6.0 URBAN DESIGN CONCEPT

The overall urban design concept is described in Section 6.1, followed by further detail of the built elements in the design (bridges, retaining walls and noise walls) in section 6.2.

6.1 The Alignment and its Precincts

The urban design concept for the alignment is one which builds on the existing natural assets of the alignment. In particular it strengthens the connection with the natural environment through the exposure of sandstone cuttings and strengthening of the vegetated back drop of the alignment. Built elements are handled with care so that details are simple and subtle.

The design has been broken into five precincts each with its own distinctive character (refer to Figure 2.10). They are:

Precinct 1 - Old Windsor Road – Windsor Road Interchange: Cumberland Plain

Precinct 2 - Windsor Road – Pennant Hills Road: Bushland Interface

Precinct 3 - Pennant Hills Road – Beecroft Road: Suburban Forest Interface

Precinct 4 - Beecroft Road /Devlins Creek – Terrys Creek /Crimea Road: Suburban Bushland Interface

Precinct 5 - Terrys Creek /Crimea Road – Delhi Road: Urban Bushland Interface

Precinct 1 Old Windsor Road – Windsor Road Interchange: Cumberland Plain

Refer to Figures 6.1.1 to 6.1.10

The works here are associated with the establishment of an on/off ramp connection to Windsor Road. The landscape response has sought to moderate the impacts of the proposed works, including the increased height of retaining walls and /or movement of noise walls closer to properties. The focus from outside the corridor is on providing a landscape buffer which filters views from the adjoining properties to the road alignment, where space permits. Particular focus is on the retention of the landscape character along Junction Road through the augmentation of existing plantings and the undertaking of new works to replace vegetation lost as a result of the construction process. Refer figures 6.3 and 6.4.

For the road user, care has been taken to ensure that the existing experience is enhanced through appropriate detailing of hard elements such as noise walls and retaining walls and the use of landscape where it can make a meaningful contribution to the setting. The constrained nature of the corridor has generally seen the use of the close coupled noise wall with no landscape. While reliant on good detailing this provides a strong design element which is both easy to maintain and clearly defines the road edge.

Between the on / off ramps, and the main alignment space exists in front of the retaining walls. This space is sufficiently wide, i.e. > 2 metres, and therefore facilitates the planting of shrubs and ground covers as illustrated in Figures 6.5, 6.6, 6.7 and 6.8. This provides both the opportunity to visually soften the corridor and provides a base for the new retaining walls.

The intersection of Windsor Road and the off ramps termination is marked by a garden bed. These provide an address to the adjoining arterial road network. The landscape treatment also links with that provided at Pennant Hills Road providing a common entry theme to the motorway corridor.

