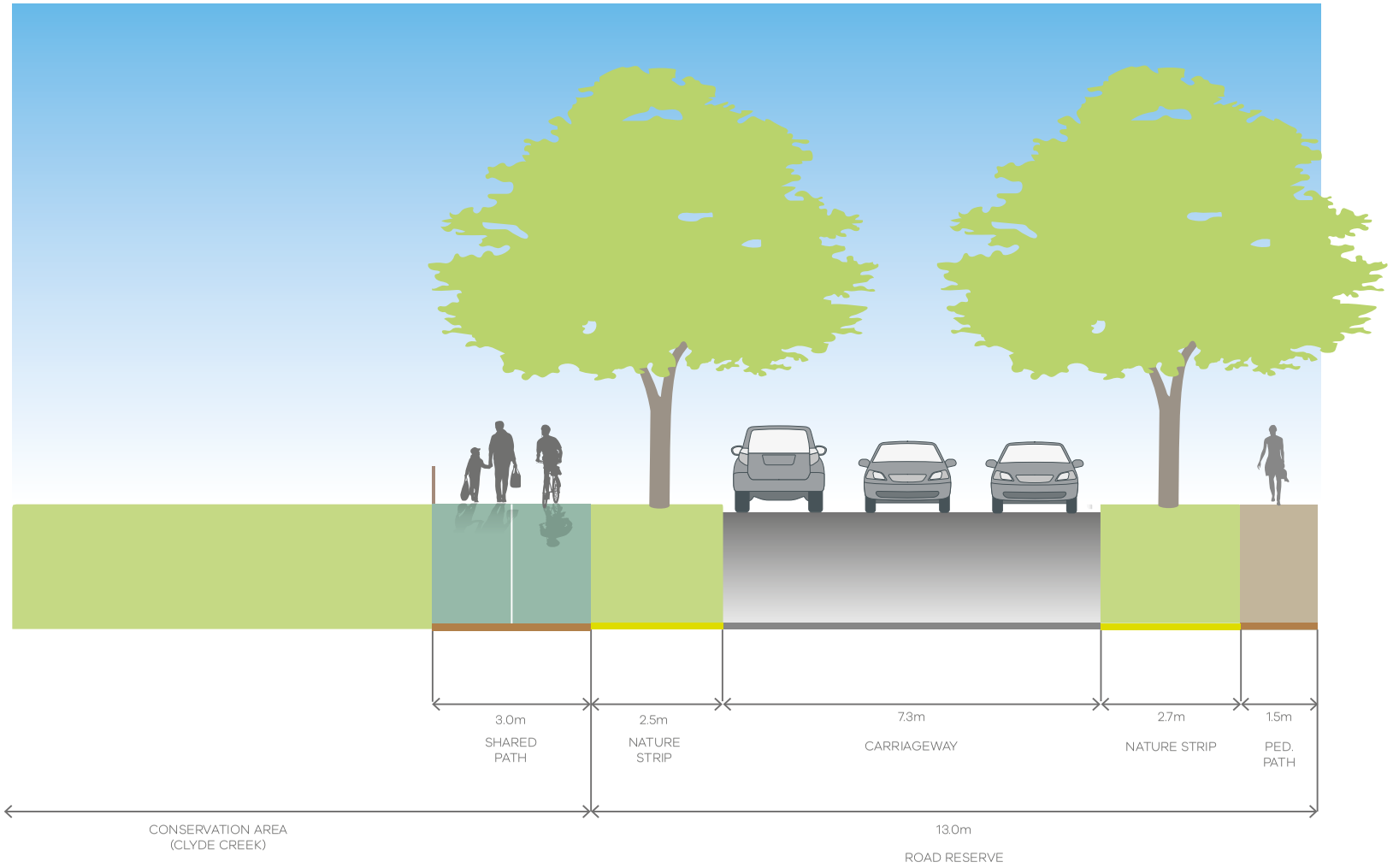
PTV = Public Transport Victoria, DET = Department of Education & Training, DELWP = Department of Environment, Land, Water and Planning

* S = 0–5 years, M = 6–15 years, L= 16+ years

Appendix B Property Specific Land Budget

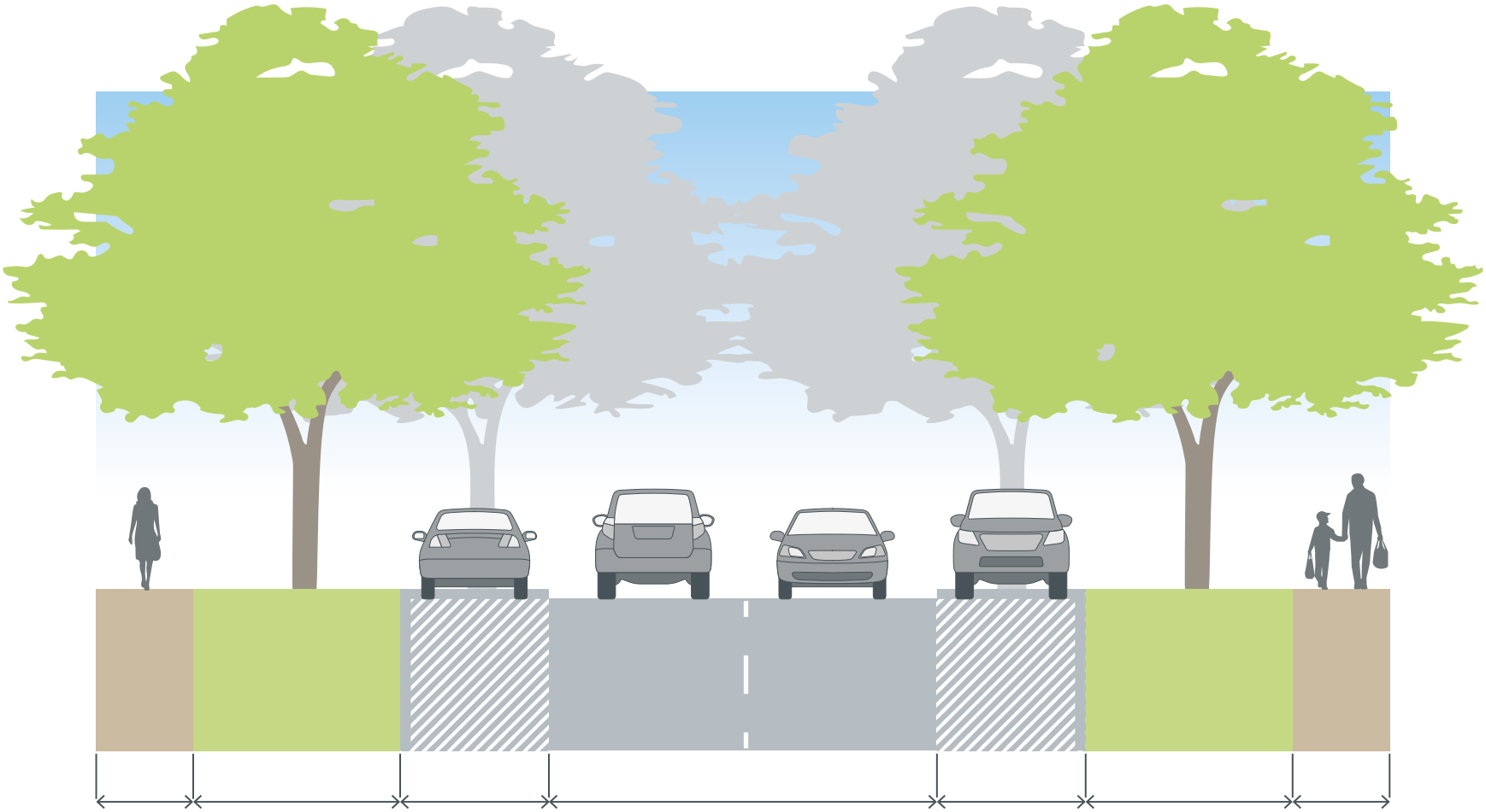
PROPERTY ID	TOTAL AREA (HECTARES)	TRANSPORT					COMMUNITY FACILITIES				OPEN SPACE								OTHER	TOTAL NET DEVELOPABLE AREA (HECTARES)	NET DEVELOPABLE AREA % OF PROPERTY
		ARTERIAL ROAD			OTHER TRANSPORT		EDUCATION		COMMUNITY FACILITIES		SERVICE OPEN SPACE						CREDITED OPEN SPACE				
		ARTERIAL ROAD – EXISTING ROAD RESERVE	ARTERIAL ROAD – NEW / WIDENING / INTERSECTION FLARING (ICP LAND)	ARTERIAL ROAD – LANDSCAPE BUFFER (ICARTS)	NON-ARTERIAL ROAD – RETAINED EXISTING ROAD RESERVE	NON-ARTERIAL ROAD – LANDSCAPE BUFFER (BTW GAS EASEMENT)	FUTURE GOVERNMENT SCHOOL	POTENTIAL NON-GOVERNMENT SCHOOL	ICP COMMUNITY FACILITIES	LOCAL INDOOR RECREATION (ICP LAND)	CONSERVATION AREA 36	WATERWAY & DRAINAGE (CONSERVATION AREA 36)	WATERWAY & DRAINAGE RESERVE	HERITAGE RESERVE – POST CONTACT	UTILITIES EASEMENTS	REDUNDANT ROAD RESERVE (LOCAL PARK)	LOCAL SPORTS RESERVE (ICP LAND)	LOCAL PARK (ICP LAND)	UTILITIES SUBSTATIONS/ FACILITIES (ACQUIRED BY RELEVANT AUTHORITY)		
PROPERTY																					
1	5.39	–	–	–	–	–	–	–	–	–	3.24	–	–	–	–	–	–	–	2.15	39.91%
2	40.73	–	3.66	0.55	–	–	–	–	–	–	6.99	–	0.35	0.07	–	–	0.75	–	28.36	69.64%
3	4.09	–	–	–	–	–	–	–	–	–	4.09	–	–	–	–	–	–	–	0.00	0.00%
4	51.07	–	3.70	0.33	–	–	–	–	–	–	3.00	3.69	–	5.54	–	–	2.11	1.32	31.37	61.43%
5	197.39	–	1.46	–	–	–	3.51	–	1.50	–	9.28	19.47	–	10.00	–	11.01	5.18	–	136.00	68.90%
6	1.23	–	–	–	–	–	–	–	–	–	1.23	–	–	–	–	–	–	–	0.00	0.00%
7	64.65	–	–	–	–	0.07	3.13	–	0.80	–	–	2.89	–	0.28	–	0.89	3.72	–	52.88	81.78%
8	40.92	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.44	2.00	–	37.48	91.58%
9	1.37	–	–	–	–	0.05	–	–	–	–	–	–	–	0.15	–	–	–	–	1.17	85.59%
10	48.87	–	0.09	–	–	0.45	0.37	–	–	–	–	3.20	–	1.62	–	8.54	1.00	–	33.59	68.74%
11	12.14	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.15	–	–	11.99	98.78%
12	43.03	–	1.14	–	–	–	–	–	–	–	–	1.98	–	–	–	–	1.00	–	38.91	90.43%
13	39.61	–	1.12	–	–	–	–	–	–	–	–	3.28	–	–	–	–	0.70	–	34.51	87.13%
14	1.17	–	0.15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.02	87.08%
15	9.34	–	0.01	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9.33	99.92%
16	7.08	–	0.04	–	–	–	–	–	–	–	–	1.09	–	–	–	–	0.85	–	5.10	72.02%
17	32.60	–	2.28	–	–	–	–	–	–	–	–	11.32	–	–	–	–	0.05	–	18.95	58.12%
18	34.04	–	1.23	–	–	–	–	–	–	–	–	7.62	–	–	–	–	1.00	–	24.18	71.05%
19	66.81	–	1.22	–	–	–	8.40	2.89	1.00	1.00	–	–	8.12	–	–	–	10.00	1.00	–	33.17	49.65%

