



Conybeare Morrison

## Berry Bypass Urban Design Strategy

Kangaroo Valley Road Interchange & Victoria Street Precinct  
Concept Design Summary Report - 80% Issue

July 2012

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Prepared for Roads and Maritime Services

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## Glossary

<p><b>Carriageway</b> Road surface used by vehicles, including both traffic lanes and shoulders.</p>	<p><b>On-road Cycleway</b> A dedicated lane near the shoulder of the road for the use of commuter cyclists only.</p>
<p><b>CLD</b> Context Landscape Design</p>	<p><b>Parapet</b> Traffic crash barrier at the edge of a bridge, viaduct or tunnel portal structure.</p>
<p><b>CRG</b> Community Reference Group.</p>	<p><b>REF</b> Review of Environmental Factors</p>
<p><b>CPTED</b> Crime Prevention Through Environmental Design - the design of the built environment which can lead to a reduction in fear of crime and incidence of crime.</p>	<p><b>Road Reservation</b> Corridor for road carriageway, footways, batter slopes, etc.</p>
<p><b>CM<sup>+</sup></b> Conybeare Morrison</p>	<p><b>RMS</b> Roads and Maritime Services, NSW</p>
<p><b>Cycle Path</b> A path dedicated for cyclist use.</p>	<p><b>SCC</b> Shoalhaven City Council</p>
<p><b>DDA</b> <i>Disability Discrimination Act</i>, 1992.</p>	<p><b>Shared Path</b> Pathway shared by both pedestrians and cyclists.</p>
<p><b>DEC</b> Department of Environment and Conservation</p>	<p><b>Shoulder</b> The portion of a carriageway beyond the traffic lanes adjacent to, and flush with, the pavement surface.</p>
<p><b>EA</b> Environmental Assessment.</p>	<p><b>Soffit</b> The underside of an elevated structure, such as a bridge or viaduct.</p>
<p><b>ESD</b> Environmentally Sustainable Design.</p>	<p><b>The Proposal</b> Works associated with the proposed Foxground and Berry Bypass, including associated parks, local road, pedestrian and cyclist facilities.</p>
<p><b>EP&amp;A Act</b> <i>Environmental Planning and Assessment Act</i>, 1979.</p>	<p><b>Type F Barrier</b> Tapered, redirective, concrete traffic safety barrier.</p>
<p><b>Footpath</b> Pavement for use by pedestrians and the disabled.</p>	<p><b>Undercroft</b> Area under a bridge without access to direct sunlight and rain.</p>
<p><b>Footway</b> Zone between road kerb and road reservation boundary, typically incorporating a footpath and/or nature strip.</p>	<p><b>Verge</b> Part of a road formation, not sealed, with a carriageway, footpath or cycleway.</p>
<p><b>GA</b> General Arrangement</p>	<p><b>Visual Catchment</b> The area from which an object is viewed.</p>
<p><b>LEP</b> Local Environmental Plan.</p>	
<p><b>LGA</b> Local Government Area.</p>	

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Figure 1: North Berry bypass route study precincts.

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## 1.0 Introduction

### 1.1 Purpose

This report describes the Urban Design Strategy for the Kangaroo Valley Road Interchange and Victoria Street Precinct of the Foxground and Berry Bypass project.

### 1.2 Study objectives

The study objectives are to:

- Develop an Urban Design Strategy and Report.
- Participate in a process of meetings and workshops that engages the community and key stakeholders.
- Identify mitigation measures, ideas and opportunities for project structures including the Kangaroo Valley Road Interchange, Berry Bridge and the Northern Interchange.
- Develop urban design concepts for adjoining Berry streets, public recreational spaces and for pedestrian and cycle movement.
- Prepare a Concept Design Summary Report for inclusion in the EA.
- Prepare a detailed Urban Design Report and 'Reference Design' to inform future construction contract works.

### 1.3 Scope

The study focuses on the approximately 2.5km section of the Foxground and Berry Bypass (FBB) route that is proposed to the north of Berry, in the vicinity of the township, extending from the Northern Interchange to the northeast of Berry, to the Kangaroo Valley Road Interchange to the west.

The study area includes the Berry Bridge, the North Street precinct and all associated works required to integrate the project with the local street network, property access, pedestrian and cyclist connections, and includes the urban and landscape design of 'residual land parcels' that would be utilised for the agistment of stock or for public open space.

### 1.4 Consultation – a collaborative design process

The development of the Urban Design Strategy has involved an iterative working process - identifying urban design opportunities, developing concept design options, and testing these through 3D modeling and photomontage.

The urban design process has benefited from the feedback provided from a community engagement process commenced in 2011 and followed by a series of community workshops held in Berry in 2012. Also from meetings with key stakeholders such as Shoalhaven City Council (SCC) and through the review of fellow design professionals - a collaborative design process, working with the RMS Project Design Team, including the RMS Project Manager, Environmental Assessment (EA) Manager and Urban Design Manager, including the design engineers at Aecom and the specialist Bridge Designers of the Aurecon Group.

### 1.5 Study precincts

The Berry Bypass Urban Design Strategy encompasses three interconnected study precincts:

- Berry Bridge and Northern Interchange Precinct
- North Street Precinct
- Kangaroo Valley Road Interchange and Victoria Street Precinct

This report and the associated community consultation groups are structured, based on these three interconnected precincts.



Community workshop at Berry Showground.



Community workshop at Berry School of Arts.