Figure 6.1.1 Alignment Plan 1

Figure 142 Alignment Plan 1

GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass

NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.2 Alignment Plan 2

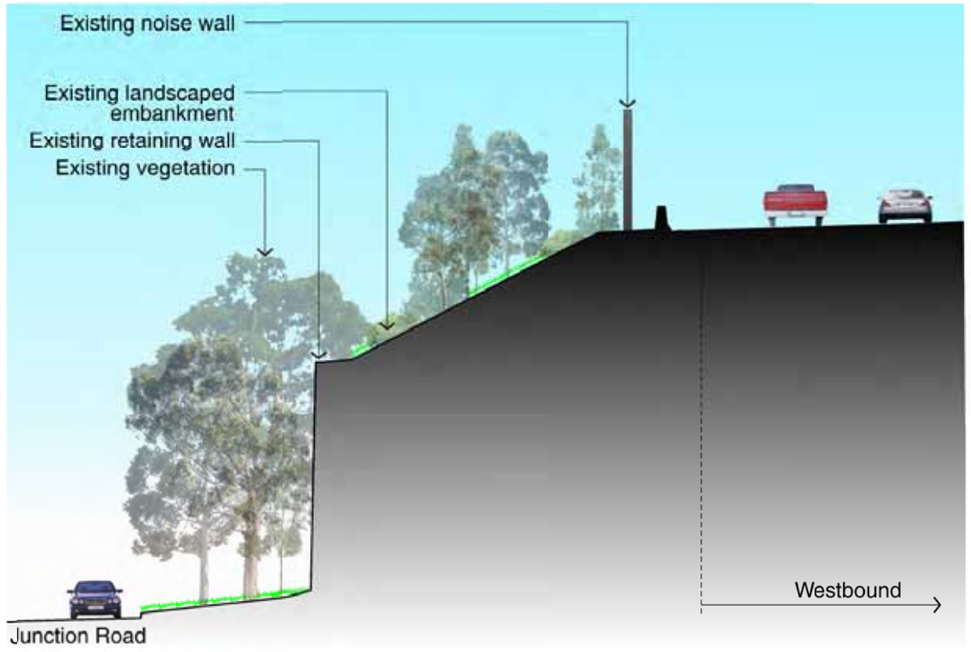


Figure 6.1.3 Stn 3700 Windsor Road on ramp (westbound) - Existing

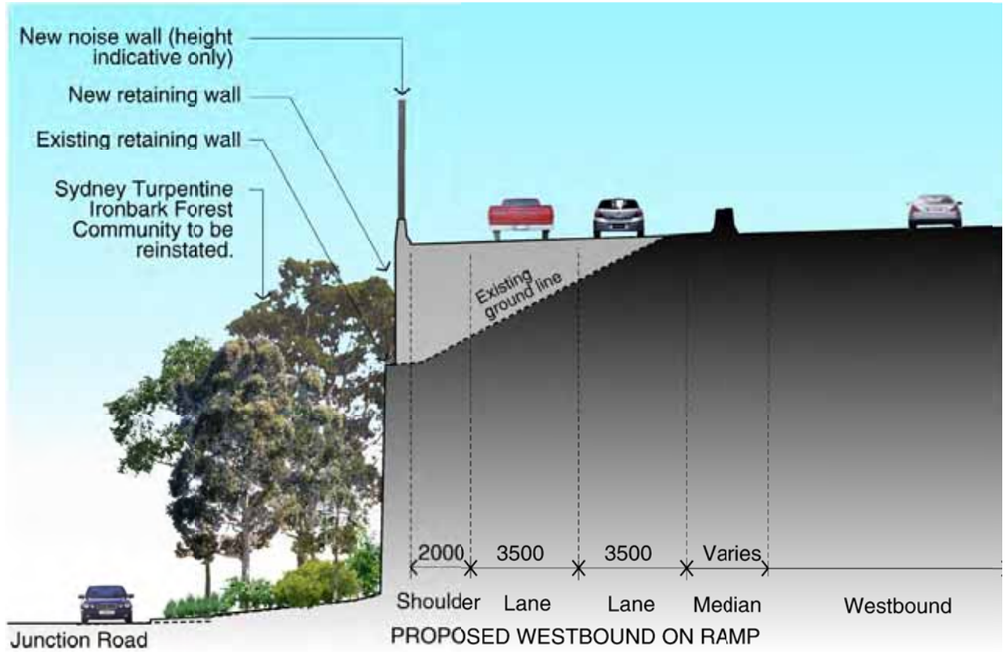


Figure 6.1.5 Stn 3700 Windsor Road on ramp (westbound) - Proposed

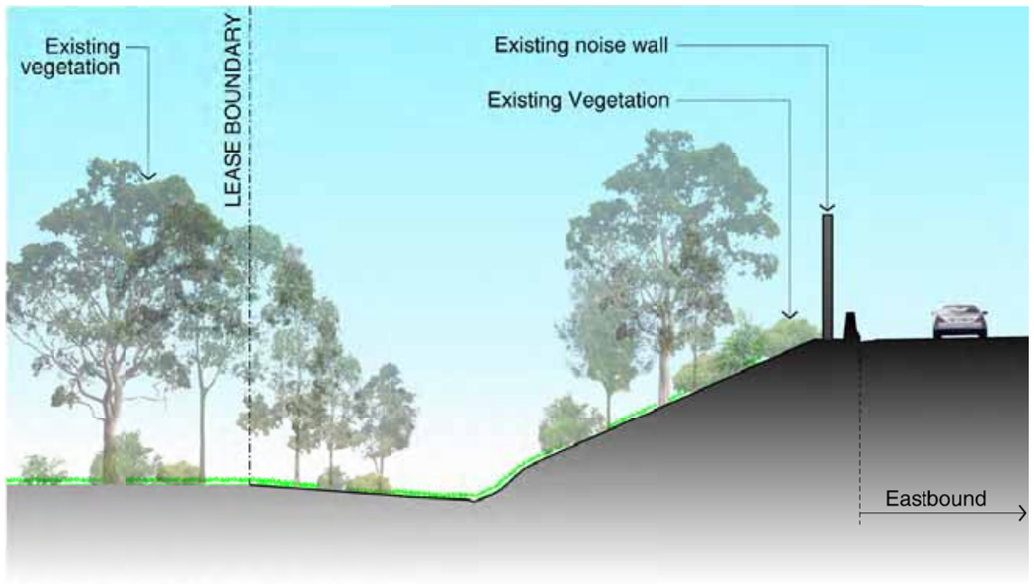


Figure 6.1.4 Stn 3750 Windsor Road off-ramp (eastbound) - Existing

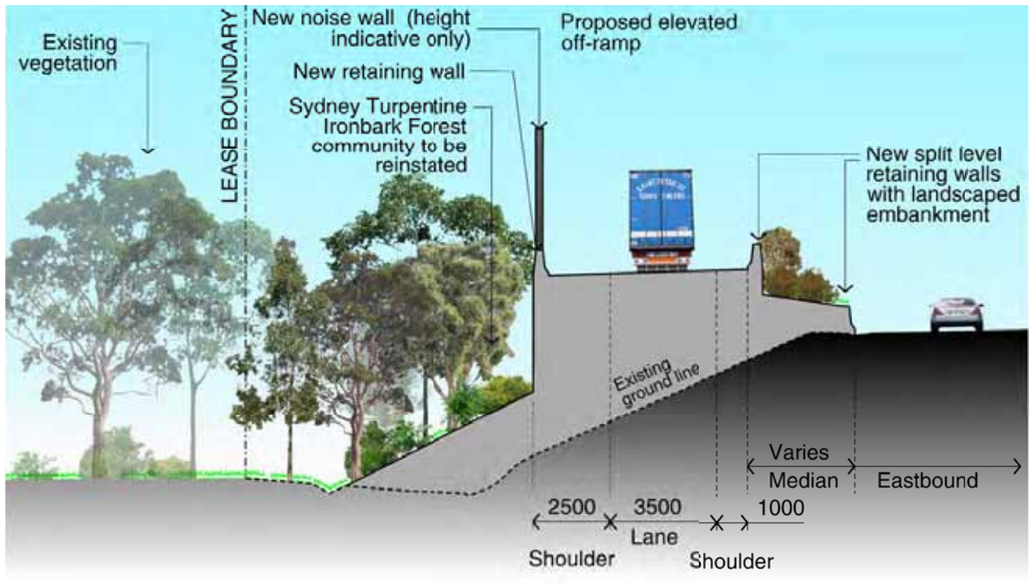


Figure 6.1.6 Stn 3750 Windsor Road off-ramp (eastbound) - Proposed

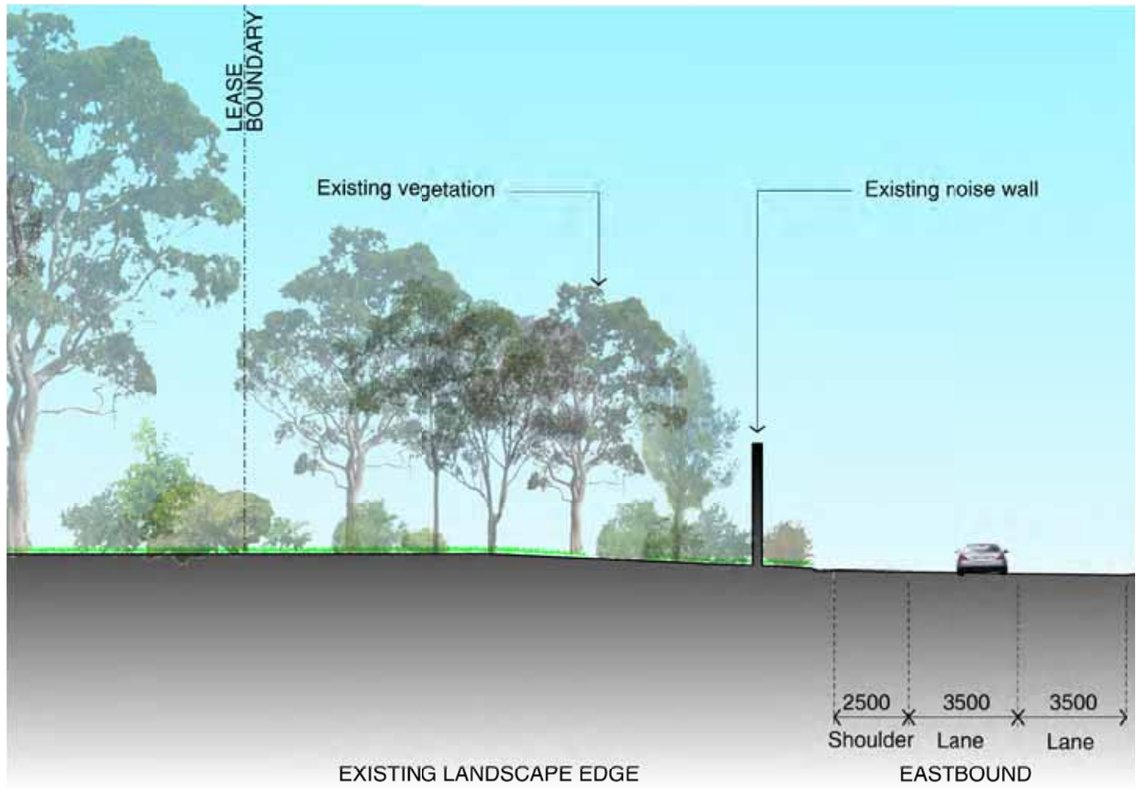


Figure 6.1.7 Stn 3850 Windsor Road off ramp (eastbound) - Existing

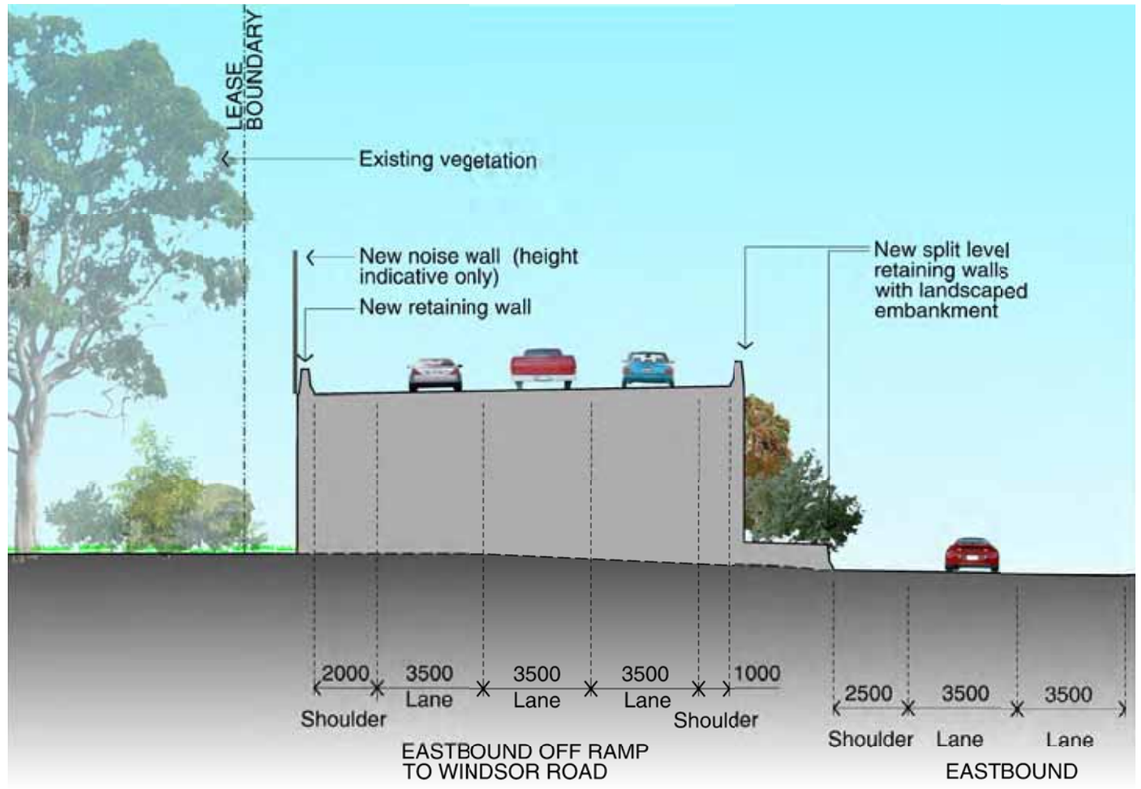


Figure 6.1.8 Stn 3850 Windsor Road off ramp (eastbound) - Proposed

Figure 6.1.9 Looking east towards Windsor Road Interchange - Existing

Figure 6.1.10 Artists perspective of proposed road upgrade, looking east towards Windsor Road Interchange, shown with mature landscaping (location of signage will be subject to detailed design).

Precinct 2 Windsor Road – Pennant Hills Road: Bushland Interface

Refer to Figures 6.1.11 to 6.1.19

The landscape approach adopted through this section is defined by the strong visual backdrop to the road provided by the bushland associated with Darling Mills Creek corridor and the Bidjigal Reserve. The landscape design is to integrate with this landscape, revegetating post construction.

The Hinterland Sandstone Gully Forest community is the dominant community within this precinct and this is recognised in the proposed revegetation works.

Sandstone cuttings form a significant visual element within the existing corridor and will continue to do so. Where sandstone exists this is retained and expressed as a key element of the road experience. The strategy for sandstone cuttings has to either maintain or steepen the cut profile where possible. However where the rock is heavily weathered the proposal has been to lay back the slope to allow revegetation to be achieved rather than introducing some form of engineering support.

The expansion of the Darling Mills Creek Crossing requires the widening of the existing bridge. While ultimately the vegetated area will not change significantly, there will be some clearance required to undertake the works. The reinstatement of any clearance operations will utilise the existing vegetation communities – Sandstone Riparian Scrub for the creekline vegetation and Hinterland Sandstone Gully Forest for the valley walls.

At Barclay Road the bridge is lengthened and with this the cut widened. Despite the widening of the cut the character of this corridor crossing is retained with sandstone revealed on the lower batter and the upper batters progressively revegetated using Hinterland Sandstone Gully Forest.

The alignment widening alternates from side to side as you pass through the Hinterland Sandstone Gully Forest, to minimise impacts on adjacent residential properties or environmental constraints. At Yale Close the existing bridge is widened , requiring an enhancement of the existing vegetation cover to ensure existing views are not impacted in the long term.

Like most of the corridor this section is constrained and noise walls generally are close coupled when located on fill. Care in the design and colour will ensure these noise walls form a strong visual element which fits within its context. When located above cuttings, noise walls will generally follow the ridge moving back from the road in relation to the cut embankment. Care is taken in the location of new walls to achieve a smooth flowing profile and reinstatement of screen planting to minimise impact on the adjoining landuse.