PROPERTY ID	TOTAL AREA (HECTARES)	TRANSPORT					COMMUNITY FACILITIES				OPEN SPACE								OTHER	TOTAL NET DEVELOPABLE AREA (HECTARES)	NET DEVELOPABLE AREA % OF PROPERTY
		ARTERIAL ROAD			OTHER TRANSPORT		EDUCATION		COMMUNITY FACILITIES		SERVICE OPEN SPACE						CREDITED OPEN SPACE				
		ARTERIAL ROAD – EXISTING ROAD RESERVE	ARTERIAL ROAD – NEW / WIDENING / INTERSECTION FLARING (ICP LAND)	ARTERIAL ROAD – LANDSCAPE BUFFER (CARTS)	NON-ARTERIAL ROAD – RETAINED EXISTING ROAD RESERVE	NON-ARTERIAL ROAD – LANDSCAPE BUFFER (BTW GAS EASEMENT)	FUTURE GOVERNMENT SCHOOL	POTENTIAL NON-GOVERNMENT SCHOOL	ICP COMMUNITY FACILITIES	LOCAL INDOOR RECREATION (ICP LAND)	CONSERVATION AREA 36	WATERWAY & DRAINAGE (CONSERVATION AREA 36)	WATERWAY & DRAINAGE RESERVE	HERITAGE RESERVE – POST CONTACT	UTILITIES EASEMENTS	REDUNDANT ROAD RESERVE (LOCAL PARK)	LOCAL SPORTS RESERVE (ICP LAND)	LOCAL PARK (ICP LAND)	UTILITIES SUBSTATIONS/ FACILITIES (ACQUIRED BY RELEVANT AUTHORITY)		
20	67.06	–	1.87	–	–	–	3.50	–	0.80	–	3.15	2.84	0.17	–	–	–	9.00	1.00	–	44.74	66.71%
21	64.52	–	–	–	–	–	–	0.61	–	–	–	–	7.06	–	–	–	–	2.80	–	54.05	83.77%
SUB-TOTAL	**833.09**	**0.00**	**17.97**	**0.88**	**0.00**	**0.57**	**18.91**	**3.50**	**4.10**	**1.00**	**3.15**	**30.67**	**69.88**	**0.35**	**17.66**	**0.00**	**41.03**	**23.17**	**1.32**	**598.94**	**71.89%**
ROAD RESERVE																					
R1 (Patterson Road)	1.77	1.77	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.00	0.00%
R2 (Smiths Lane)	5.88	1.67	–	0.01	2.42	–	–	–	–	–	–	0.24	0.43	–	0.31	0.07	–	–	0.00	0.73	12.35%
R3 (Pound Road)	2.57	0.13	–	–	2.03	–	–	–	–	–	–	–	0.26	–	–	–	–	–	–	0.15	5.78%
R4 (Muddy Gates Lane)	1.75	0.09	–	–	1.66	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.00	0.00%
R5 (Ballarto Road)	3.45	3.25	–	–	–	–	–	–	–	–	–	–	0.20	–	–	–	–	–	–	0.00	0.00%
SUB-TOTAL	**15.42**	**6.91**	**0.00**	**0.01**	**6.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.24**	**0.89**	**0.00**	**0.31**	**0.07**	**0.00**	**0.00**	**0.00**	**0.87**	**5.68%**
TOTALS CARDINIA CREEK SOUTH PSP	**848.51**	**6.91**	**17.97**	**0.89**	**6.11**	**0.57**	**18.91**	**3.50**	**4.10**	**1.00**	**3.15**	**30.91**	**70.78**	**0.35**	**17.97**	**0.07**	**41.03**	**23.17**	**1.32**	**599.82**	**70.69%**



NOTES:

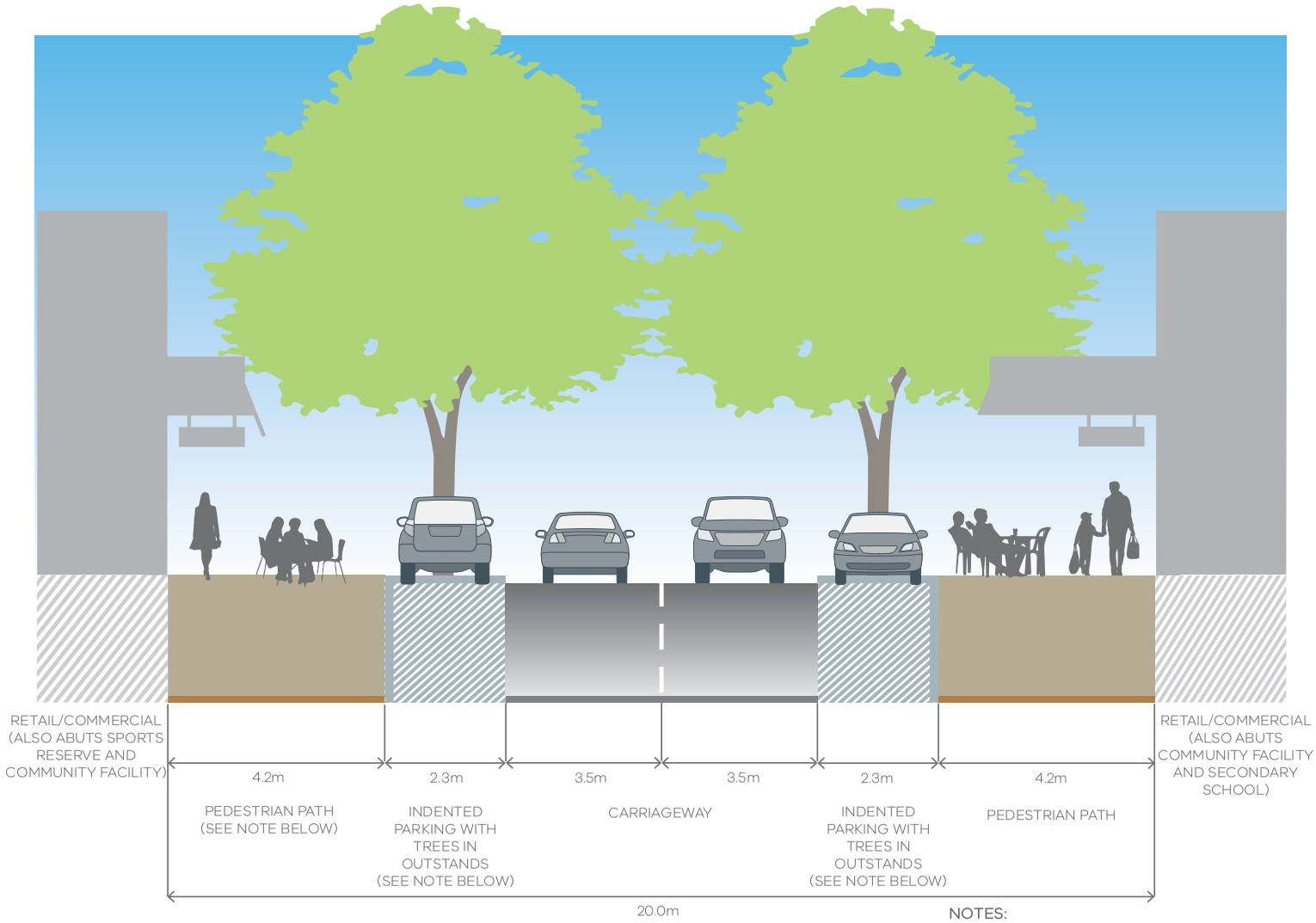
- Conservation Area 36 must be fenced appropriately to protect biodiversity values to the satisfaction of DELWP
- Street tree planting of a medium to large size appropriate for the width and function of the street
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)