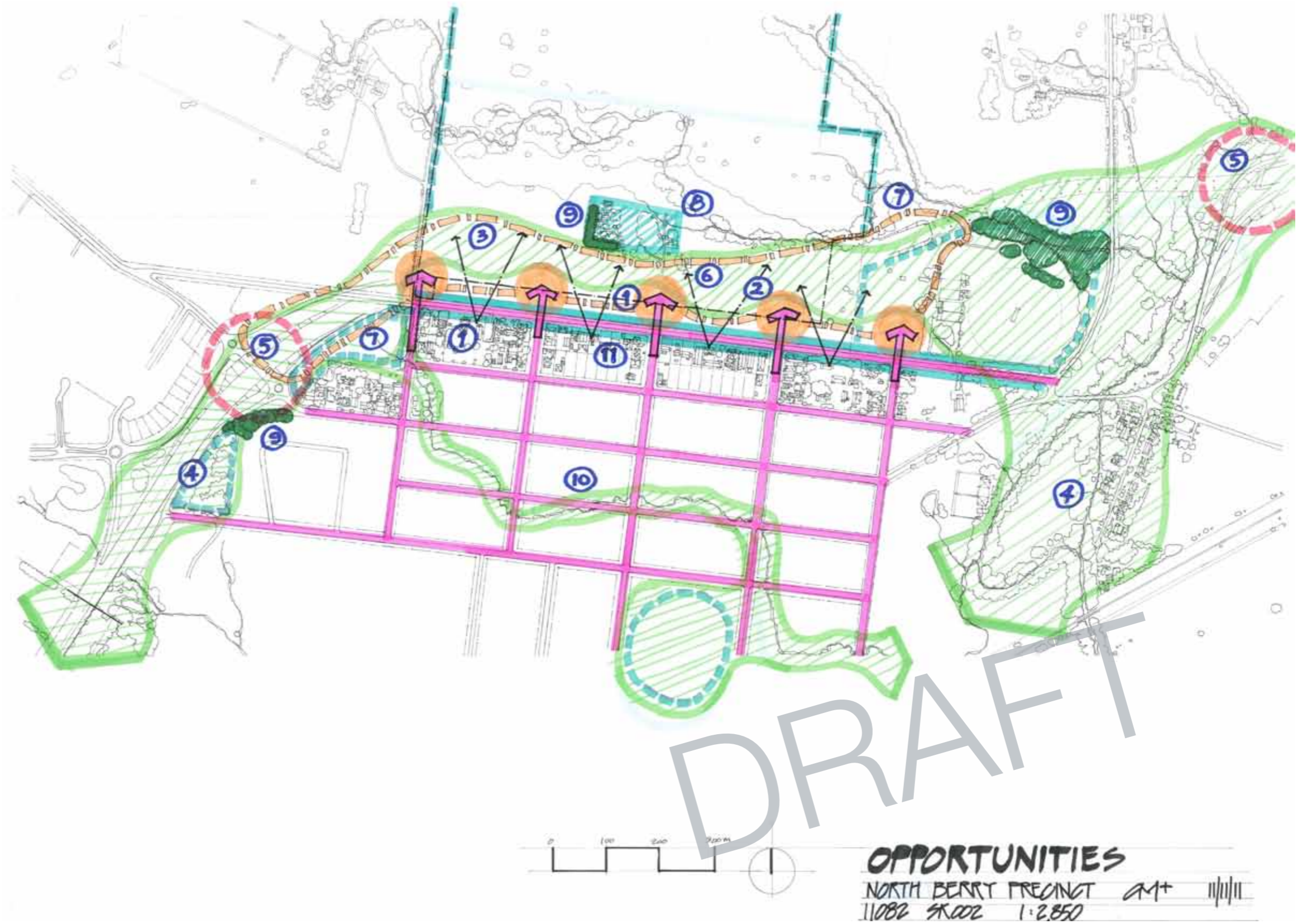


Figure 2: Urban design opportunities.



## 2.0 Holistic design approach

The urban design approach has been one that pursues an integrated outcome. We understand there needs to be an overall urban design 'vision' for the future development of Berry (i.e. not simply a focus on the Bypass corridor in isolation). The design approach has been holistic in outlook, considering the urban design of the Berry Bypass in relationship to the urban structure, character and evolution of the Berry township as a whole. We seek an integrated urban planning outcome that would be forward looking, and serve Berry in the long term, benefiting future generations.

### 2.1 Urban design analysis - key constraints

During the analysis phase of the project the following bypass urban design constraints were identified:

#### Flooding, drainage & water table

Drainage issues, due to flat grades, limit the potential for the bypass to be significantly depressed.

#### Homestead curtilage & farm viability

The bypass alignment and footprint has in part been guided by the need to establish a reasonable visual curtilage of the existing homestead and garden (to the north of North Street), to provide alternate vehicular access, and sufficient flood-free high ground for regular pastureland for a viable farm.

#### Berry township urban integrity and legibility

The Berry township street grid and development blocks should be retained wherever possible and the alignment of the Berry Bypass should respect the existing street and development pattern.

#### North Street streetscape integrity

The integrity of the North Street streetscape should be retained and strengthened through urban and landscape design improvements.

#### Bypass user safety (engineering geometry standards)

A safe Bypass roadway at 100km/hr speed limit is a mandatory design requirement. This includes ensuring minimum radius road curvatures and a horizontal rise and fall necessary to achieve sightline and safety requirements.

#### Construction factors

There would be a significant increase in road construction cost if the bypass alignment was to encroach north of Bundewallah Creek into flood prone areas.

#### Berry sports field

Berry sports field provides an important recreational facility for the Berry community. The field and surrounding landscape backdrop to the north should be protected.

#### Maintain escarpment views

The height of the Bypass road level and associated noise mitigation devices should be minimised, in order to maximise views from North Street to the Cambewarra Escarpment.

#### CRG agreed major road alignments

The bypass alignment, as agreed with the Community Review Group in 2011, is now established.

#### Noise attenuation requirements

Noise attenuation barriers would be necessary at various locations along the bypass alignment and would require additional overall corridor footprint and width to be accommodated.

## 2.2 Urban design analysis - opportunities

The following bypass urban design opportunities have been identified:

#### (1) Township street grid and North Street integrity

Preserve existing street corridor and improve streetscape definition and amenity through the design of recreational green space and street trees.

#### (2) Berry north-south streets

Provide a fitting northern, physical and visual, resolution of the Berry township north-south oriented streets: George, Edward, Albany, Alexandra and Prince Alfred Street.

#### (3) Maximise views to the Cambewarra Escarpment

Lower the alignment as much as drainage requirements would allow and explore noise mitigation measures that maximise views to the escarpment.

#### (4) Recreational green space

Provide an 'arc' of connected recreational green spaces along the south edge of the bypass, extending from Berry sports field in the east to Mark Radium Park and potentially further to the southwest.