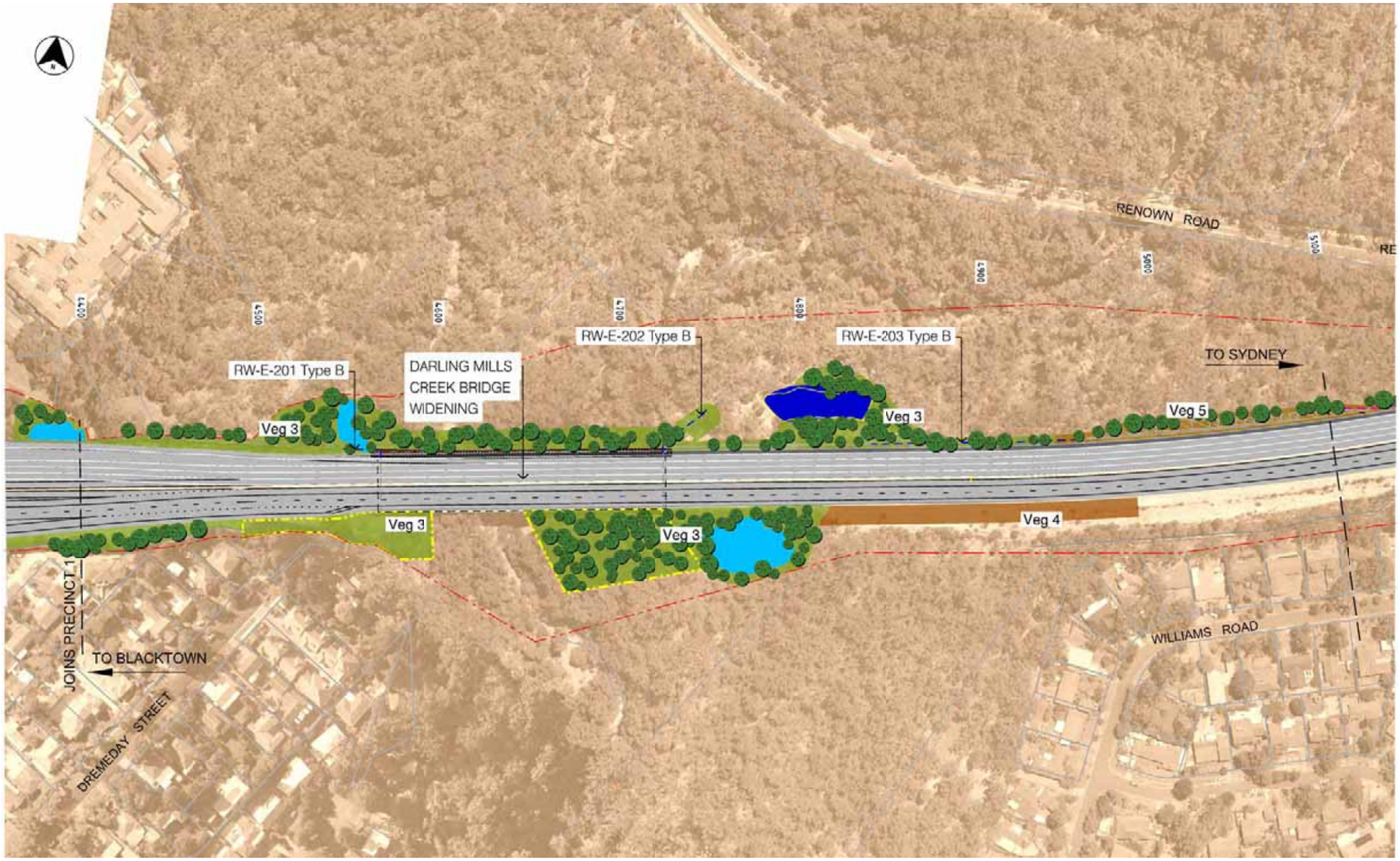


Figure 6.1.11 Alignment Plan 3

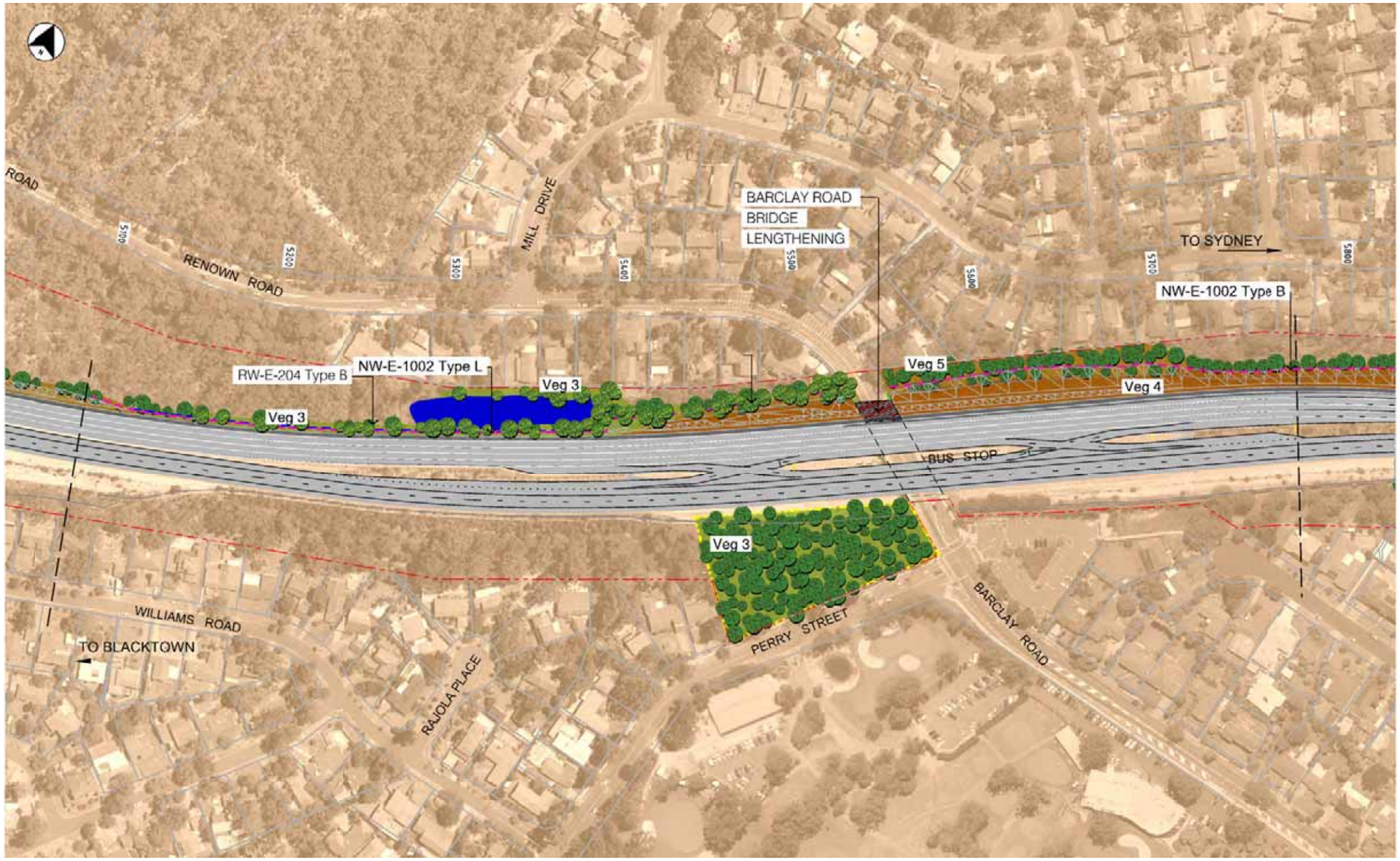
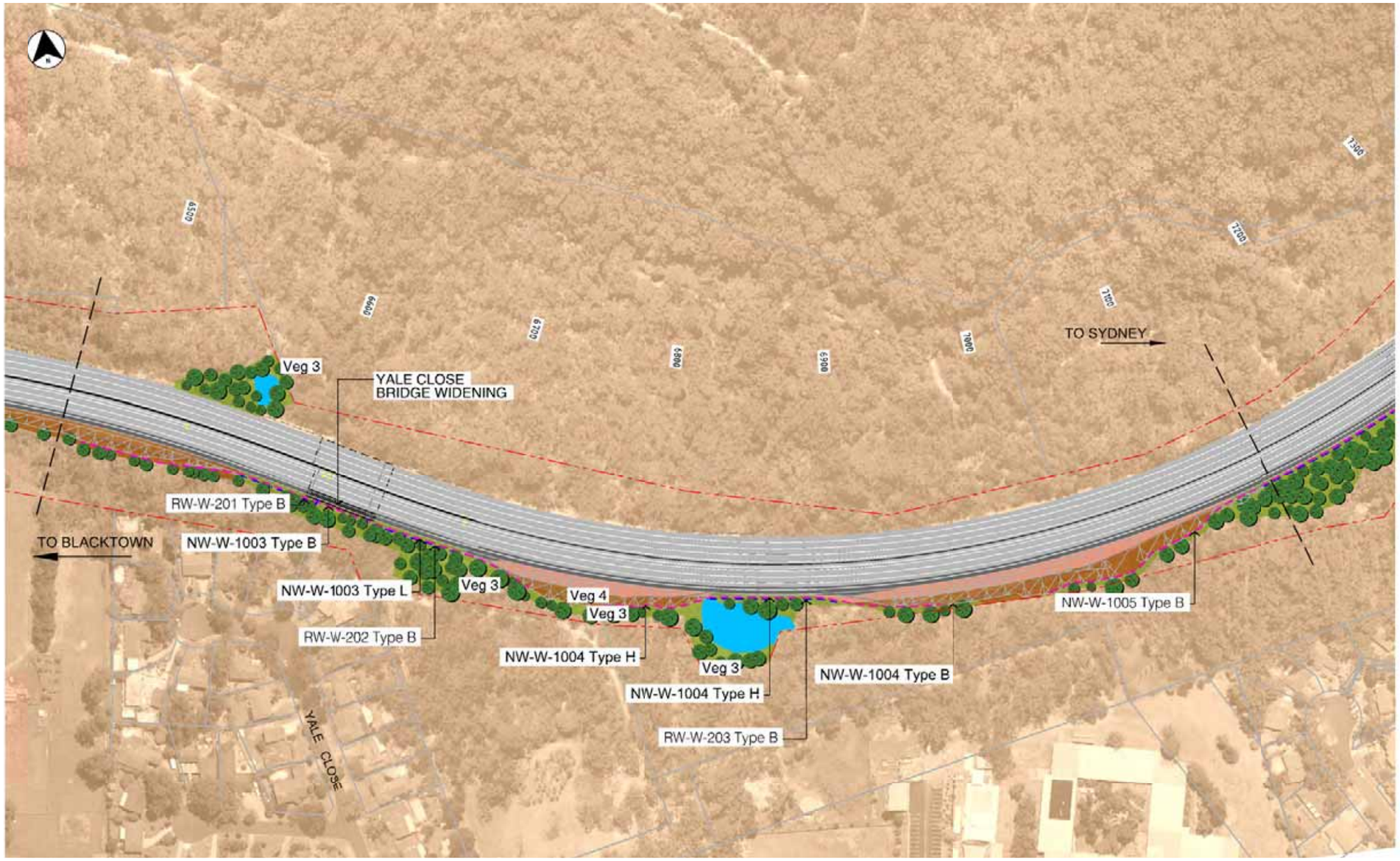


Figure 6.1.12 Alignment Plan 4

Figure 6.1.13 Alignment Plan 5

Urban Design Concept



GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass

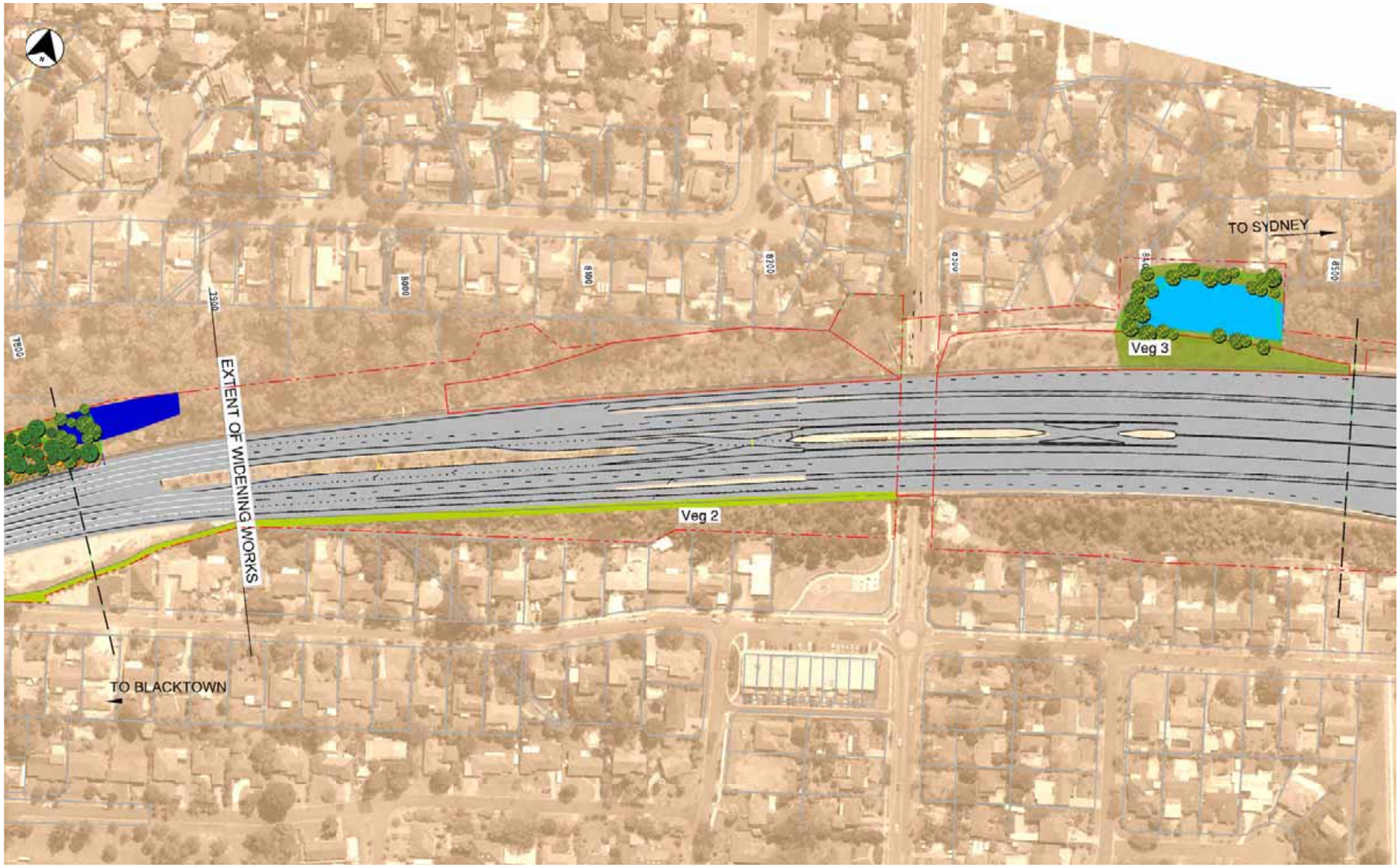
NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.14 Alignment Plan 6