NOTES:

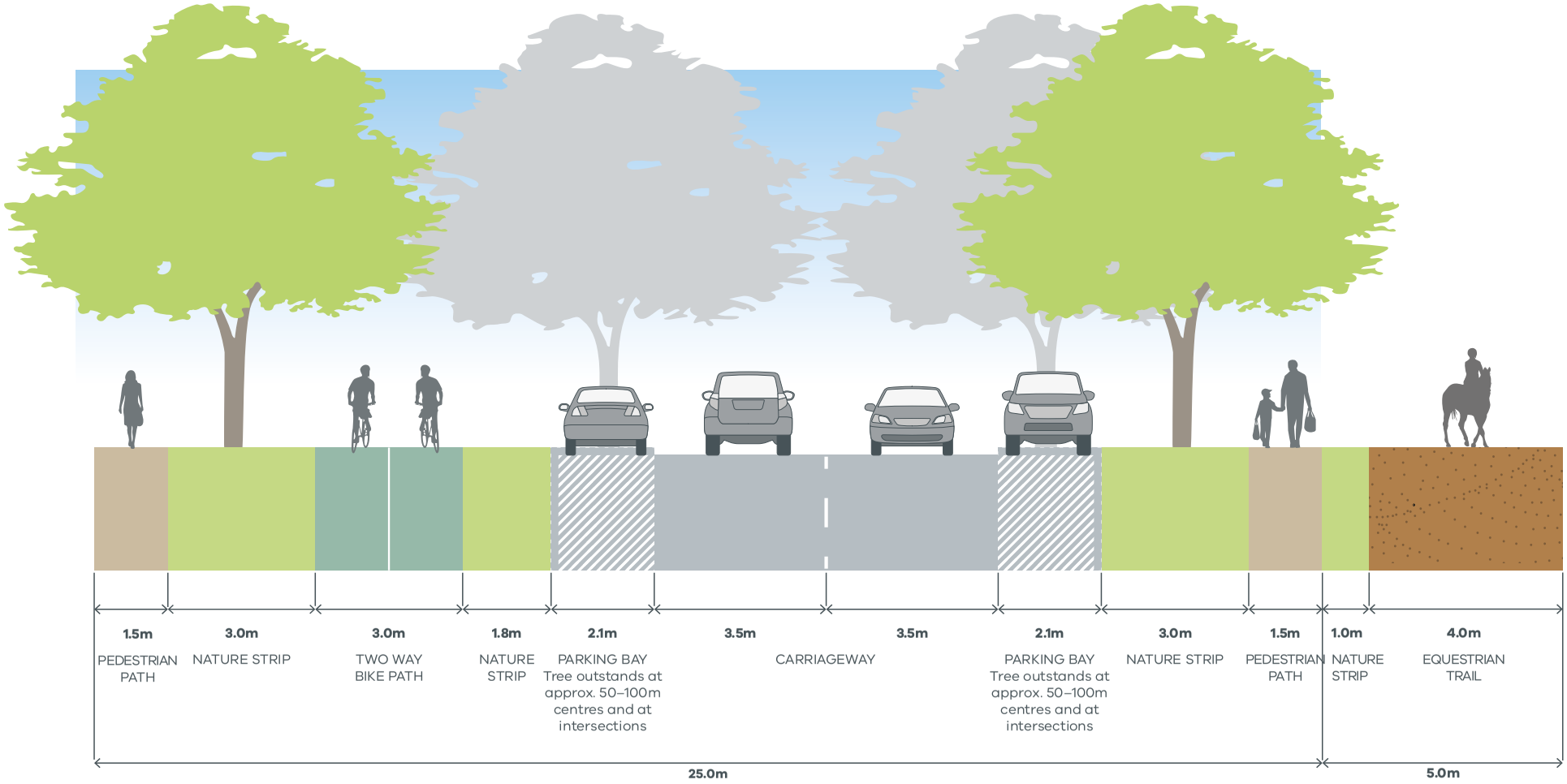
- Street tree planting of a medium to large size appropriate for the width and function of the street
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)
- Verge widths may be reduced where roads abut open space with the consent of the Responsible Authority
- Where a shared path is shown as being required on plan 8, and it is not agreed by the Responsible Authority and any other relevant authority to be located within an adjoining open space/drainage reserve the relevant verge must be widened to accommodate it as follows:
  - 1.5m (to create a 3m shared path) where abutting a school, open space or rear loaded lots
  - 5.5m (made up of an additional 1.5m to create a 3m shared path, and an additional 4m, provided as an offset from lot boundary to the path) where abutting lots with direct vehicle access from the street.

Where an off-road 2 way bike path is shown as being required on plan 8, and it is not agreed by the Responsible Authority and any other relevant authority to be located within an adjoining open space/drainage, the relevant verge must be widened and configured to match that of a connector road, unless otherwise agreed by the Responsible Authority.



NOTES:

- Bus stops may be provided within the on-street parking area, where required
- Street tree planting of a medium to large size appropriate for the width and function of the street
- 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)
- Verge widths may be reduced where Main Street abuts open space with the consent of the Responsible Authority

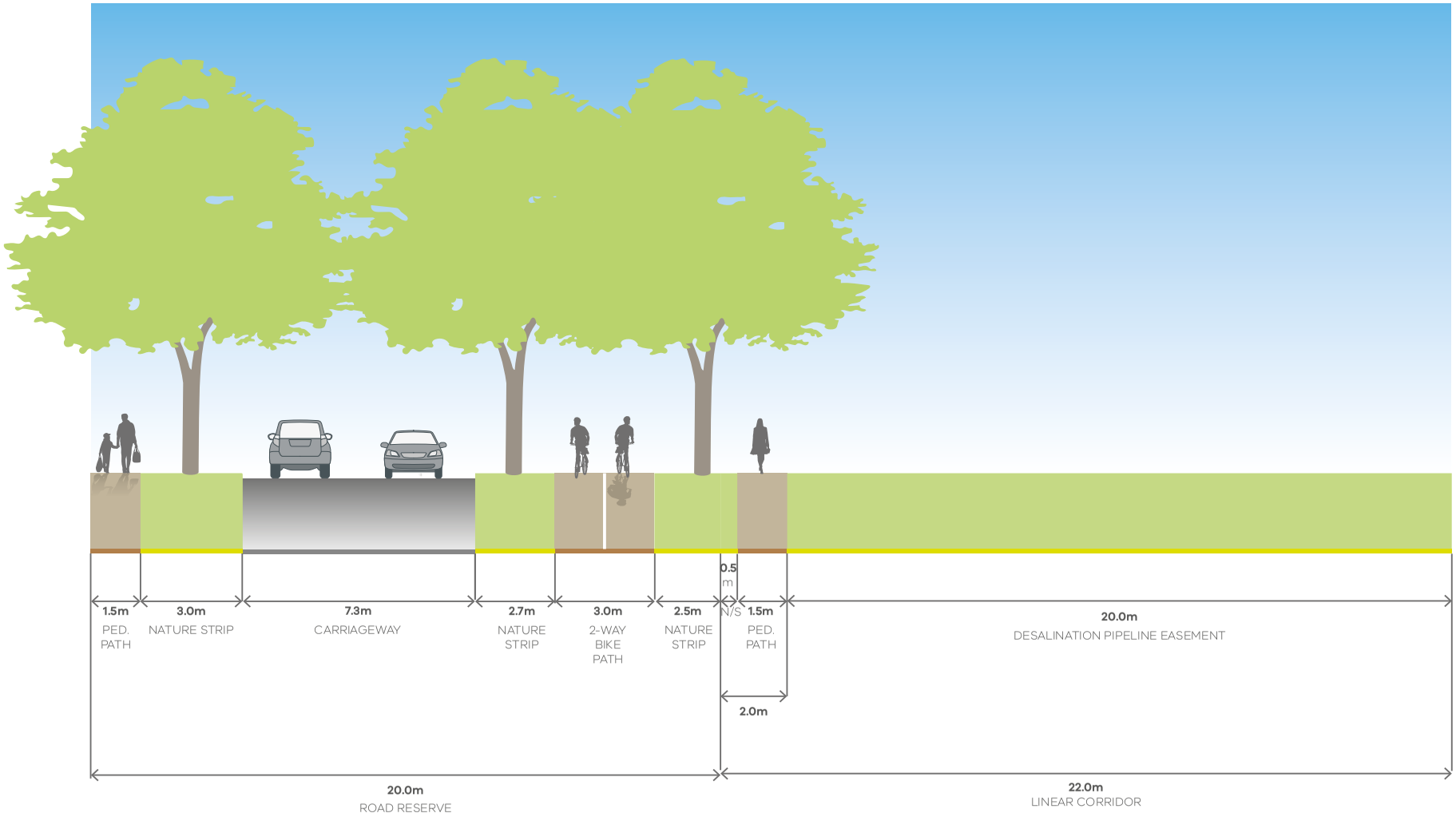


NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street
- 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)
- Existing gravel surface of road is to be retained for equestion trail
- Verge widths may be reduced where roads abut open space with the consent of the Responsible Authority