#### (5) Celebrate Berry arrival/departure

Kangaroo Valley Road Interchange (and Queen Street, west) and the Northern Interchange are opportunities to incorporate special feature planting and high quality overbridge design to mark the arrival to Berry.

#### (6) Minimise the visual prominence of the bypass and noise mitigation barriers

Incorporate 'Ha Ha' landforms and landscaped mounds to integrate noise mitigation devices in the landscape, and to screen the bypass roadway from view - retaining escarpment views.

#### (7) A new pedestrian/cycle circuit

There is an opportunity to establish a new walking/cycle route along the bypass corridor, extending from Mark Radium Park and Kangaroo Valley Road in the west along North Street to Berry sports field in the east.

#### (8) Facilitate viable diary farming

Maintain conditions for viable diary farming - maintaining sufficient flood free high ground and general pastureland to the north of the bypass alignment.

#### (9) Preserve existing stands of trees

Consolidate existing trees to north of Berry sports field (along Connolly's Creek), at the Queen Street and Kangaroo Valley Road intersection and at Mark Radium Park.

#### (10) Improve Town Creek environment

Restore the upper reaches of Town Creek (to the south of the bypass), as the beginnings of a potential new recreational green space following the creekline.

## 2.3 Overall urban design objective – Kangaroo Valley Road Interchange & Victoria Street Precinct

The following overall urban design objective has guided the Urban Design Strategy:

*To integrate the Berry Bypass within the western edge of the township, including the Kangaroo Valley Road and Huntingdale Park communities, and within the picturesque rural landscape of Berry.*

## 2.4 Coordinated project elements

The Urban Design Strategy seeks to realise a design outcome where all project elements are fully coordinated, and contribute towards the overall project 'vision'.

Project elements include:

- Interchanges, bridges & throw screens.
- Cut and fill batters, retaining walls, noise walls/mounds.
- Lighting, township place making signage.
- Corridor endemic and cultural landscape.



*Attractive Queen Street vista south, to proposed Kangaroo Valley Road Interchange.*



*Queen Street & Kangaroo Valley Road intersection.*



*Climbing up the ridge to Queen Street.*



*Existing southern Princes Highway approach to Berry.*

### 3.0 Kangaroo Valley Road Interchange & Victoria Street

The precinct is located at the western edge of the township of Berry, and extends in a broad arc, commencing in the southwest, at the current Princes Highway southern approach to Berry, sweeping to the northeast, intersecting with Kangaroo Valley Road and the west end of Queen Street (the township's Main Street). The northeast extent of the precinct, and the northern extent of township development, is defined by North Street.

The precinct includes the western end of Victoria Street and Queen Street, a proposed new connection from Hitchcock's Lane to Huntingdale Park Road, the eastern end of Kangaroo Valley Road, the western end of North Street and the entry to Huntingdale Park estate (currently in development). In the overlap between this precinct and the North Street Precinct there is a triangular parcel of vacant land defined by George Street (to the east) and a private access driveway (to the south).

#### 3.1 Setting and urban character

The township of Berry and urban development to the west along Kangaroo Valley Road is elevated above the surrounding floodplains, by a northwest-to-southeast ridgeline. In the southwest, between Hitchcock's Lane and Victoria Street, is an open grassed valley including a small creek, wetlands and scattered stands of trees, following the watercourses and property boundaries.

To the east of the Princes Highway two retirement villages have established – The Grange at Berry and The Arbour. These recent developments consist of clusters of one and two storey residences that have incorporated open space improvements to creek and drainage lines, feature estate entry landscaping, new footpaths and have improved Victoria Street with new street tree planting.

Mark Radium Park is located at the corner of the Princes Highway and Victoria Street and features a large stand of tall mature Eucalypt trees. The popular picnic spot incorporates a small pond, picnic tables, a playground, public toilets, walking paths, vehicular loop and parking area.

To the west of the Princes Highway is the Huntingdale Park residential estate that is in its early development phase. The main entry to the estate is established on Kangaroo Valley Road, featuring sandstone estate signage and tree planting. Huntingdale Park Road, the main access street for the estate, is elevated above the Princes Highway atop a retaining wall approximately 200m long and reaching up to 5m in height.

The western end of Queen Street and the eastern end of Kangaroo Valley Road are characterised by residential properties set back from the street frontage with mostly informal street tree planting, supplemented by mature trees and shrub plantings within well kept residential front gardens.

Private front gardens along Queen Street are generally open and defined by low scale fences, whilst on the south side, near the intersection with Kangaroo Valley Road and continuing down to Mark Radium Park, timber paling back fences face the street. A row of large eucalypt trees is a feature of this corner. The verges have grass nature strips, standard municipal kerb and gutter, and concrete footpaths on both sides.

Currently the main traffic thoroughfare of Berry, Queen Street is an attractive undulating streetscape with a vista west to the ranges framed by attractive street trees.

Kangaroo Valley Road is an intimate local scale residential street, with significant street tree planting supplementing front gardens. Generally verges are unformed with grass swales providing drainage and generally no footpaths are provided.

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*Princes Highway and Victoria Street intersection.*



*The attractive mature stands of Eucalypts in Mark Radium Park.*



*Victoria Street vista west to Princes Highway.*



*Victoria Street view east, entry to The Arbour retirement village on right.*



*Kangaroo Valley Road vista northwest.*



*Scenic panorama north from the centre of proposed interchange.*



*Huntingdale Park residential estate entry off Kangaroo Valley Road.*



*Large retaining wall supports east side of Huntingdale Park Road.*



Figure 3: Urban design principles.

### 3.2 Design philosophy

The guiding philosophy for the urban design of the Kangaroo Valley Road Interchange and Victoria Street Precinct, has been to:

- Integrate the new interchange within the existing topography and landscape.
- Integrate the new interchange infrastructure within the existing Main Street and the hierarchy of township local access streets.
- Provide a fitting Berry arrival and departure experience.
- Improve pedestrian and cyclist access and amenity and provide a safe pedestrian and cyclist environment for parks and walkways through adopting Crime prevention through Environmental Design (CPTED) principles.
- Integrate noise mitigation structures within the urban landscape.
- Provide an attractive journey and outlook for drivers on the Berry Bypass.
- Develop an urban and landscape design that is low maintenance, durable and that deters graffiti.
- Develop a materials and finishes palette that wherever practical incorporates elements of locally sourced stone and timber, and colour finishes that complement the natural colours of the environment.
- Generally utilise native plantings that are endemic to the region, whilst also incorporating cultural exotic plantings, when warranted, as highlight or feature plantings.