Figure 6.1.15 Alignment Plan 7



GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

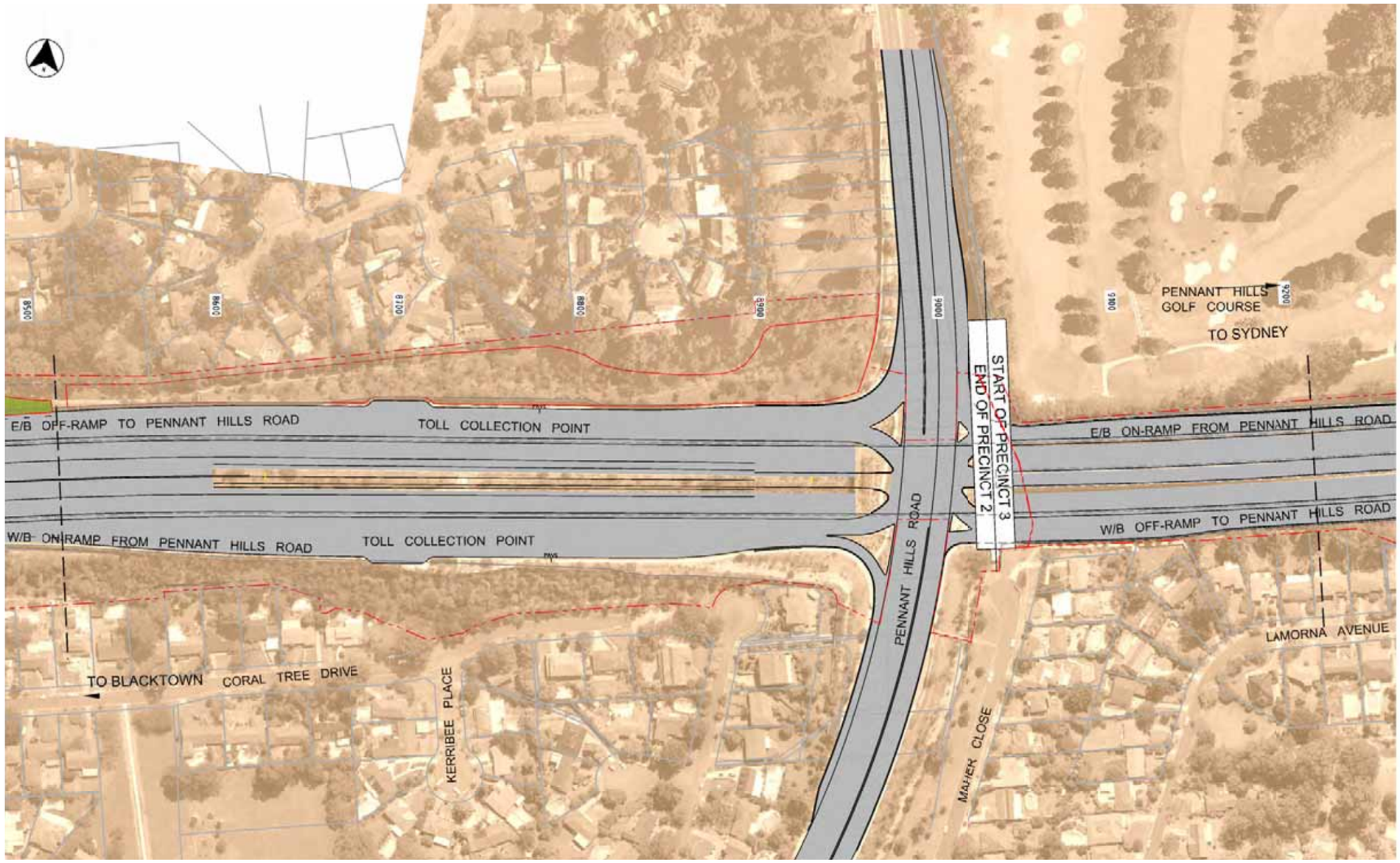
LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass

NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.16 Alignment Plan 8



GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass
- NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.17 Alignment Plan 9

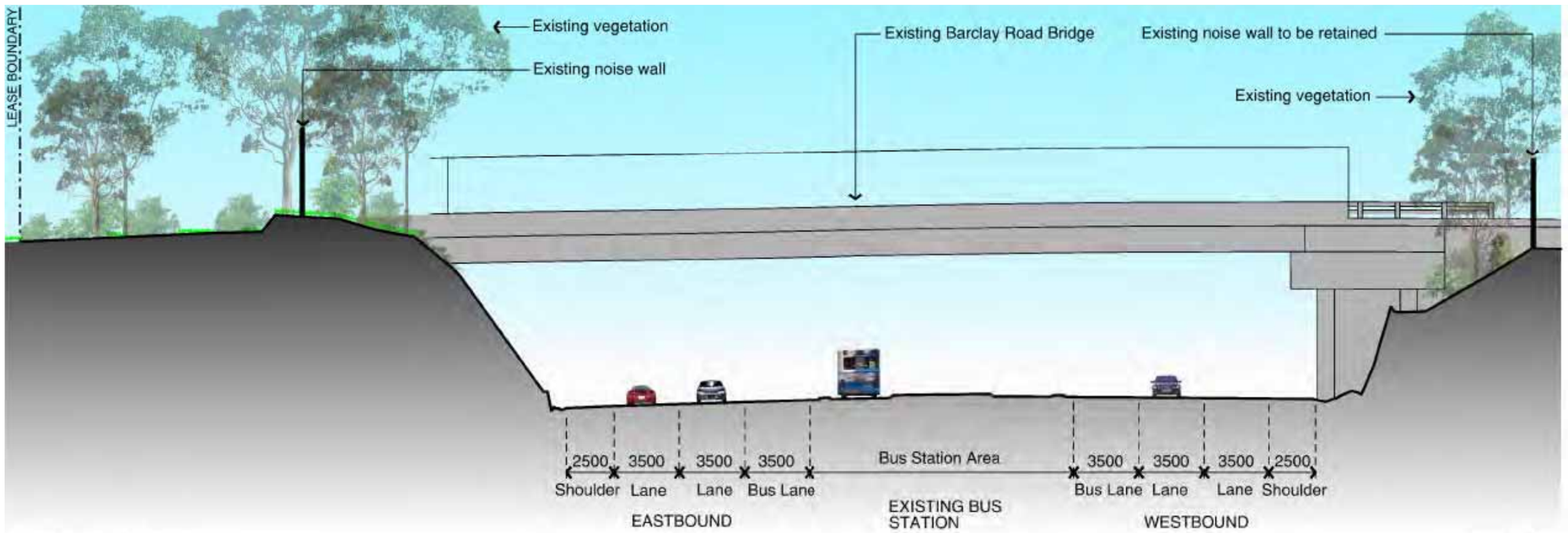


Figure 6.1.18 Stn 5550 Barclay Road Bridge - Existing

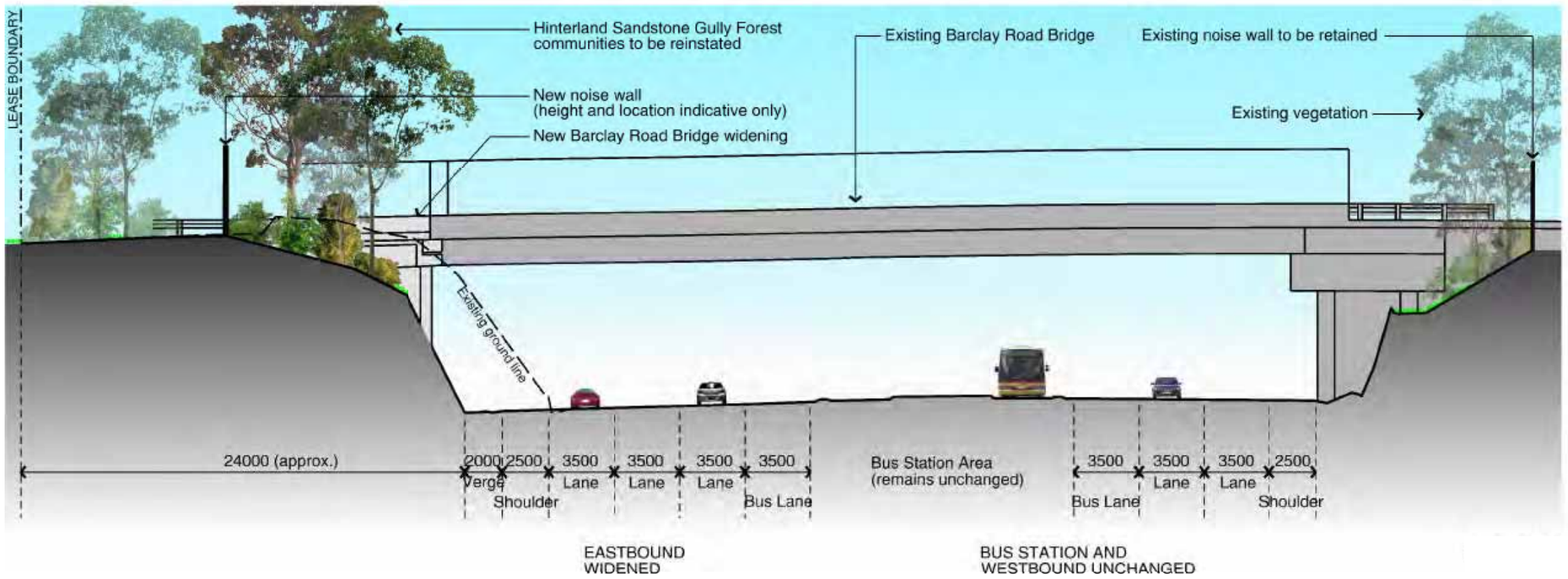


Figure 6.1.19 Stn 5550 Barclay Road Bridge - Proposed

Precinct 3 Pennant Hills Road – Beecroft Road: Suburban Forest Interface

Refer to Figures 6.1.20 to 6.1.31

Despite the area being relatively urban in its context it still retains a bushland character when viewed from the motorway.