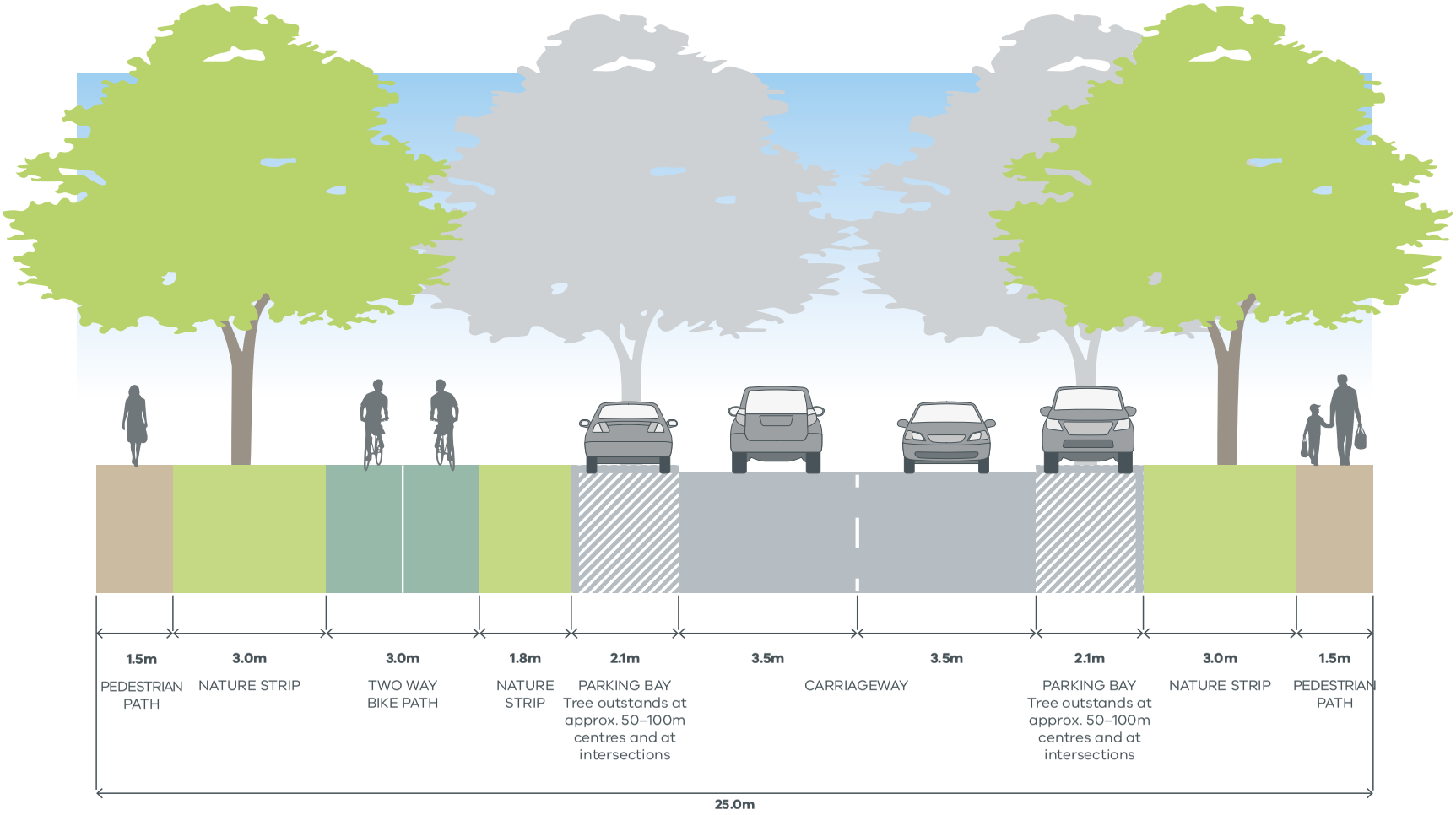
Section 4 - Connector Street (25.0m)

Muddy Gates Lane



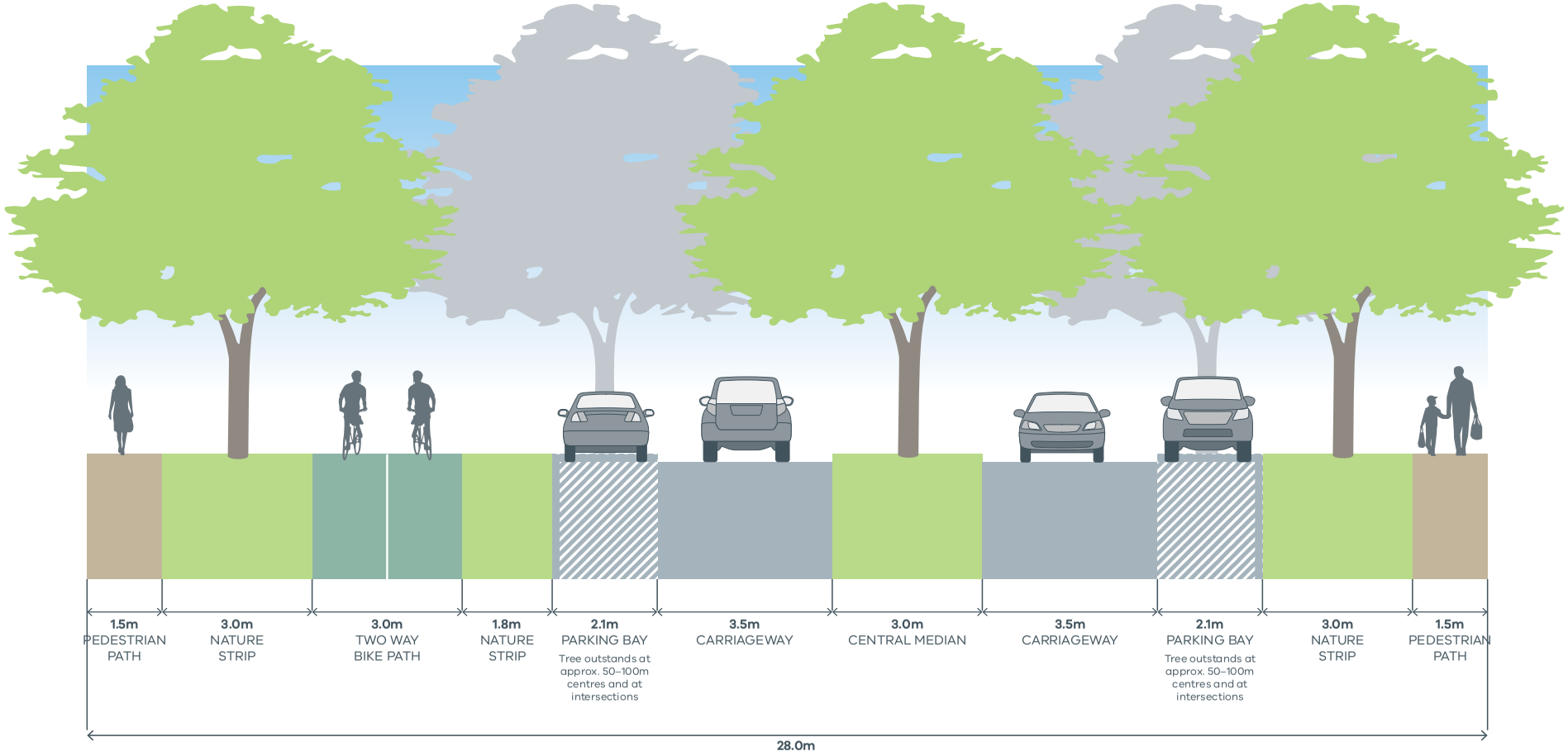
NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street
- 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)
- Where roads abut school drop-off zones and thoroughfares, grassed nature strip should be replaced with pavement. Canopy tree planting must be incorporated into any additional pavement