### 3.3 Urban design principles

The following urban design principles have guided the precinct urban and landscape design (refer to Figure 3):

1. Establish a continuity of streetscape from Queen Street to Kangaroo Valley Road.
2. Provide an attractive vista west along Queen Street.
3. Provide a footpath connection from Queen Street to Mark Radium Park.
4. And from Mark Radium Park to the adjoining Windsor Drive residential area.
5. Provide a recreational pathway from Kangaroo Valley Road to North Street.
6. Develop an arc of interconnected green spaces following the southern edge of the bypass corridor.
7. Incorporate the upper reaches of Town Creek as a feature within green spaces.
8. Capture attractive valley and escarpment views as part of the Bypass travelling experience.
9. Establish an attractive Berry township arrival experience
10. Incorporate signature existing eucalypts into township arrival experience.

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### 3.4 Berry recreational circuit and key pedestrian links

#### 3.4.1 Township recreational circuit

To understand the broader town planning context of the Berry Bypass project, an analysis of the Berry township urban structure was undertaken. This study identified a potential future recreational opportunity for those who live and work in the township.

The shared path and footpaths proposed as part of the Berry Bypass works, could in the future become part of a more extensive recreational circuit around the township that would link major destinations such as Berry Oval and sports area, the commercial Main Street, the Lawn Bowls Club, Berry Railway Station, Berry Showground, several retirement villages, Berry Primary School, Mark Radium Park and the Huntingdale Park residential community.

The shared path circuit could be designed with gradients and radius that accommodate retiree's motorised scooters, and would attract local families for recreational cycles, joggers, and school children in the final years of primary school. The recreational circuit would potentially be of community health and social benefit. Visitors to Berry may also be attracted to hiring a bike and sightseeing, if a well laid out and sign posted trail was established.

#### 3.4.2 Key pedestrian links

The key pedestrian and cycle links proposed as part of the project include:

- Linking North Street to Kangaroo Valley Road
- Linking the footpaths of the Berry Oval sports facilities, via North Street, to the existing footpaths along Queen Street and in Mark Radium Park: to provide access to an interconnected arc of green space.
- Linking the existing Queen Street footpaths to Kangaroo Valley Road and to the existing Huntingdale Park residential estate footpaths.

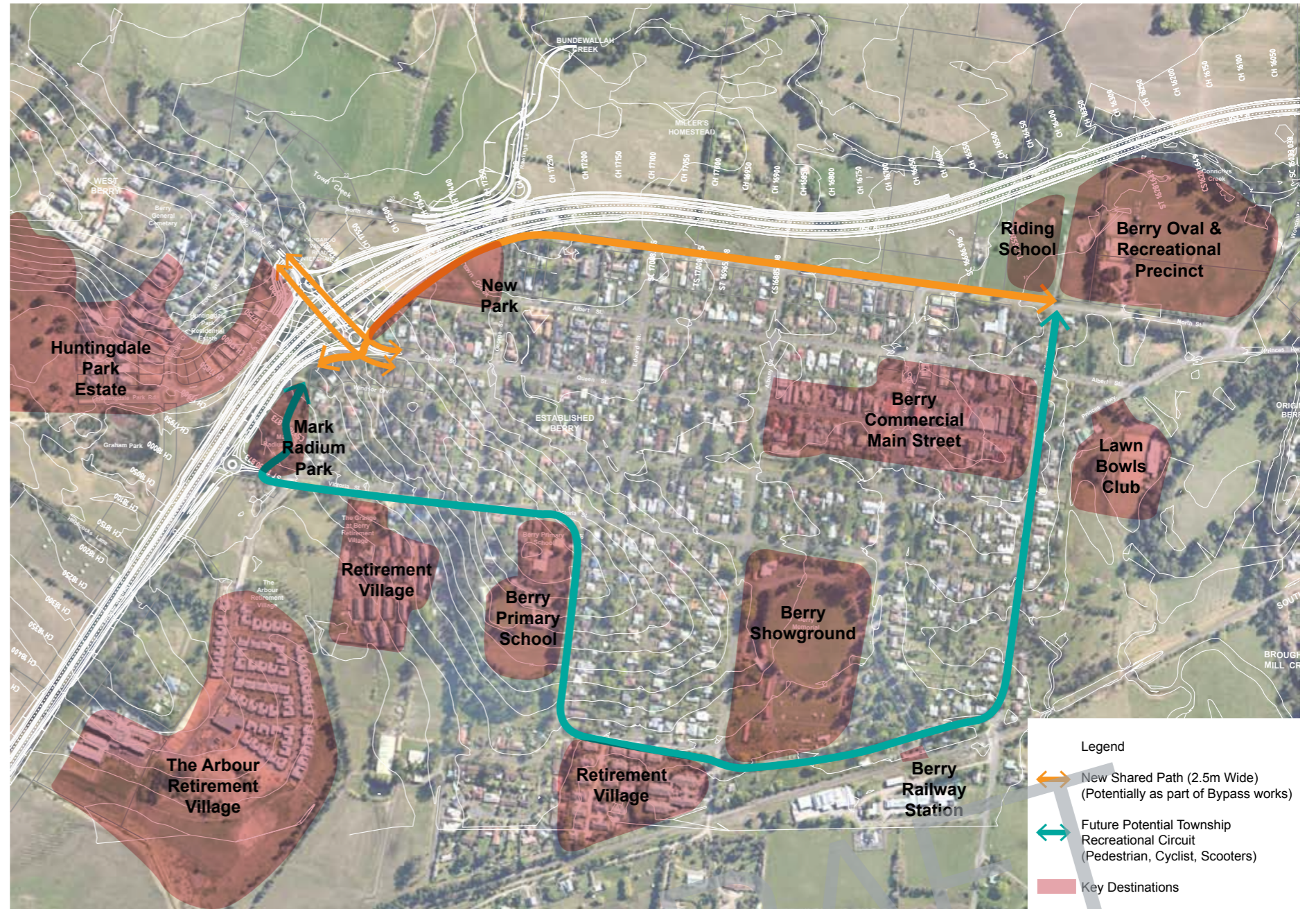


Figure 4: Recreation circuit and key links.