Critical in this context is the handling of the interface between the existing residents and the road corridor. Noise walls in some instances are being relocated closer to properties putting greater emphasis on the buffer planting between wall and house. Like previous sections the emphasis has been on minimising change in proximity to houses. A key component of this is the minimisation of modifications to existing noise walls where possible.

Blue Gum High Forest is located to the north of the alignment adjacent the Pennant Hills Golf Course. This stand is an isolated remnant which is not impacted by the proposed alignment. Devlins Creek valley runs just east of this community before entering the corridor where it meanders from side to side of the corridor. Vegetation here is proposed to use Hinterland Sandstone Gully Forest reflecting the sheltered nature of the valley and the altered soil profile of the road corridor.

Apart from noise walls which are adjusted to reflect the changing alignment and embankment profiles, two bridges are modified.

Devlins Creek Bridge is widened to the south of the corridor and the median between the two bridges in filled. This results in reduced moisture and light beneath the bridges with the subsequent loss in vegetation cover. To ensure the space is still inviting and that the pedestrian link is maintained care needs to be taken both with the grading of the path but also the openness of the space under the motorway.

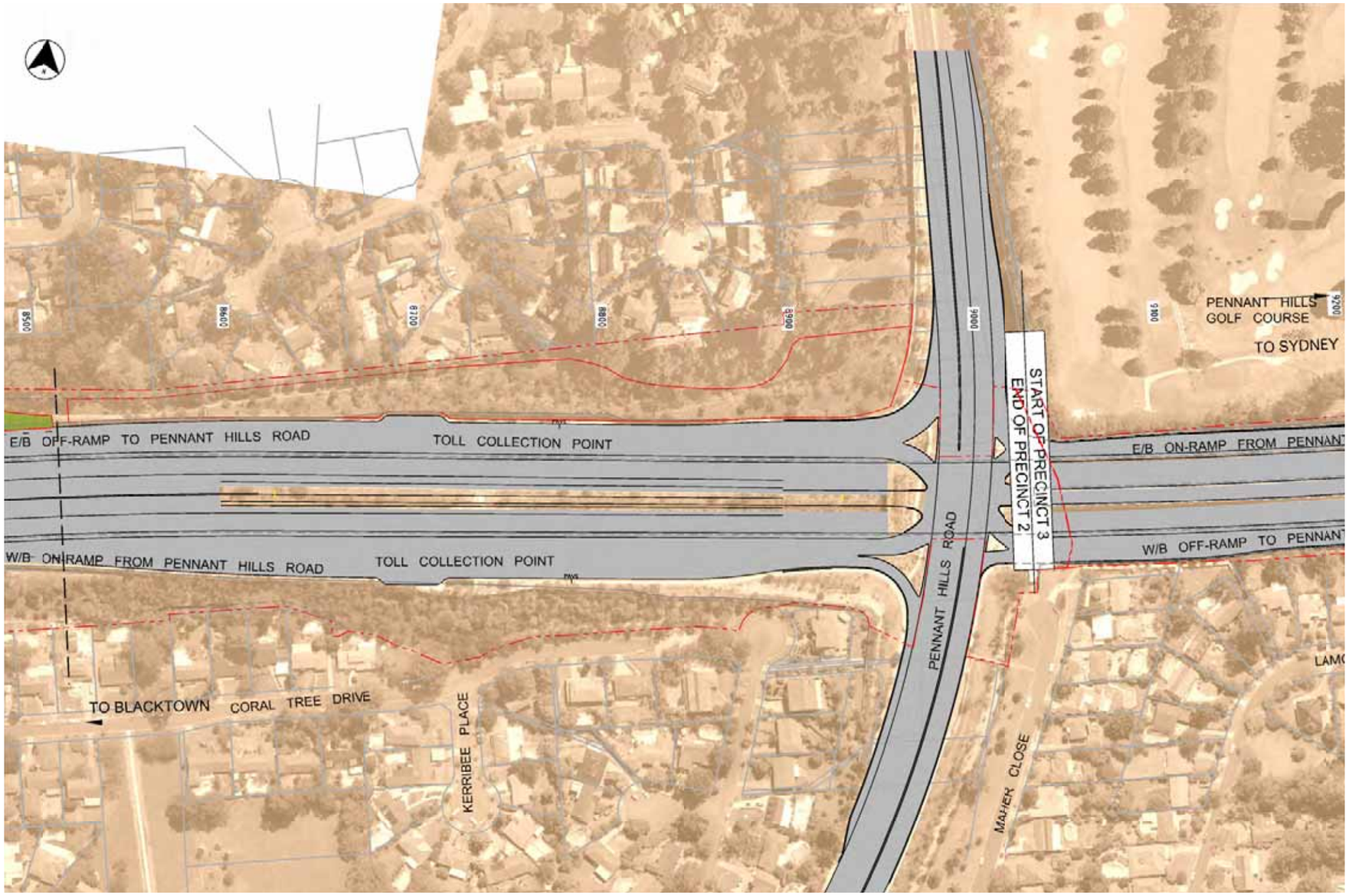


Figure 6.1.20 Alignment Plan 10

Figure 6.1.21 Alignment Plan 11

GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

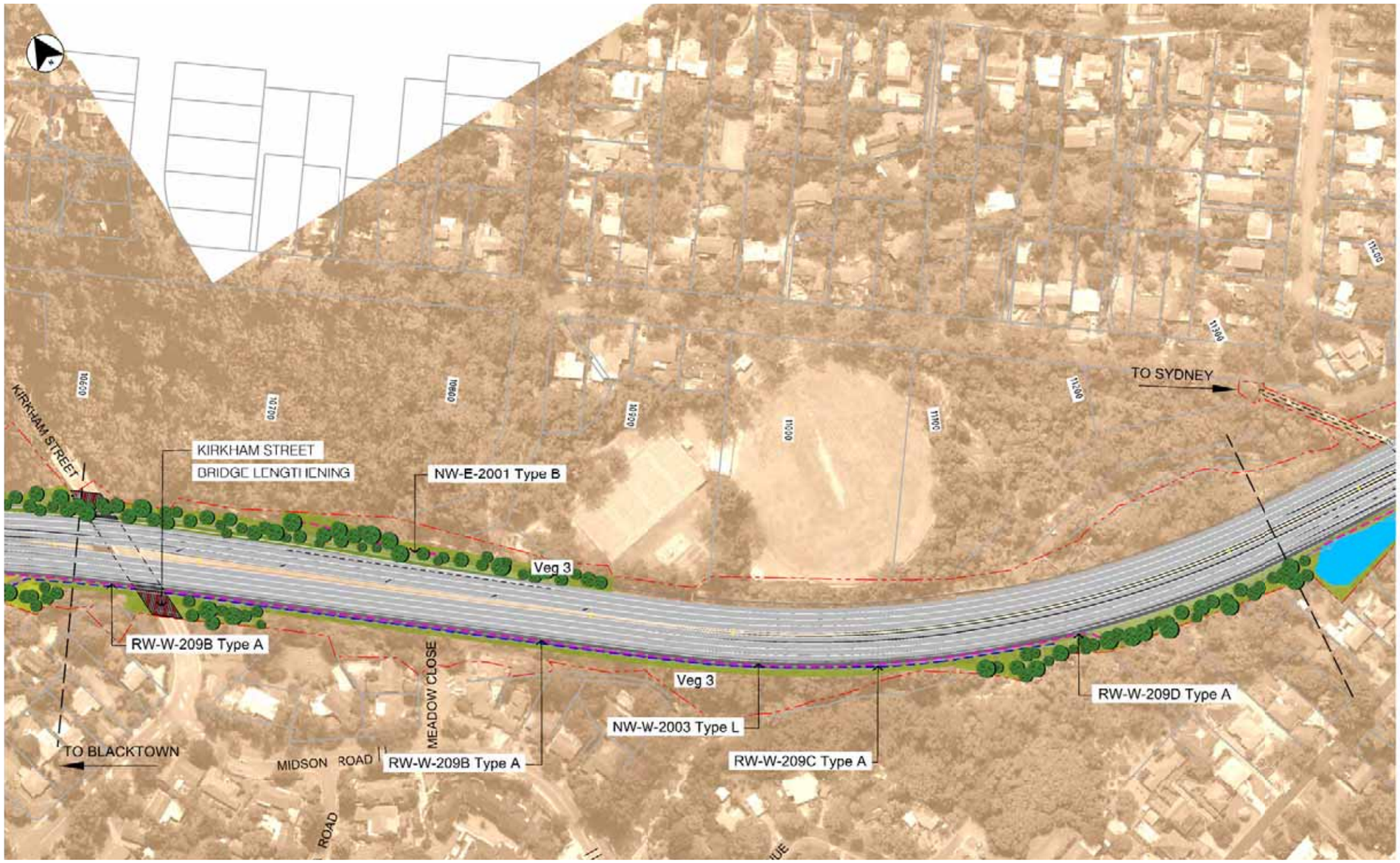
LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass

NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.22 Alignment Plan 12



GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass

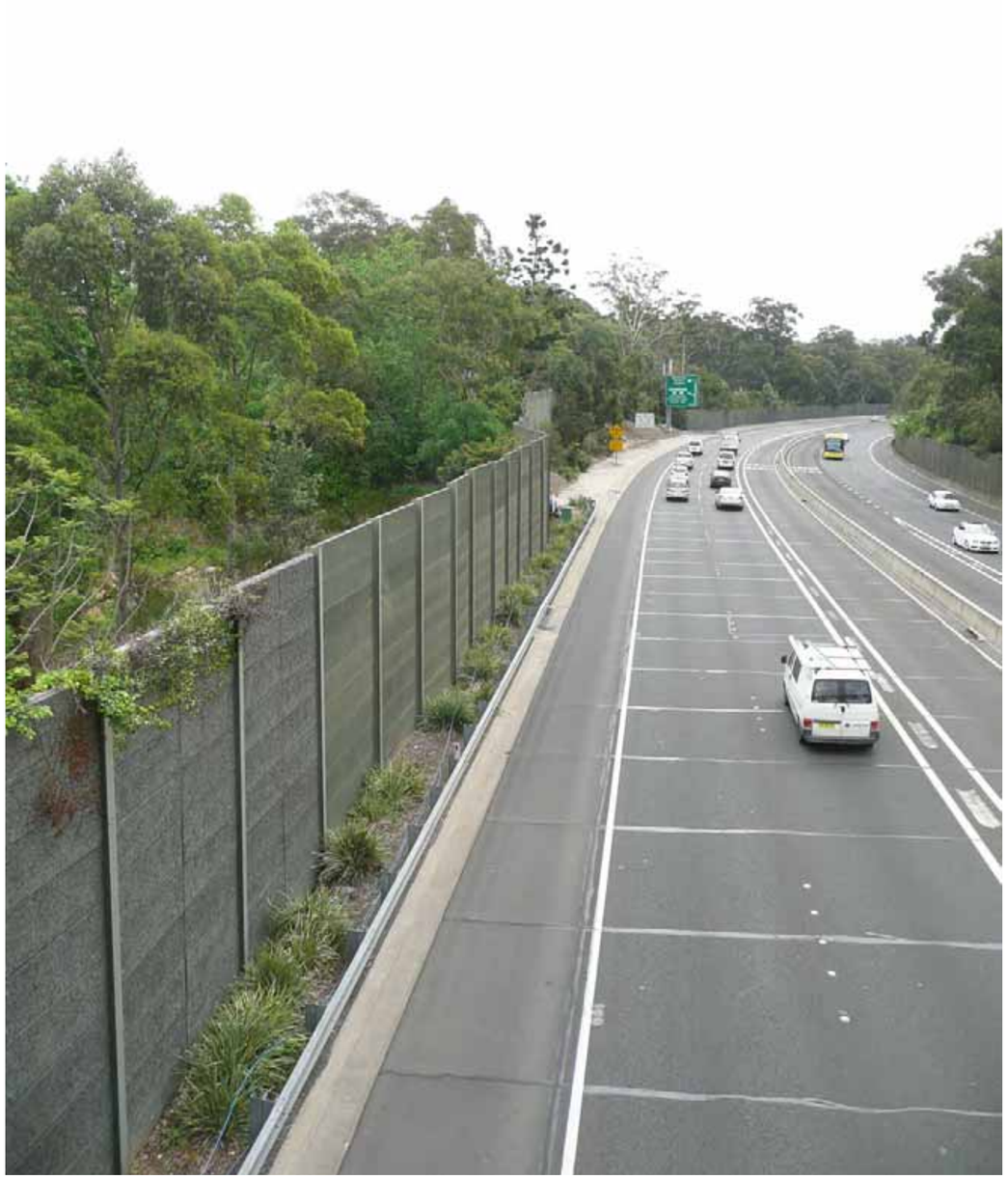
NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.23 Alignment Plan 13

Figure 6.1.24 Alignment Plan 14



Existing

Proposed

Figure 6.1.25 Artists perspective from Kent Street Overbridge looking west - Existing and proposed views.
The noise wall is relocated and a new panel design implemented - there will be a loss of planting to the noise wall due to the road widening. Stepping of the new noise wall design provides a transition to the existing retained noise wall panels.