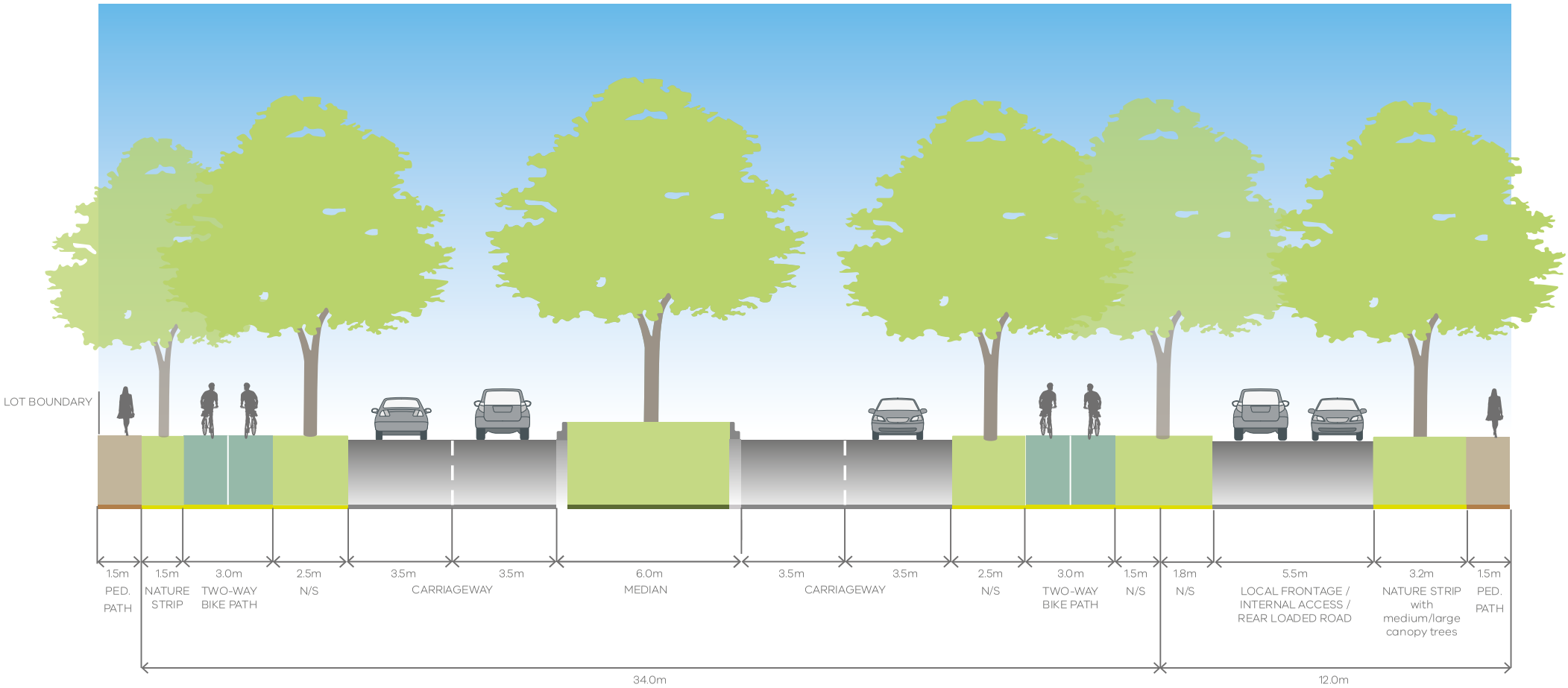
NOTES:

- Minimum street tree mature height 15 metres.
- All kerbs are to be B2 Barrier Kerb.
- Where roads abut school drop-off zones and thoroughfares, grassed nature strip should be replaced with pavement. Canopy tree planting must be incorporated into any additional pavement.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Variations to indicative cross-section may include water sensitive urban design (WSUD) outcome. These could include but are not limited to bioretention tree planter systems and/or median bioretention swales. Such variations must be to the satisfaction of the responsible authority.



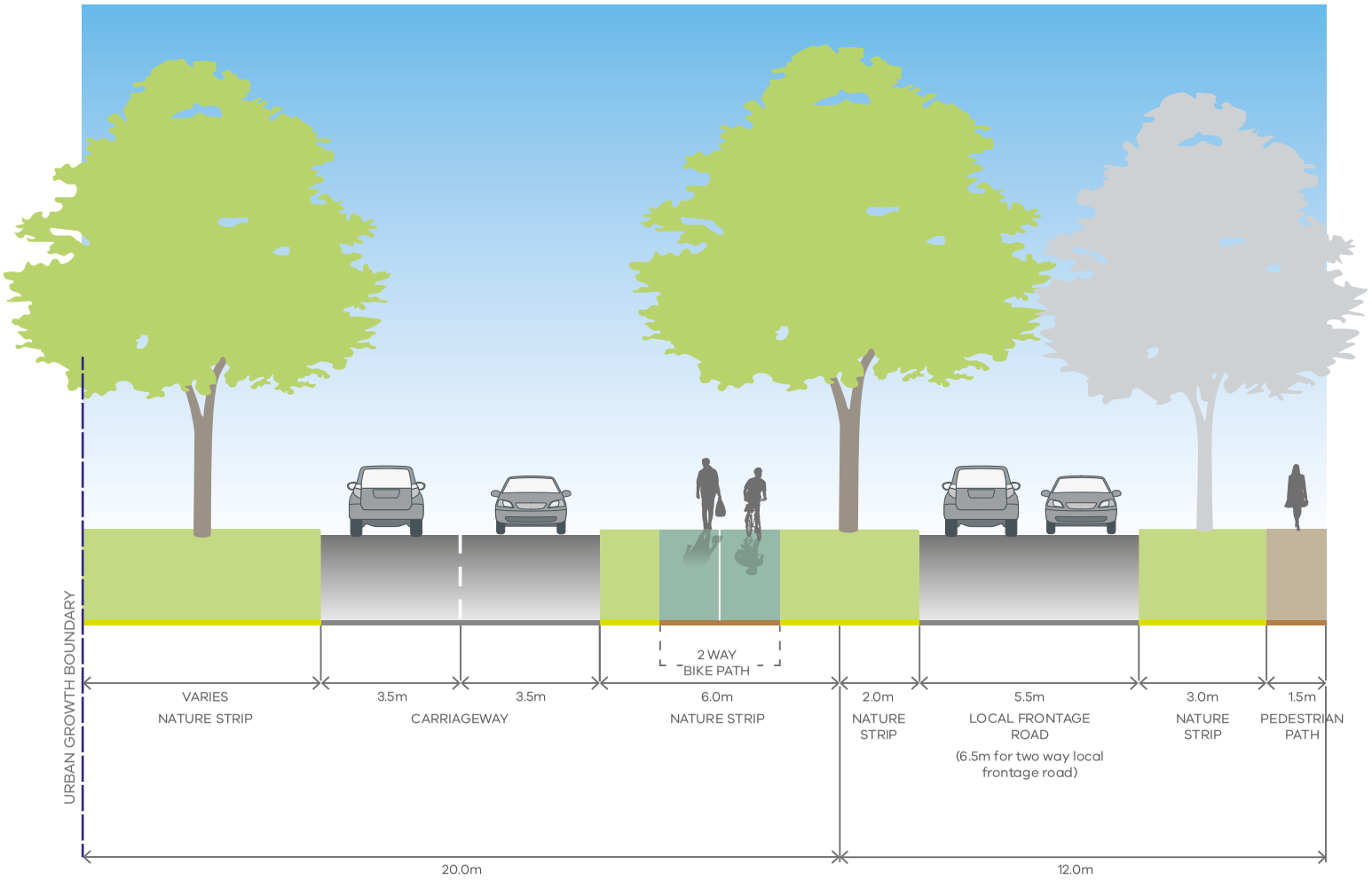
NOTES:

- Include a central median with large canopy trees to create a boulevard effect. Trees are to be centrally planted in median.
- Topsoil used in central medians is to be sandy loam, with a minimum depth of 200mm. The surface of medians is to be free-draining with a minimum cross fall of 2%, and is to be planted with warm season grasses.
- In areas where high pedestrian volumes are expected (e.g. around schools and town centres), central medians should be paved with harder wearing surfaces such as granitic sand or other pavements. Canopy tree planting must be incorporated into additional paved area.
- Any garden beds in central medians are to be offset 1.5m from back of kerb.
- Kerb to central median is to be SM2 semi-mountable kerb.
- Depending on the location of breaks in the median, provide intermediate pedestrian crossing points to accommodate mid-block crossings.
- An alternative boulevard treatment can be achieved through a wider verge on one side capable of accommodating a double row of canopy trees.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Variations to indicative cross-section may include water sensitive urban design (WSUD) outcome. These could includebut are not limited to bioretention tree planter systems and/or median bioretention swales. Such variations must be to the satisfaction of the responsible authority.