### 3.5 Interconnected green spaces

There is the opportunity to utilise the residual open space that would remain following construction to establish a series of interconnected green spaces along the southern edge of the Berry Bypass. Current recreational open space owned by Shoalhaven City Council (SCC) includes the Berry Oval and sports facilities in the east and Mark Radium Park in the west. There is the potential to link these existing green spaces together, with a new strip of green space, as part of the Berry Bypass project.

These green spaces could be utilised as pastureland for agistment, for a relocated Riding School green, to establish a new local public park and for special event parking. SCC has stated that they do not wish to maintain in perpetuity large tracts of green space due to the maintenance costs involved. For this reason the park that is proposed (Town Creek Park) is small in size and envisaged as a simple low maintenance park landscape.

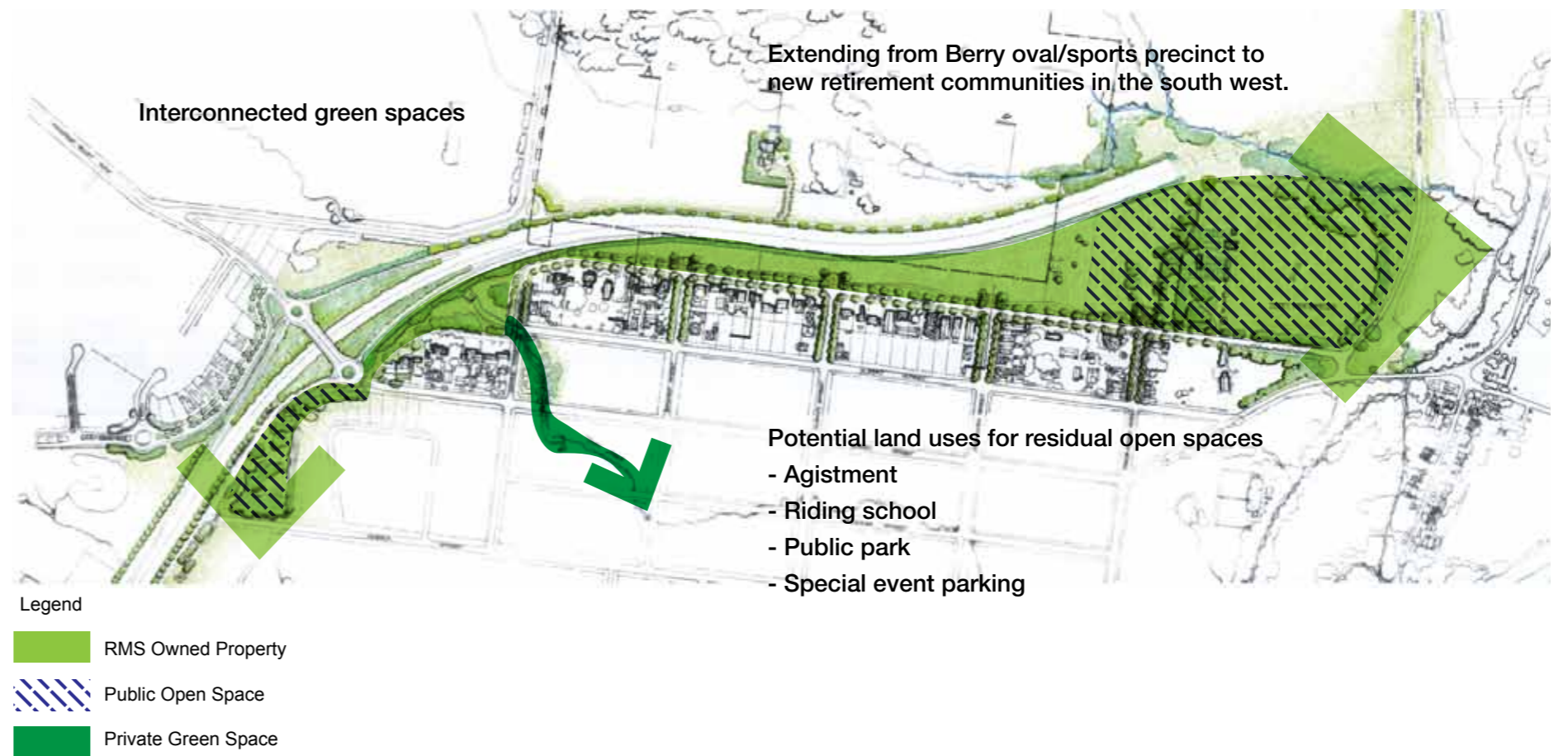


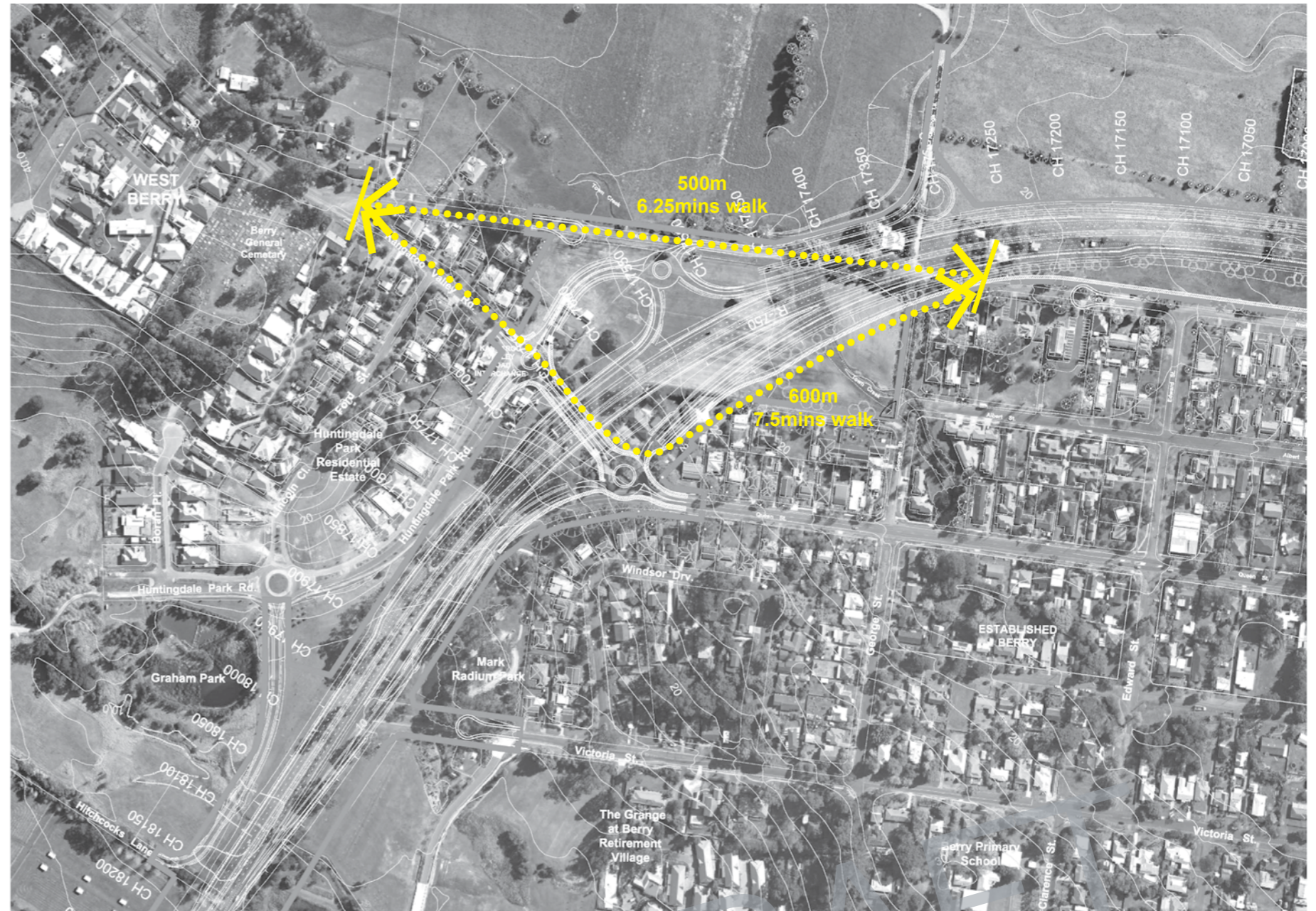
Figure 5: Arc of interconnected green space.

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### 3.6 North Street pedestrian and cyclist connectivity

At the workshops held with the community working group, it was related that North Street is currently used as an informal jogging and cycling route, and that this access was important to the community. Subsequent 3D modelling and costing studies showed that pedestrian overbridges on or near the North Street alignment would be relatively expensive and would impinge on the northern views and outlook of residents along North Street. The scale of the structures that would be necessary was also of concern to some North Street residents.

Due to the cost and likely low level of use, the readily available alternative route, and in light of residents concerns relating to scale and impact on views and amenity, the RMS decided not to pursue a pedestrian overbridge at this location. The adjoining map illustrates the short additional distance of 100m and small additional walking time of 1.25 minutes of the alternative pathway.



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Figure 6: North Street access study.