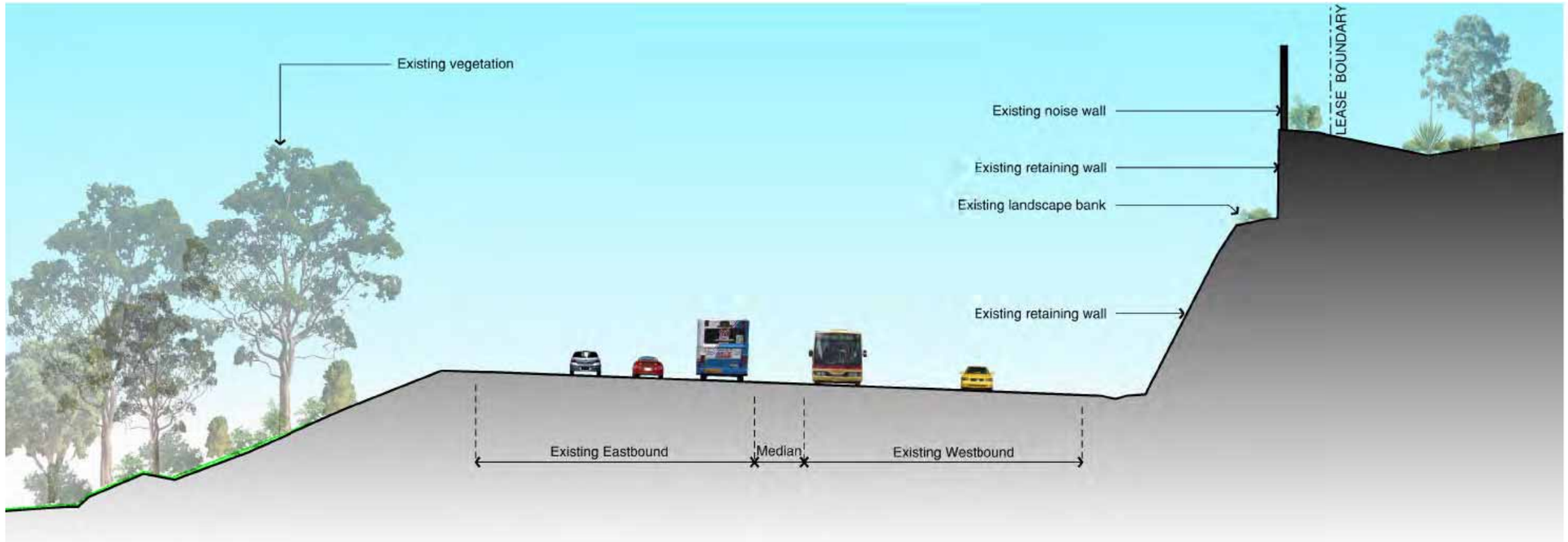


Figure 6.1.26 Stn 10350 Large cut with shotcrete - Existing

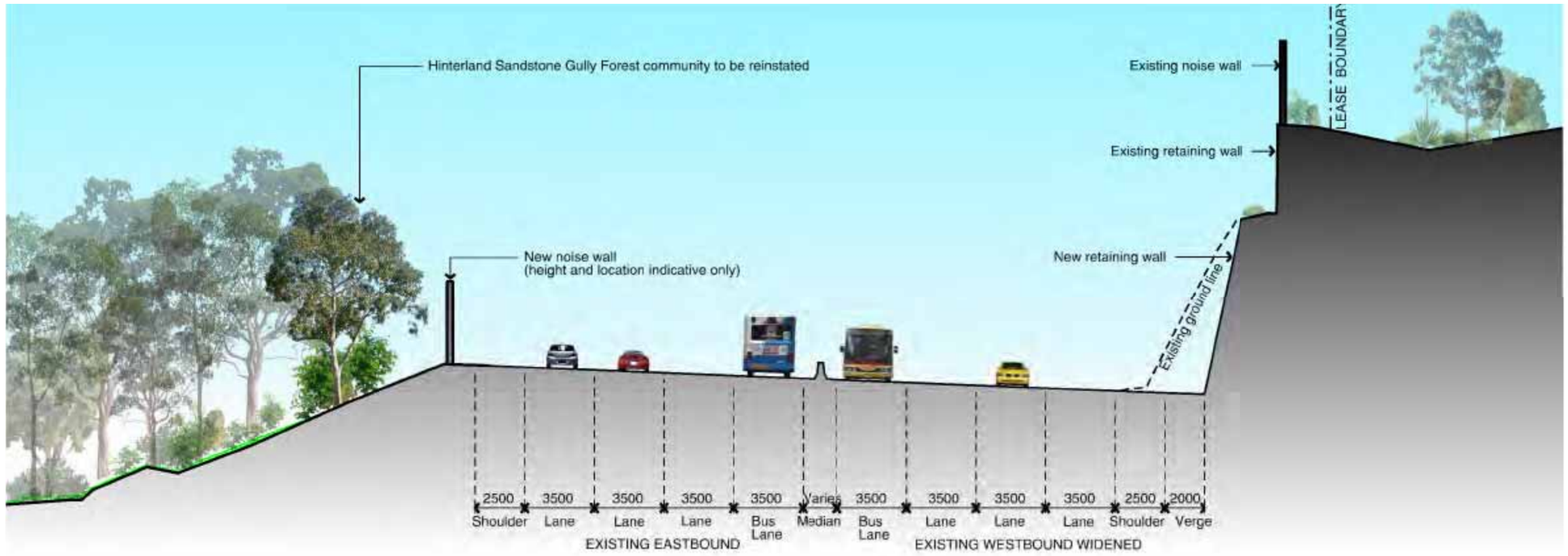


Figure 6.1.27 Stn 10350 Large cut with shotcrete - Proposed

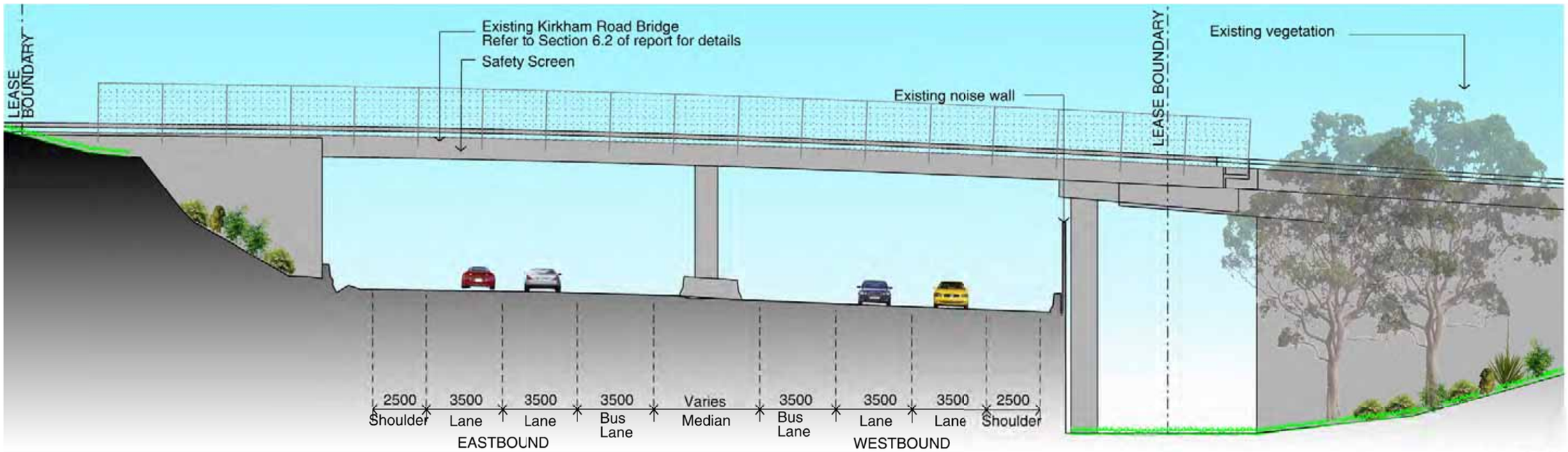


Figure 6.1.28 Stn 10600 Kirkham Street Bridge Area - Existing

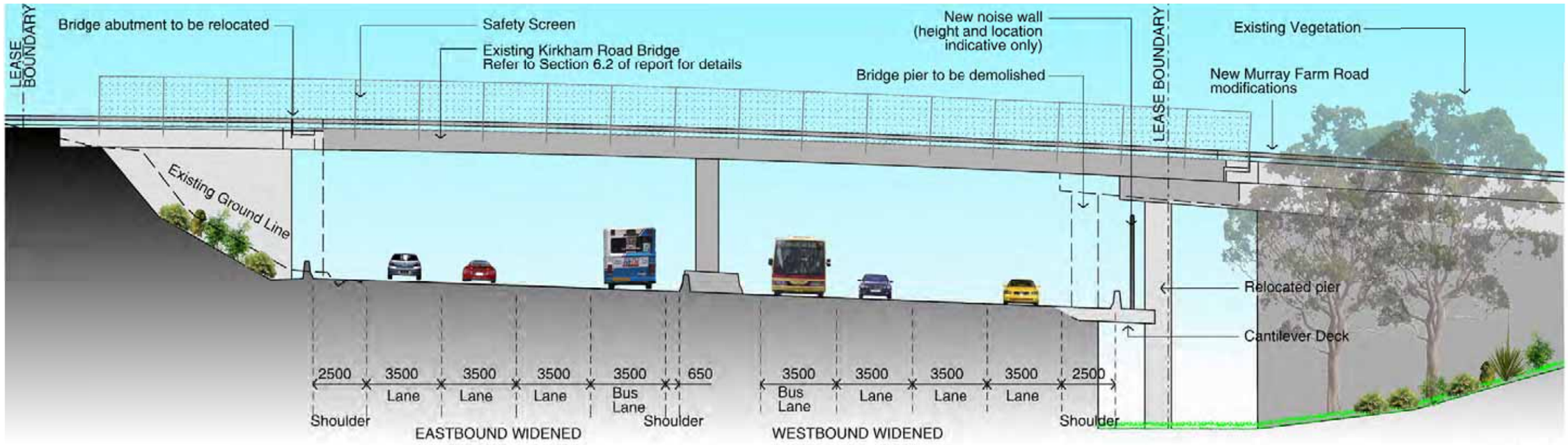


Figure 6.1.29 Stn 10600 Kirkham Street Bridge Area - Proposed

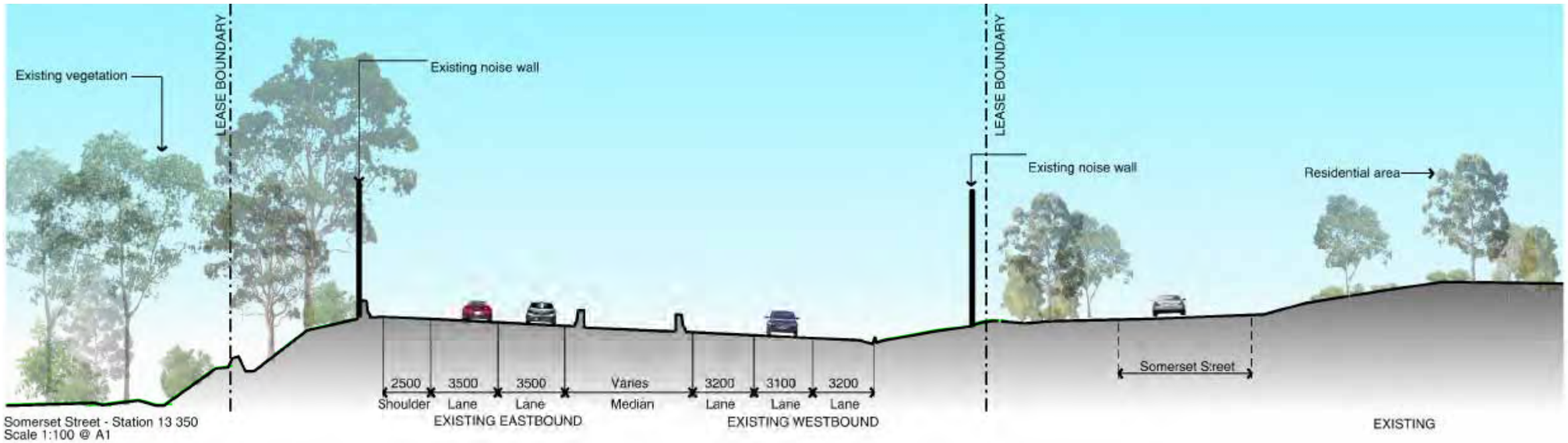


Figure 6.1.30 Stn 13350 - Existing

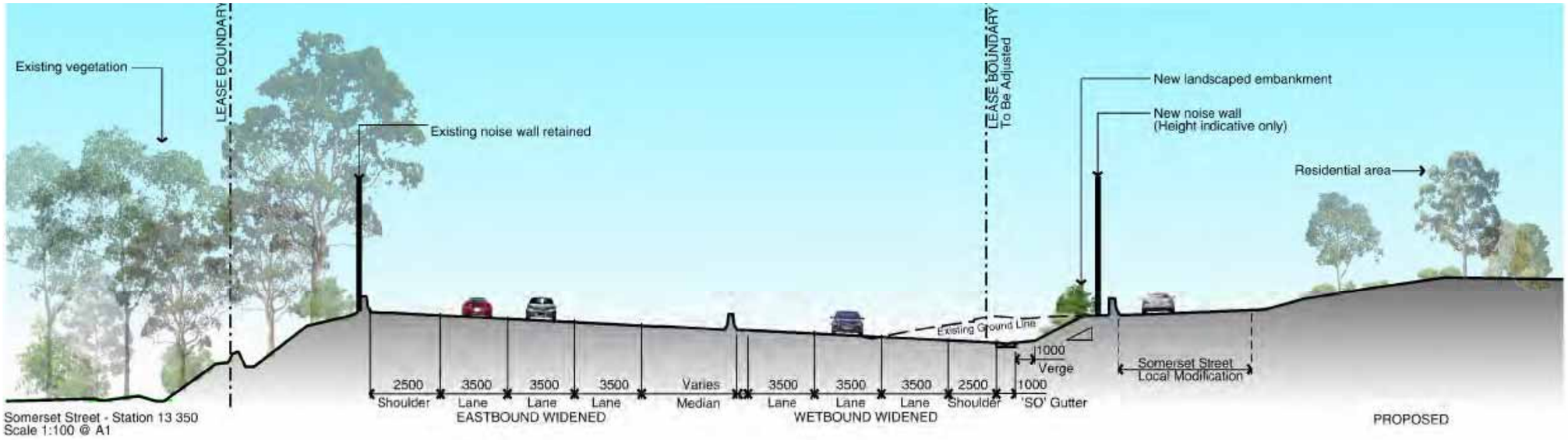


Figure 6.1.31 Stn 13350 - Proposed

Precinct 4 Beecroft Road /Devlins Creek – Terrys Creek /Crimea Road: Suburban Bushland Interface

Refer to Figures 6.1.32 to 6.1.40

The suburban character of Precinct 3 continues through into this precinct, and like Precinct 3, there is a dense canopy of trees creating a bushland feel. This section however adjoins Berriwerri Reserve at its eastern end, where the motorway crosses Terrys Creek, heightening this sense of bushland.

Vegetation communities are composed of Hinterland Sandstone Gully Forest with it transitioning to Coastal Sandstone Ridgetop Woodland. Strengthening of this character reinforces the perception of the motorway being in a bushland corridor and provides a sense of separation from adjacent properties.

A significant portion of this precinct is in tunnel. The portals are dominated by sandstone and the expansion of the portals to accommodate the increased road width should be designed to enhance this through the use of materials and colours which capture the strong earthy look of this rock.

Key areas of planting are associated with:

Adjoining Beecroft Road, where the busway overbridge is to be removed provides the opportunity to be revegetated with Hinterland Sandstone Gully Forest. In doing so the edge of Beecroft Road and entry into Epping can be enhanced, reinforcing the suburb within the forest feel of the area. The removal of the overbridge also provides the opportunity to enhance the vegetation cover in the off ramp island around the detention basins. With careful design both basin and landscapes could be merged to provide a backdrop to the approaches to Beecroft Road.

Somerset Street and Woodvale Avenue where any loss in vegetation as a result of construction is to be reinstated so that the impacts of noise walls and structures are mitigated. Planting is to consist of a mix of long lasting shrubs which will provide a dense screen to reduce the visual impact of the walls, and canopy planting (where space permits) to provide a sense of scale and connection with the adjoining bushland.

Terrys Creek requires some clearing to facilitate the construction of a widened structure. Any loss of vegetation would be reinstated with species from the Hinterland Sandstone Gully Forest Community.

GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass

NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.32 Alignment Plan 15

Figure 6.1.33 Alignment Plan 16

Figure 6.1.34 Alignment Plan 17

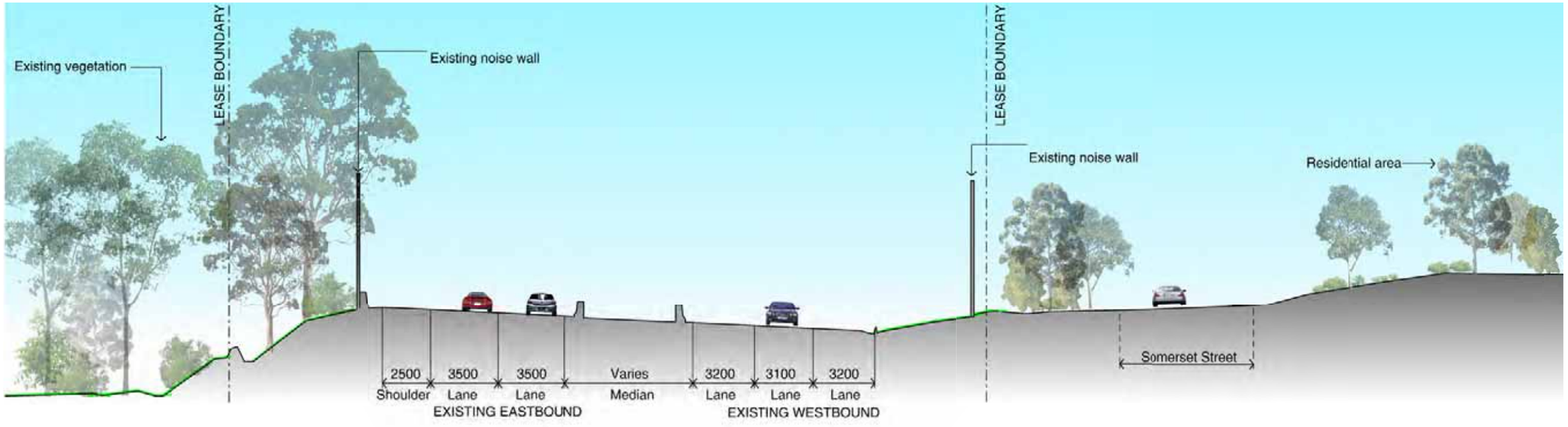


Figure 6.1.35 Stn 13350 Somerset Street - Existing

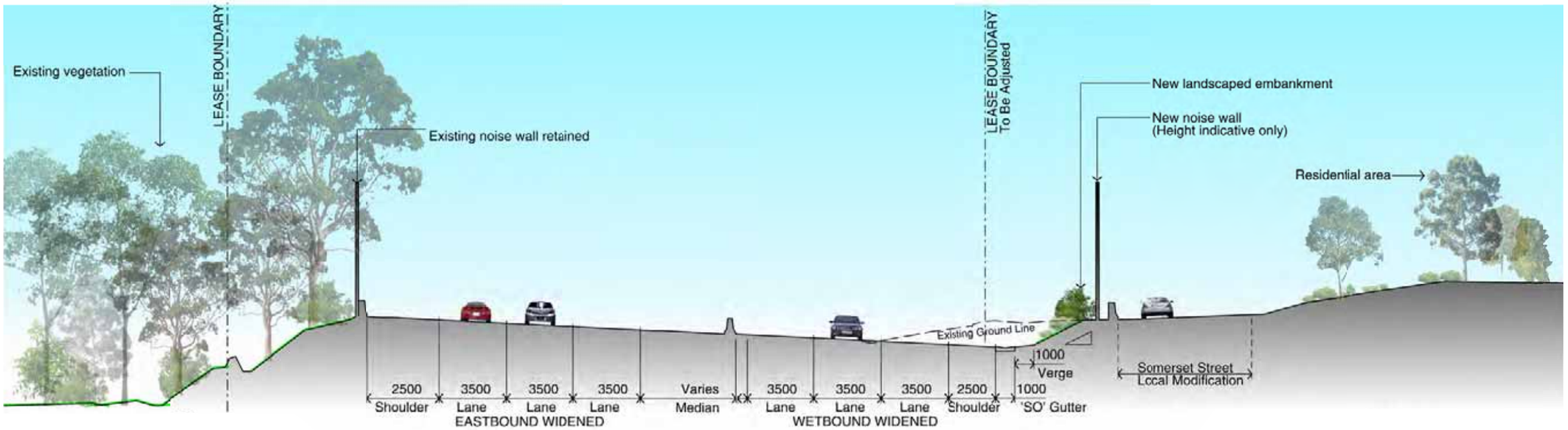


Figure 6.1.36 Stn 13350 Somerset Street - Proposed

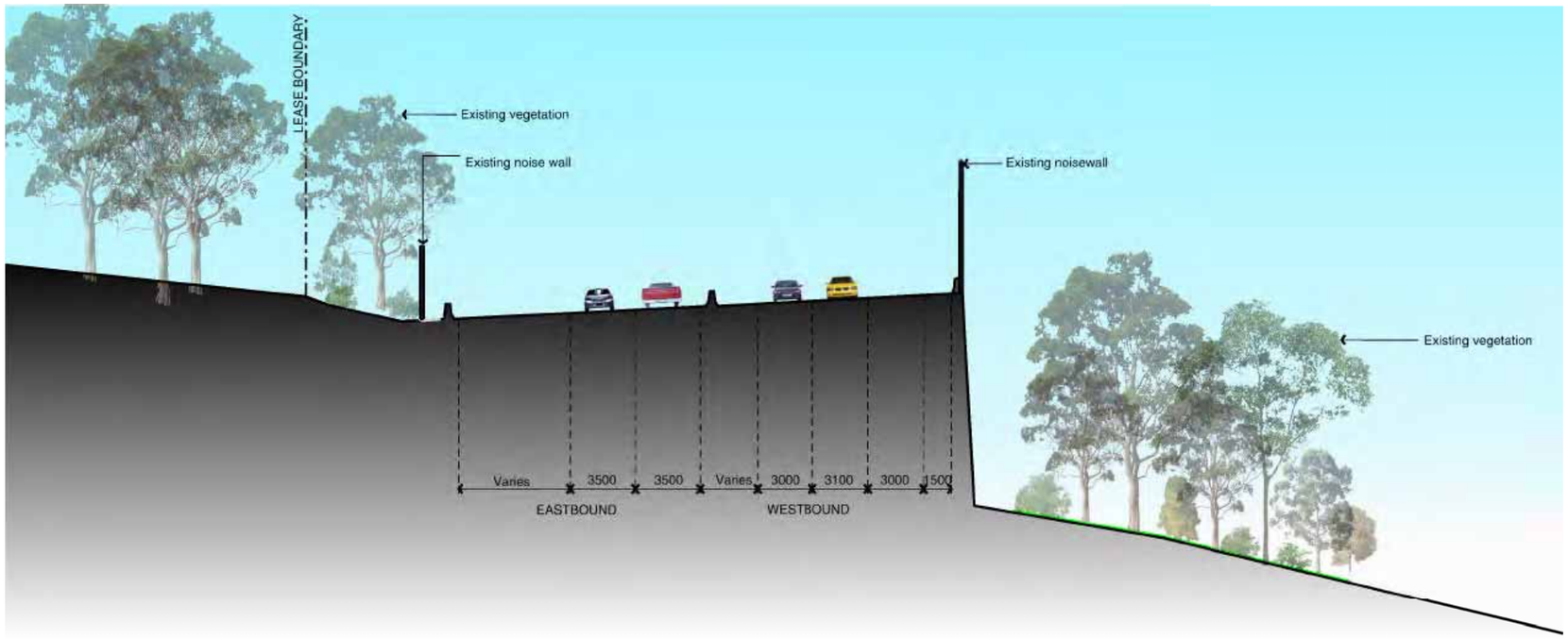


Figure 6.1.37 Stn 13600 Somerset Street east - Existing

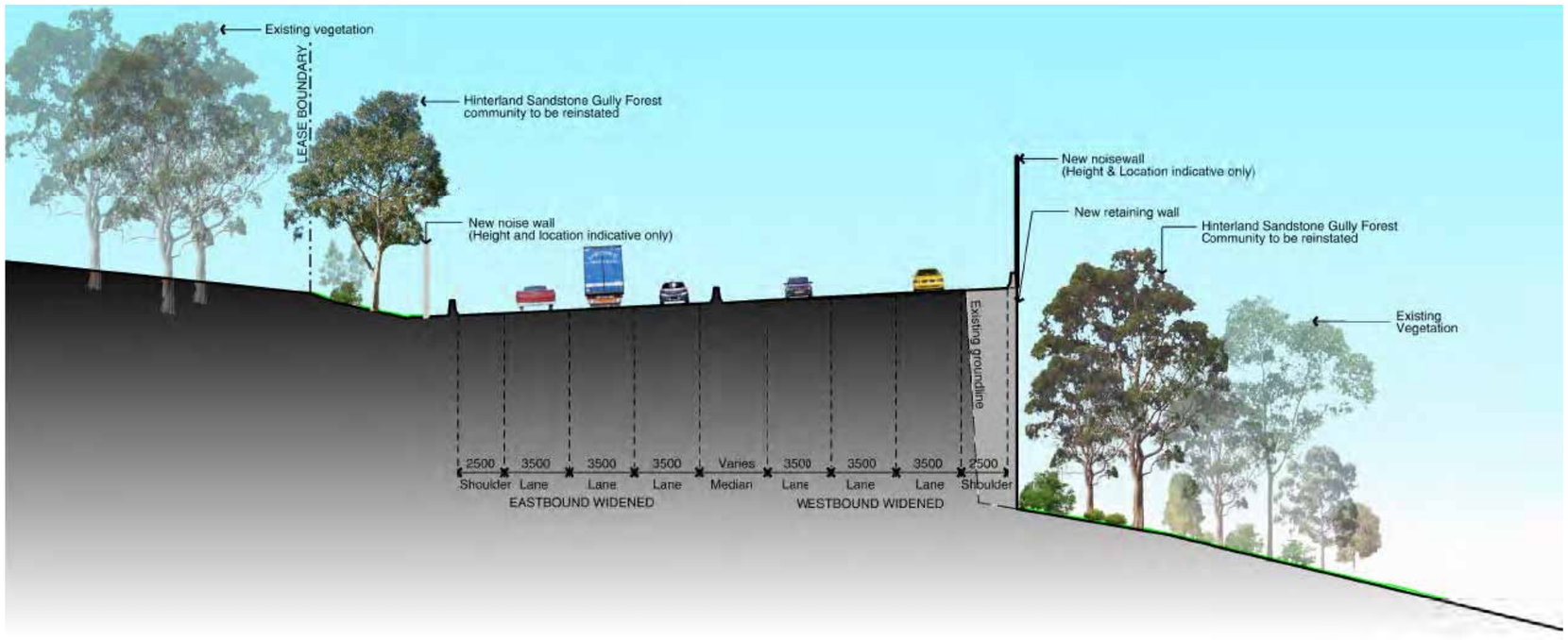


Figure 6.1.38 Stn 13600 Somerset Street east - Proposed

Figure 6.1.39 View of Beecroft Road and Rail Bridge looking west - existing

Figure 6.1.40 Artists perspective of Beecroft Road and Rail Bridge looking west (approximately Stn 12400) showing the removal of the bus lane bridge, cycleway on shoulder and new noise wall.

Precinct 5 Terrys Creek /Crimea Road – Delhi Road: Urban Bushland Interface

Refer to Figures 6.1.41 to 6.1.50.

This precinct is unlike any of the proceeding precincts in character and is a delineation between the natural and urban environment at the edge of the plateau.

North of the corridor is bushland associated with Lane Cove National Park, south is the built form of the commercial area of North Ryde.

Vertical cuttings are a common feature within this precinct and emphasise the edge between built form and natural landscape. Cuttings at Culloden and Christies Roads are to have the cut face steepened, and in the case of Christie Road one abutment moved back, to widen the clearance between abutments facilitating additional lanes.

The landscape response for this zone is focused on the creation of a bushland backdrop to the urban fabric of the road. The re-vegetation works focus on the recreation of the Coastal Sandstone Ridgetop Woodland community which occurs, before meeting the valley of the Lane Cove River. Landscape works are lineal in nature and are to areas where landscape is removed or damaged as a result of works. The Macquarie Park site compound, east of Christie Road provides the greatest opportunity to reinforce this character as part of the works by providing a verge of landscape which reflects this community and will blend with the Lane Cove National Park beyond.

GENERAL
- Road Corridor Boundary
- Existing Line Marking
- Proposed Line Marking
- Modified/ New Bridge
- Potential Compound Site

SURFACE TREATMENT
- Existing Road Pavement
- New Road Pavement
- Proposed Path
- Existing Drainage Basins
- New/ Enlarged Basins
- Proposed Culvert
- Rock Cutting

VERTICAL STRUCTURES
- Existing Noise Wall
- New Noise Wall - Refer schedules for description of type
- Existing Retaining Wall
- New Retaining Wall - Refer schedules for description of type

LANDSCAPE TREATMENT
- Veg 1 - Interchange Garden Bed
- Veg 2 - General Garden Bed
- Veg 3 - Revegetation
- Veg 4 - Rock Cuttings > 1:2
- Veg 5 - Rock Cuttings < 1:3
- Veg 6 - Grass

NOTE: Refer to Schedules for details

VEGETATION COMMUNITIES
- Feature Tree
- Sydney Turpentine Ironbark Forest
- Coastal Sandstone Ridgetop Woodland
- Hinterland Sandstone Gully Forest

0 100m

Figure 6.1.41 Alignment Plan 18

Figure 6.1.42 Alignment Plan 19