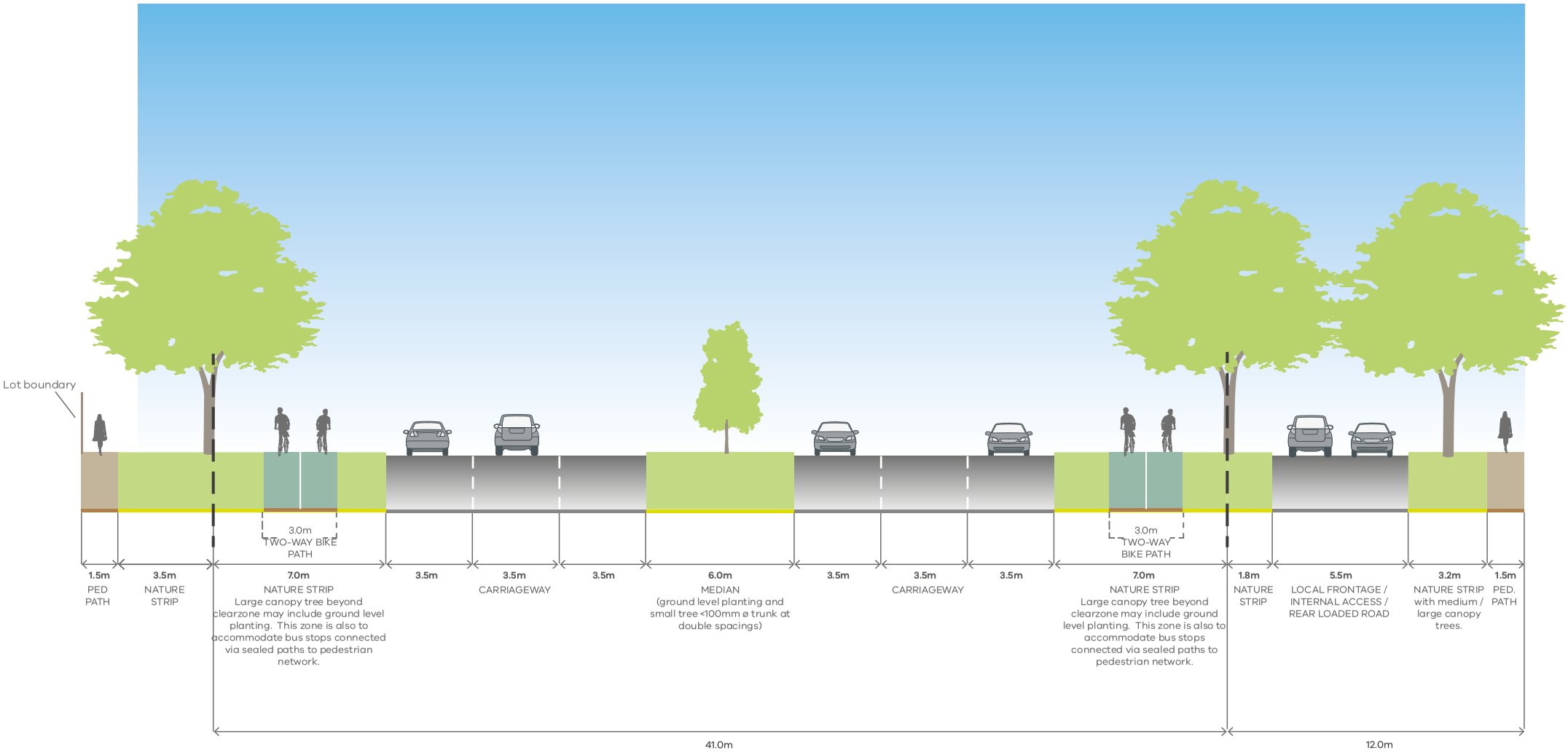
NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street
- Kerbs for arterial carriageways are to be SM2 Semi-Mountable Kerb, and local frontage roads are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)



NOTES:

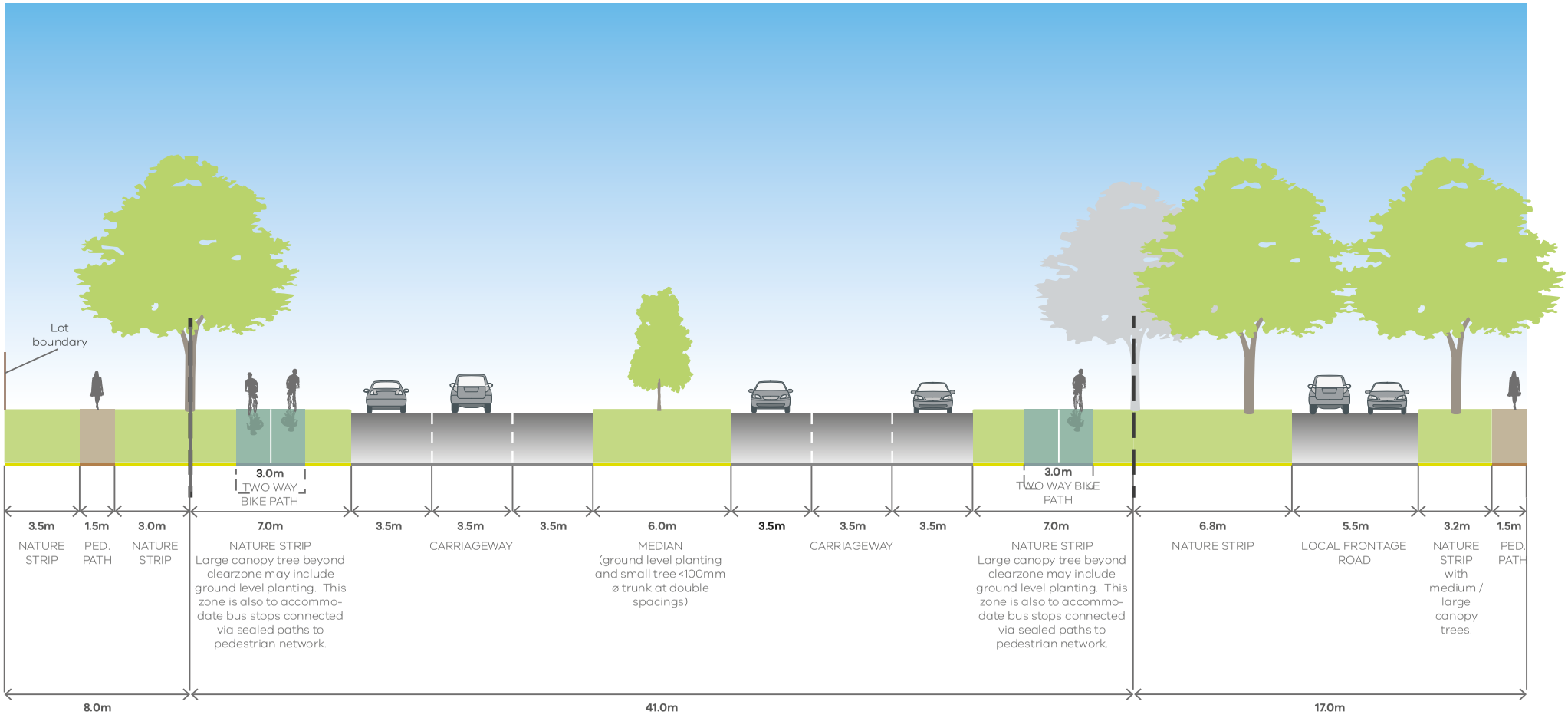
- Street tree planting of a medium to large size appropriate for the width and function of the street
- Kerbs for arterial carriageways are to be SM2 Semi-Mountable Kerb, and local frontage roads are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)
- Any future road widening to occur on the south side of Ballarto road



NOTES:

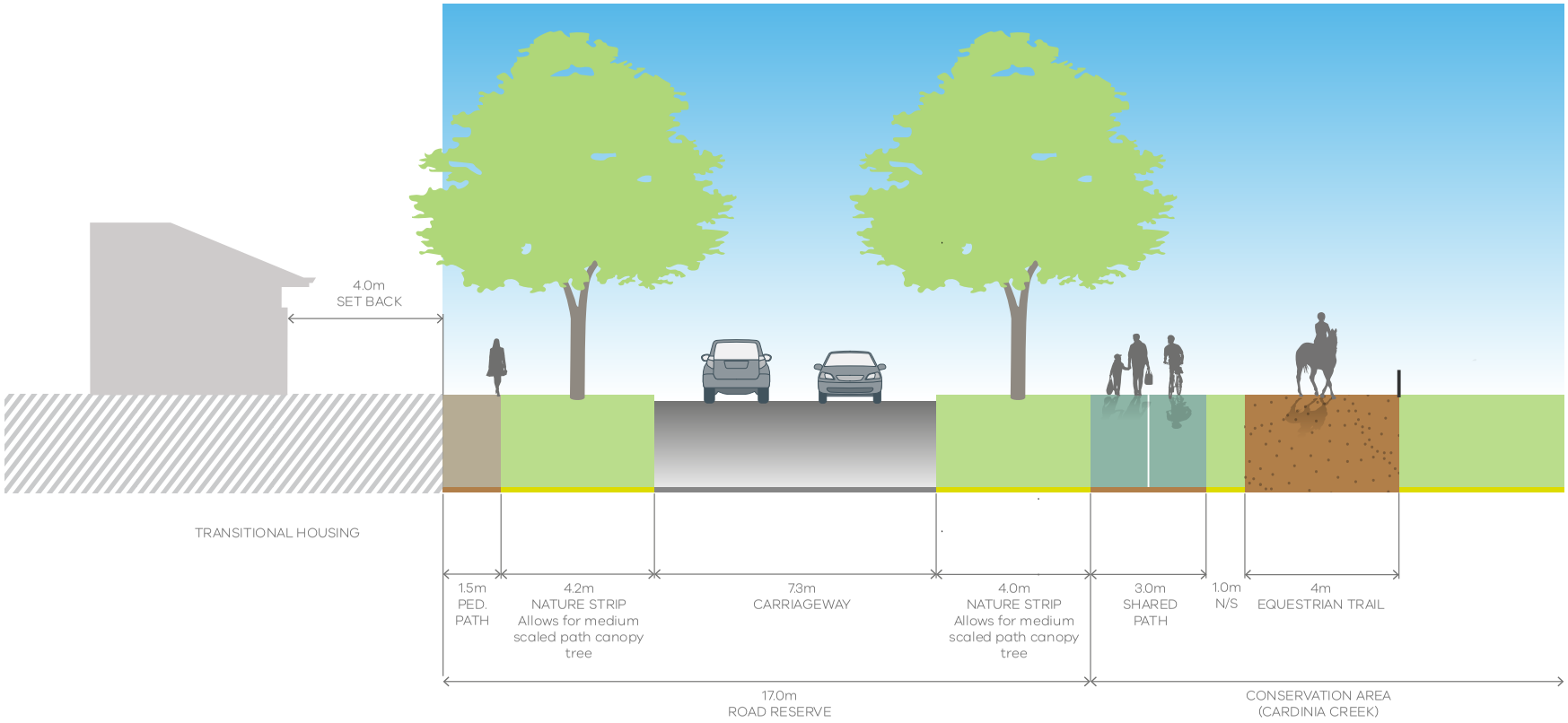
- Investigation and use of physical barriers such as wire rope fencing is encouraged to enable more extensive canopy tree planting.
- Reservation width will be affected by service infrastructure clearance requirements

Section 10 - Primary Arterial Road - 6 Lane (41.0m)
Bells Road



NOTES:

- Investigation and use of physical barriers such as wire rope fencing is encouraged to enable more extensive canopy tree planting.
- Reservation width will be affected by service infrastructure clearance requirements



NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street
- Equestrian Trail is subject to future planning and DELWP approval
- The equestrian trail is to be comprised of grass
- 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)
- Potential for shared path to be accomodated within the road reserve, subject to the approval of responsible authority.
- Conservation Area 36 must be fenced appropriately to protect biodiversity values to the satisfaction of the Department of Environment Land Water and Planning. Fencing to to exclude vehicle access but allow pedestrian and cyclist access at designated locations

Appendix D Local Convenience Centre Design Guidelines

Principle 1 Provide smaller neighbourhoods with a viable Local Convenience Centre which offers accessible services to the surrounding community.	• Local convenience centres should be planned in conjunction with local town centres in order to deliver a fine grain distribution of town centres within the region. • Local convenience centres should be planned for neighbourhoods that contain less than 8,000 people and are located more than 1km away from a local town centre or higher order town centre. • Locate local convenience centres in locations which are central to the residential community they serve and that provide exposure to passing traffic. • Where appropriate, locate Local convenience centres in attractive settings and incorporate natural or cultural landscape features such creeks and waterways, linear open space, pedestrian and cycle links and areas of high aesthetic value.
Principle 2 Provide a range of local services and facilities which are appropriate to the Local Convenience Centre location and the catchment that it serves.	• Land uses should be located generally in accordance with the locations and general land use terms identified on the Local Convenience Centre Concept Plan. • The design of the Local Convenience Centre should facilitate development with a high degree of community interaction and provide an appropriate mix of retail, commercial and community facilities to suit the catchment that the Local Convenience Centre serves. • The design of the Local Convenience Centre should also encourage a pattern of smaller scale individual tenancies and land ownership patterns within the Local Town Centre to attract investment and encourage greater diversity and opportunities for local business investment. • Active building frontages should address the primary street frontage to maximise exposure to passing trade, and promote pedestrian interaction.
Principle 3 Design the Local Convenience Centre to be pedestrian friendly and accessible by all modes including public transport, while enabling private vehicle access. The Local Convenience Centre should be easily, directly and safely accessible for pedestrians, cyclists, public transport modes, private vehicles, service and delivery vehicles with priority given to pedestrian movement, amenity, convenience and safety.	• Public transport infrastructure/facilities should be planned for commuter friendly/convenient locations adjacent to the Local Convenience Centre. • Bus stops should be provided in accordance with the Public Transport Victoria Public Transport Guidelines for Land Use and Development, to the satisfaction of the Public Transport Victoria. • Bicycle parking should be provided within the street network and public spaces in highly visible locations and close to pedestrian desire lines and key destinations. • The design of buildings within the Local Convenience Centre should have a relationship with and should interface to the public street network. • Car parking areas should be located centrally to the site and to the rear and or side of street based retail frontages. • Car parking areas should be designated to ensure passive surveillance and public safety through adequate positioning and lighting. • Car parking areas should be designed to provide dedicated pedestrian routes and areas of landscaping. • On street car parking should be provided either as parallel or angle parking to encourage short stay parking. • Car parking ingress and egress crossovers should be grouped and limited. • Car parking ingress or egress and car parking areas accommodating heavy vehicle movements should be designed to limit the pedestrian/vehicle conflict. • Streets, public spaces and car parks should be well lit to Australian standards and with pedestrian friendly (generally white) light. Lighting should be designed to avoid unnecessary spill to the side or above.
Principle 4 Create a sense of place with high quality engaging urban design.	• Development should complement and enhance the character of the surrounding area by responding appropriately to key visual cues associated with the topography of the Local Convenience Centre location and its surrounds. • The Local Convenience Centre design should seek to minimise amenity and noise impacts resulting from the mix of uses by maintaining separation and transitional areas between retail and housing activities, such as open space, road networks and community facilities. • The design of each building should contribute to a cohesive and legible character for the Local Convenience Centre as a whole. • Sites in prominent locations (such as at key intersections, surrounding public spaces and terminating key view lines and vistas) should be identified for significant buildings or landmark structures.

Principle 4 [Continued]	• The design of building frontages should incorporate the use of a consistent covered walkway or verandah to provide for weather protection. • The built form should define the primary street frontage and be aligned with the parcel boundary. • Street façades and all visible side or rear façades should be visually rich, interesting and well articulated and be finished in suitable materials and colours that contribute to the character of the Local Convenience Centre. • Materials and design elements should be compatible with the environment and landscape character of the broader precinct. • If a supermarket is proposed, the supermarket should have a frontage that directly address the primary street frontage so that the use integrates with and promotes activity within the public realm. • Supermarkets with a frontage to the primary street frontage should use clear glazing to allow view lines into the store from the street. (Planning permits for buildings and works should condition against the use of white washed windows, excessive window advertising and obtrusive internal shelving or 'false walls' offset from the glazing). • Secondary access to a supermarket from car parking areas should be considered where it facilitates convenient trolley access and does not diminish the role of the primary access from the primary street frontage. • The design and siting of supermarkets should provide an appropriate response to the entire public domain. This includes but is not limited to car parking areas, predominantly routes and streets. • Retail uses along street frontages should generally include access points at regular intervals to encourage activity along the length of the street. • Retail and commercial buildings within the Local Convenience Centre should generally be built to the parcel line. • Public spaces should be oriented to capture north sun and protect from prevailing winds and weather. • Landscaping of all interface areas should be of a high standard as an important element to complement the built form design. • Urban art should be incorporated into the design of the public realm. • Street furniture should be located in areas that are highly visible and close to or adjoining pedestrian desire lines/gathering spaces and designed to add visual interest to the Local Convenience Centre. • Wrapping of car parking edges with built form, to improve street interface, should be maximised. • Car parking areas should provide for appropriate landscaping with planting of canopy trees and dedicated pedestrian thoroughfares. • Screening of centralised waste collection points should minimise amenity impacts with adjoining areas and users of the centre. • Where service areas are accessible from car parks, they should present a well designed and secure facade to public areas. • Mechanical plant and service structure roofs should be included within roof lines or otherwise hidden from view.
Principle 5 Promote localisation, sustainability and adaptability.	The Local Convenience Centre should promote the localisation of services which will contribute to a reduction of travel distance to access local services and less dependence on the car. The Local Convenience Centre should be designed to be sympathetic to its natural surrounds by: • Investigating the use of energy efficient design and construction methods for all buildings; • Including Water Sensitive Urban Design principles such as integrated stormwater retention and reuse (e.g. toilet flushing and landscape irrigation); • Promoting safe and direct accessibility and mobility within and to and from the Local Convenience Centre; • Including options for shade and shelter through a combination of landscape and built form treatments; • Ensuring buildings are naturally ventilated to reduce the reliance on plant equipment for heating and cooling; • Promoting passive solar orientation in the configuration and distribution of built form and public spaces; • Grouping waste collection points to maximise opportunities for recycling and reuse; • Promoting solar energy for water and space heating, electricity generation and internal and external lighting; • Investigating other opportunities for the built form to reduce greenhouse gas emissions associated with the occupation and the ongoing use of buildings; and • Encourage building design which can be adapted to accommodate a variety of uses over time.