### 3.7 Acoustic analysis outcomes

Acoustic analysis undertaken by Aecom consultants has established that two 4.0m high noise barriers (the height is measured from the bypass road carriageways or on-off ramp finished pavement level) would be necessary to achieve the EPA noise mitigation requirements. The extent of the two noise barriers is illustrated on the adjoining plan.



Figure 7: Acoustic analysis - noise barrier locations.

### 3.8 Berry Bypass infrastructure

The Berry Bypass consists of a highway standard roadway, designed to a 100km/hour posted speed. Initially the bypass would be four lanes, with the capacity to expand to six lanes (built-in to the design and cross sectional footprint) if required in the future.

The formation is generally 34.0m wide, widening to accommodate the on and off ramps of the Kangaroo Valley Road Interchange. The Kangaroo Valley Road Interchange consists of an overbridge and associated roundabouts to the east and west providing legible local road access. A full northbound and southbound Bypass interchange is provided with on and off slip roads. Different to the standard 'diamond' interchange configuration the northbound off ramp continues beneath the overpass bridge to loop around and connect into the proposed interchange roundabout on Kangaroo Valley Road. This configuration simplifies the access arrangements to the entry of the Huntingdale Park estate, and would potentially reduce the visual impacts of the noise barrier on Huntingdale Park residents. North Street (west) is connected to Rawlings Lane to maintain vehicular access to the two farm properties located to the north of the bypass.

A vegetated noise reinforced soil mound of 4.0m height is proposed along the southern edge of the bypass corridor, extending to Queen Street.

A 2.5m wide shared pathway is provided connecting North Street with Queen Street, and on both sides of the interchange overbridge linking Queen Street to Kangaroo Valley Road.

Access to Mark Radium Park and to The Arbour retirement village is maintained at the west end of Victoria Street, however it is proposed that there would be no access to the upgraded Bypass from Victoria Street. Access would be maintained to the Hitchcock's Lane rural properties with a new road link to Huntingdale Park Road.

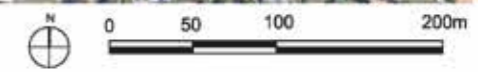


Figure 8: Berry Bypass infrastructure.

### 3.9 Urban design strategy

The proposed construction of the highway-scale Berry Bypass infrastructure would bring large changes for the township of Berry. Some of these changes would be positive including:

- Completion of this important section of the Princes Highway would provide a quicker and safer route for locals travelling regionally and along the NSW coast, as well as for tourists visiting South Coast destinations and for day-trippers visiting the popular heritage and festival destination travelling to/from Sydney – boosting tourist accommodation, cafe/restaurant and retail business opportunities and employment in the township.
- The upgrade to a highway standard roadway would reduce fatalities and accidents along this currently difficult stretch of highway.
- The volume of truck and through traffic on the Queen Street retail 'Main Street' would be considerably reduced. There would be an opportunity to refocus 'Main Street' as a pedestrian friendly zone with increased and safer crossings, more opportunities for outdoor cafe-style seating, street tree planting and urban furniture.

The highway formation and interchanges are large physical structures and the urban strategy has been to investigate means by which these structures could be integrated at the edge of the township and into the surrounding attractive rural landscape - minimising the urban, landscape and visual impacts on the environment.

The strategy incorporates a series of urban and landscape design initiatives, including:

- Reducing the visual impact of the road formation through adjustments to the highway's vertical and horizontal alignment.
- Introducing generous open space buffers between the Berry Bypass and urban development to the west and east.
- Wherever possible, re-establish the riparian vegetation and habitat along creek lines.

- Reducing the noise impacts through incorporation of landscaped noise barriers along the edges of the alignment.
- Retaining as much as possible existing landscape, that defines the region and that screens from view the new roadway and interchange structures.

The Urban Design Strategy diagram illustrates the key initiatives that are proposed to integrate Berry Bypass within this uniquely urban setting.

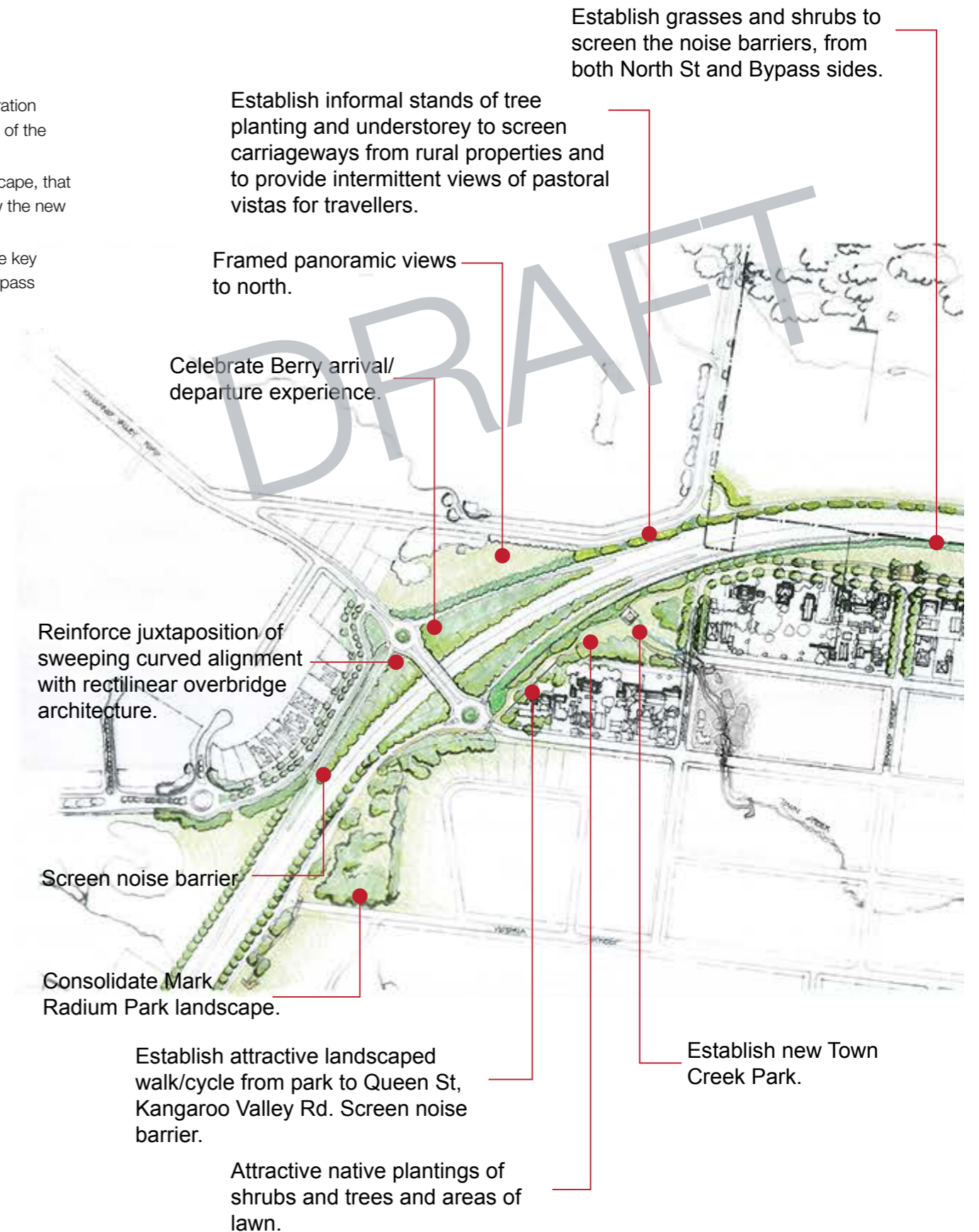


Figure 9: Urban design strategy.



Figure 10: Aerial view looking northeast.

### 3.10 Precinct plan

The Precinct Plan illustrates the proposed urban and landscape concept design for the Kangaroo Valley Road Interchange and Victoria Street Precinct.

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Figure 11: Precinct plan.

### 3.11 Cross section studies

Four cross sectional studies were prepared at the Kangaroo Valley Interchange. The existing ground level is shown as a dashed line. At Kangaroo Valley Road the Bypass is in a cutting, with sloped batters that are landscaped in native grasses and informal tree planting. The predominant landscape plantings are of natives, primarily eucalypts, with some feature tree plantings of Birch and Ash to highlight arrival and departure.