Appendix E Service Placement Guidelines

Standard road cross sections

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' road cross sections outlined in Appendix C containing grassed nature strips, footpaths and road pavements.

Non-standard road cross sections

To achieve greater diversity of streetscape outcomes, which enhances character and amenity of these new urban areas, non-standard road cross sections are required. Non-standard road cross sections will also be necessary to address local needs, such as fully sealed verges for high pedestrian traffic areas in town centres and opposite schools. This PSP contains suggested non-standard 'variation' road cross sections (refer Appendix C), however other non-standard outcomes are encouraged.

For non-standard road cross sections where service placement guidance outlined in Figure 003 and 004 in the *Engineering Design and Construction Manual for Subdivision in Growth Areas* (April 2011) is not applicable, the following service placement guidelines will apply.

	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	Preferred	No	Possible	No	Can be placed in combined trench with gas
RECYCLED WATER	Possible [4]	Preferred	Preferred	No	Possible	No	
GAS	Possible [4]	Preferred	Preferred	No	No	No	Can be placed in combined trench with potable water
ELECTRICITY	Preferred [4]	Possible	Possible	No	No	No	Pits to be placed either fully in footpath or nature strip
FTTH / TELCO	Preferred [4]	Possible	Possible	No	No	No	Pits to be placed either fully in footpath or nature strip
DRAINAGE	Possible	Possible	Possible	Preferred	Preferred	Possible [3]	
TRUNK SERVICES	Possible	Possible	Possible	Possible	Preferred	No	

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 natural waterway corridors or on the outer edges of these corridors to avoid disturbance to existing waterway values.

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

Appendix F Open Space Category Guide

4.F.1 City of Casey Open Space Core Service Level Standards

Function

Categorising open spaces by function helps to determine how each particular space is intended to be used and in turn the infrastructure that would help fulfil that particular function. The function of individual open spaces can be determined by considering the various function types and the benefits that people seek from open space particularly in the context of the settlement type (i.e. where the open space is to be situated and the people it seeks to cater for). The City of Casey Open Space Strategy proposes that the open space be considered in the context of four functions (see below). Open spaces can be made up of a single function or fulfil a range of functions within the one space.

FUNCTION	DESCRIPTION
SOCIAL / FAMILY RECREATION OR LOCAL PARKS	Social family recreation parks provide opportunities for a range of age groups typically catering for play, picnics, casual ball games, trail activities and environmental qualities. These parks will be created at district and regional level open spaces. Local parks will be smaller informal open spaces catering for the local neighbourhood area. Includes Urban Parks.
TRAILS AND WATERWAYS	Land which is set aside or has a secondary function to accommodate trail linkages or open space corridors / walkways. These include walkways between streets and neighbourhoods, open space corridors, waterways, drainage corridors, floodplains, tree reserves, wetland areas and gas and transmission line easements which accommodate service infrastructure. Melbourne Water acknowledges that it is committed to supporting multiple use of its waterways to contribute to liveability outcomes. However, restrictions may be in place to allow for flooding, drainage and transfer of water supply and sewerage.
SPORT	Land set aside to provide for organised sport. These open spaces should also provide for non-organised recreational uses and at the district and regional level act as community hubs.
NATURE	Areas dedicated for environmental values promoting flora and fauna sustainability and connecting residents with nature. These include nature reserves which consist of remnant or newly created vegetation sites. Includes BCS conservation areas.

Hierarchy

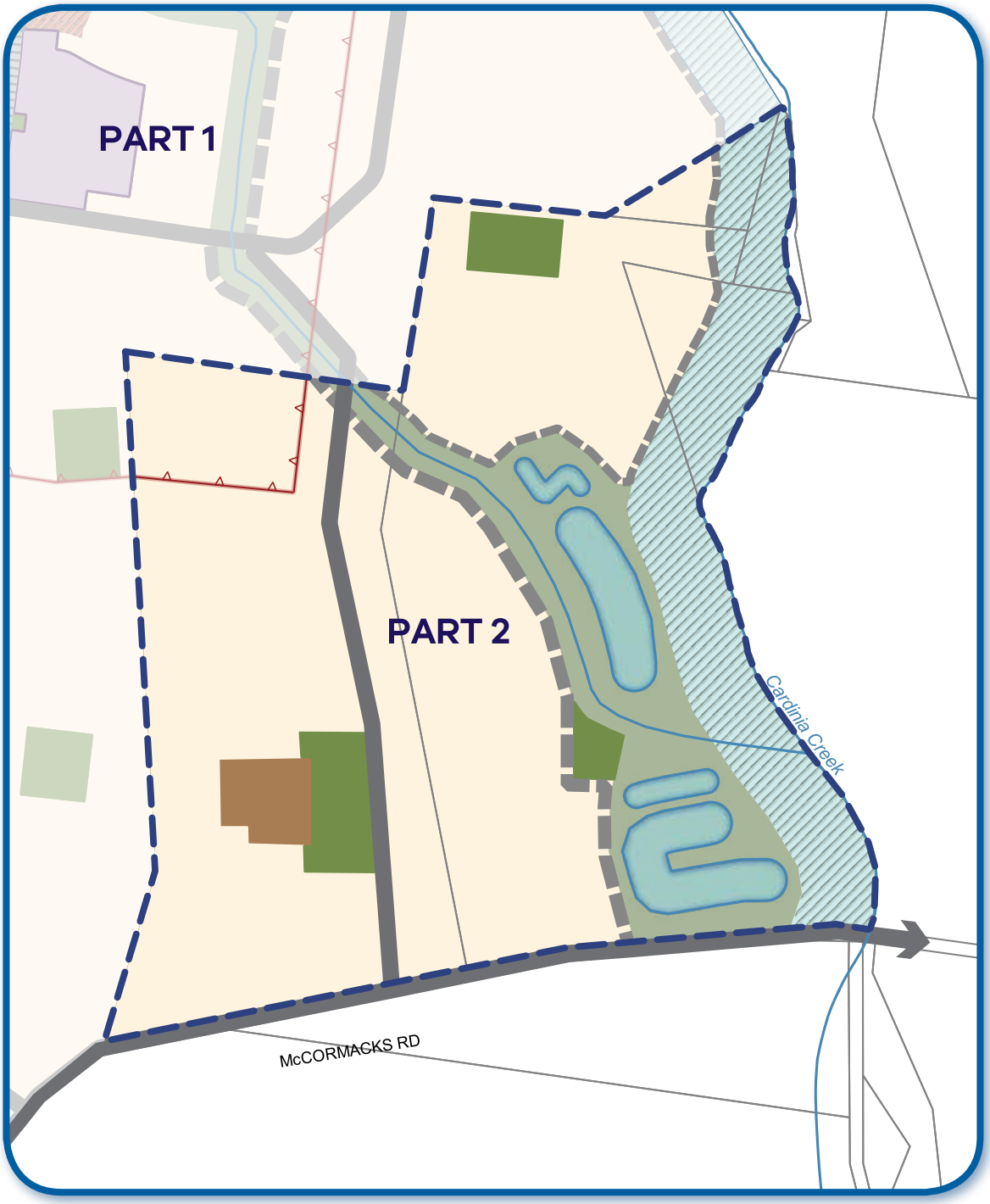
A three tiered hierarchy of public open space based on its catchment has been developed where the catchment is the distance in which people may travel to access that particular space. The hierarchy influences the level of infrastructure provision and maintenance standards applied for local, district and regional open space parcels.

HIERARCHY	DESCRIPTION
LOCAL OPEN SPACE	Predominantly provided to serve an immediate local catchment i.e. relatively small in size, servicing daily and weekly neighbourhood, generally accessed by bicycle or foot from the surrounding catchment.
DISTRICT OPEN SPACE	Generally larger areas of a greater complexity (perhaps with support facilities) that serve a group of suburbs or a precinct, with significance for the precinct as a whole or a substantial part of it (due to the size, function or diversity in the space), where there may also be local significance (conservation, cultural value, or for large social gatherings) and where residents might be expected to drive for access.
REGIONAL OPEN SPACE	Areas that serve regional catchments (whole of, or broader than, the municipality) that may host significant sites, including of flora and fauna species, or, by virtue of their size, that offer diversity of opportunities or levels of development that would not necessarily be available for all primary functions and in every municipality, and that may attract high numbers of people, including tourists.

Appendix G Cardinia Creek South Part 2 Investigation Area

The planning for Cardinia Creek South Part 2 will be subject to a future amendment. A potential future urban structure is being investigated pending confirmation of the Regional Park and review of the existing Conservation Area 36. Below is an indicative future urban structure for Cardinia Creek South Part 2 which is subject to change.

Figure 8 Indicative Future Urban Structure of Cardinia Creek South Part 2.



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