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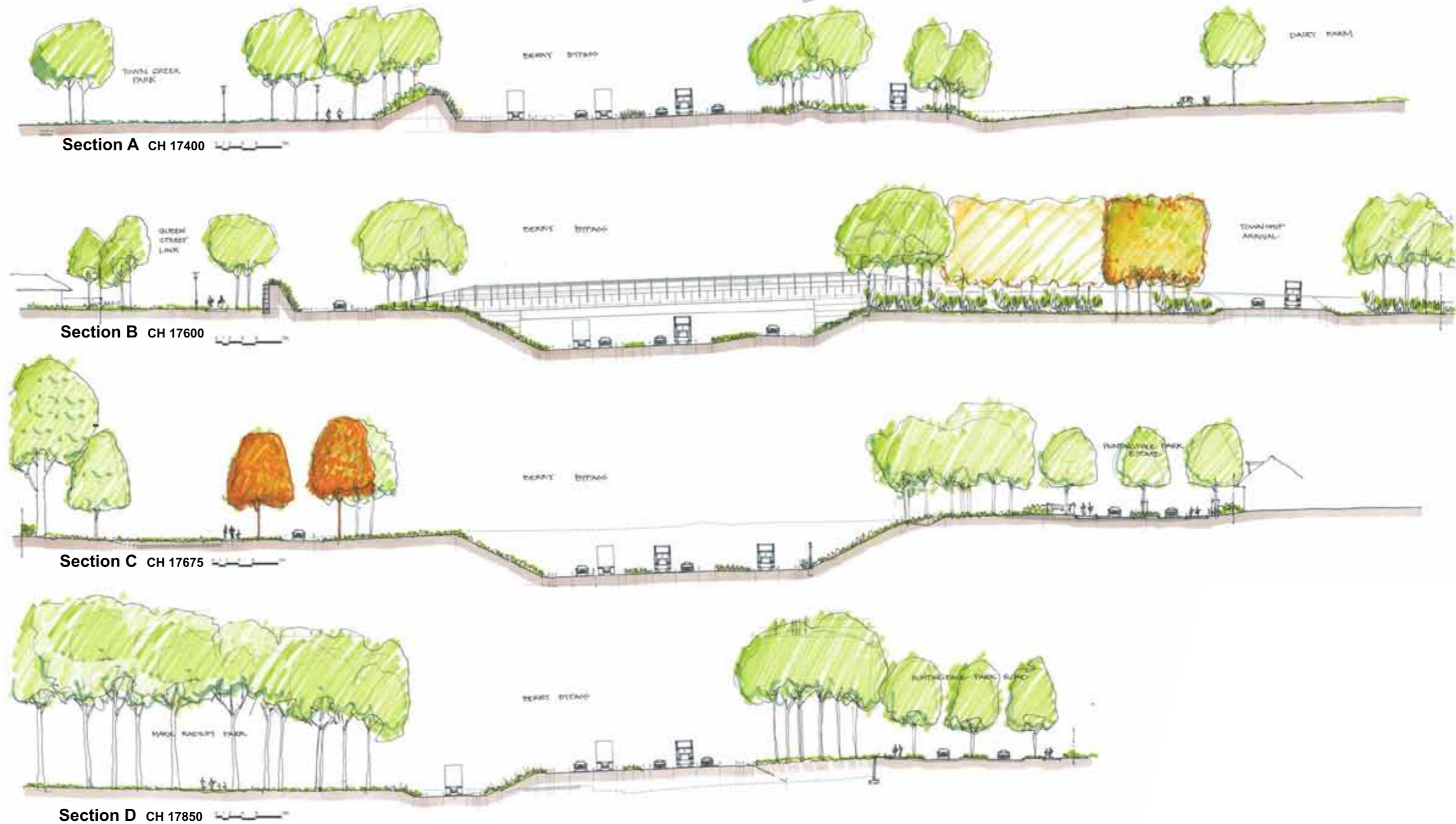


Figure 12: Kangaroo Valley Road Interchange cross sectional studies.



### 3.12 Urban design elements

The Kangaroo Valley Road Interchange and Victoria Street Precinct of the Berry Bypass would comprise urban design elements ranging from the large scale, such the interchange overbridge, on-off ramps, roundabouts and local access connections, to the smaller scale, including footpaths, street and park lighting, street furniture and signage. Integrated with the urban design is the landscape design of the interchange, adjoining streets and associated local green spaces. All urban and landscape design elements have been considered as contributing to the overall coordinated design outcome.

#### 3.12.1 Kangaroo Valley Road Interchange

The Kangaroo Valley Road Interchange requires road, ramp, overbridge and noise barrier infrastructure of significant scale. Considerable care would be necessary to fully integrate the interchange within the sensitive residential neighbourhoods situated to the east and west, the open rural pastureland to the north and the valley, creekline and green spaces to the south.

The 100km/hr highway design standard necessitates a broad sweeping road alignment for the main bypass carriageways. This dramatic curve is reiterated by 2H:1V sloped cut batters along each side of the roadway as it passes through the local ridgeline. A counterpoint to this dramatic sweeping alignment is the overbridge that connects Queen Street with Kangaroo Valley Road. The continuity of the curved road alignment, associated landforms and noise barriers should be emphasized, with views beneath the bridge remaining as open as possible to maximise the vistas along the curved corridor, to adjoining picturesque rural pastures, local ranges and to the distant escarpment.

As a counterpoint to the curved road alignment the architecture of the bridge should emphasize its inherent horizontal qualities, with streamlined superstructure, abutments, parapet and throw screens.

Two roundabouts are proposed at either end of the bridge. The east roundabout provides an opportunity to complete the Queen Street visual axis. In addition to retaining the row of large eucalypt trees on the south side to mark the location, colourful feature trees planting and central planter is proposed, to provide a fitting arrival/point of departure for travellers. The west roundabout would complete the

Huntingdale Park estate entry, a central feature planter, combining with the existing sandstone estate signage, feature posts and street trees.

Distinctive feature planting is proposed as part of the arrival approach to Berry, from the south. The bypass off-ramp continues beneath the overbridge and then curves upwards in a broad sweep to arrive at the west roundabout. The large open space at the centre of the curved ramp would accommodate a large stand of feature Birch trees, with their seasonal foliage colour and distinctive trunks creating a memorable landmark.

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Figure 13: Kangaroo Valley Road Interchange design concept.