Table 3.5 Precinct 2: Visual Assessment Summary

PRECINCT 2 Windsor Road to Pennant Hills Road – Bushland Interface

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
4550 – 4750 (EB)	Darling Mills Creek Bridge (Motorway Viewer)		■		M	L	ML	– Construction of bridge widening will conflict with existing vegetation under bridge. – The EB widening, poses a low visual impact due to sufficient screening provided by the surrounding bushland from adjoining residences. – Visual amenity under bridge should consider existing walking tracks.	– Care needs to be taken with the design of the bridge structure so that it does not detract from the natural environment and is consistent in character with the existing. – Clearing for construction access should be limited and mature trees retained where practical
	(Motorway User)		■		M	L	ML	– Pavement area increased	– Detailing of existing bridge parapets retained to maintain visual character of existing structure.
4850–4950 (EB)	Retaining wall		■		L	L	L	– Construction of retaining walls in relatively steep and inaccessible terrain may result in loss of vegetation cover beyond work footprint.	– Design of retaining wall may consider use of texture and materials to reduce the scale of retaining wall. – Vegetation to be reinstated where damaged by works.
5100–5400 (EB)	Darling Mills Forest/ Renown Road Baulkham Hills	■			L	L	L	– Existing retaining and noise walls are to be relocated nom. 3.5m closer to residential properties.	– Improve design treatment of noise walls – Reinstate cleared vegetation behind noise wall to provide screening from residences.
5400–5700 (EB)	Renown Road/ Mill Drive Baulkham Hills	■			L (others) HM (Property No. 27–31)	L (others) HM (Property No. 27–31)	L (others) HM (Property No. 27–31)	– Existing noise walls are at least 15m away from adjacent properties. The noise walls are being relocated closer to adjoining properties. No.27–31 Mill Drive are most impacted. – Loss of buffer vegetation along embankment.	– Alignment and supports to be considered in relation to adjoining residences. A simple, smooth, even alignment should be adopted and the impacts of the supports minimised. – Provide vegetation behind noise wall to provide screening to adjacent residences where space permits.
5500	Barclay Road Bridge (Motorway User)		■		M	L	ML	– Bridge is to be lengthened, requiring removal of existing abutment, and alteration to spans resulting in uneven spans.	– Structural detailing to consider the form of the leading edge of the new structure so that a consistent edge line is created. – Bridge design is to integrate with that of the existing structures including, rails, throw screens parapets etc.
5700–5950 (EB)	Mill Drive Baulkham Hills		■		L	L	L	– Existing noise walls are being relocated up to 4m closer to adjacent property.	– Alignment and supports to be considered in relation to adjoining residences. A simple, smooth, even alignment should be adopted and the impacts of the supports minimised.
5900–6230 (WB)	Dale Place/ Muirfield High School North Rocks		■		L	L	L	– Existing noise wall is being relocated up to 3m closer to adjacent property.	– Reinstate cleared vegetation behind noise wall to provide screening to adjacent residences.
6220–6560 (WB)	Muirfield High School North Rocks (Motorway viewer)		■		L	NE	L	– New embankment is being proposed up to 5m closer to adjacent property.	– Provide additional vegetation along top of embankment.
	(Motorway user)			■	M	ML	ML	– Additional carriageway and widening of cutting	– Potential to steepen lower half of cut and flatten top to enhance revegetation and screening of walls

Table 3.5 (continued)

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
6480–6740 (WB)	Yale Close Bridge				M	ML	M	– Retaining and noise walls, and bridge are being relocated up to 4m closer to adjacent properties in Yale Place.	– Reinstate cleared vegetation to provide additional screening of bridge from adjoining residences. – Noise and retaining walls may be designed using either colour, materials or texture consistent with the existing bridge and which minimise impacts on adjacent residences
6700–7270 (WB)	Bidjigal Reserve/ Royal Institute for Deaf and Blind Children, North Rocks				L	L	L	– Existing noise wall is being relocated along top of new embankment. – 6850 – 6920 retaining wall is being constructed with noise wall attached.	– Reinstate cleared vegetation to provide additional screening of bridge from adjoining residences. – Retaining wall /noise wall may consider use of colour, texture or materials to reduce visual bulk.
7370–7640 (WB)	Wilshire Avenue/ Morton Avenue/ Carmen Drive Carlingford				L	VL	L	– 3.5m lane widening with new embankment. – Existing noise wall is being relocated up to 3.5m closer to adjacent property.	– Provide additional vegetation behind noise wall for screening.
7600–7950 (EB)	Bushland				L	NE	L	– Existing noise wall is being relocated into bushland.	– Reinstate cleared vegetation behind noise wall for screening.
7630 (WB)	Morton Avenue Carlingford				L	NE	L	– The widening of the EB lane will have some impact to views on Morton Avenue. There are currently filtered views of the M2 traffic through existing vegetation.	– Provide additional vegetation behind noise wall for screening.
Site compounds – potential location of temporary construction activities									
4550	Darling Mills eastern end of Windsor Road Slip Lane				ML	M	M	– Site compound to be established for: site sheds and lay down area. – Impact on existing vegetation cover for construction access.	– Limit footprint to a minimum maintaining as much canopy vegetation as possible. – Minimise earthworks to retain natural topographical features.
5500	Barclay Road / Perry Street				M	M	M	– Site compound to be established for: stockpile and handling area. – Removal of existing mound and vegetation to Perry Street frontage.	– Potential to retain vegetation on periphery of site. – Once complete area to be revegetated enhancing landscape character of area.
6840	Yale Close Bridge Compound (Duncan Place)				H	M	MH	– Site Compound to be established for: stockpile and handling area. – Access track along boundary. – Potential loss of Existing vegetation cover between Property and Motorway.	– Potential to retain vegetation on periphery of site. – Once complete area to be revegetated enhancing landscape character of area.

Visual Sensitivity

Ne = Negligible; VL = Very Low; L = Low; ML = Medium Low; M = Medium; MH = Medium High; H = High; VH = Very High

Nature of Impact

A = Adverse; N = Neutral; B = Beneficial

Station

EB – East Bound – Works widened beyond east bound carriageway.

WB – West Bound – Works widened beyond east bound carriageway.

3.6 Precinct 3: Pennant Hills Road to Beecroft Road/ Devlins Creek - Suburban Forest

Precinct 3 spatial and visual context of the motorway are illustrated in Figure 3.5.

Works in Precinct 3 relate to the widening of the motorway carriageway between Pennant Hills Road and just east of Beecroft Road at Devlins Creek. Works include bridge widening over Devlins Creek, lengthening of Kirkham Street Bridge, relocation of noise walls; widening of the motorway formation including cuttings and fill embankment extents. The details of this proposal are depicted in Chapter 6.

This section of the motorway corridor is the most developed with residential properties backing onto the corridor for a substantial length of it. Despite the level of development, the area when viewed from the motorway is still dominated by a canopy of trees, which line the streets and backyards of the surrounding suburbs.

Just east of Pennant Hills Road off/on ramps, the motorway is widened to the south. The realignment of noise walls to properties fronting Lamorna Avenue has the potential to have a significant impact on these properties due to the scale and close proximity of the existing structure, refer Photo 3.27.

As you progress east the impact is reduced as landscape is established in front of the walls, photo 3.28. East of Orchard Road the corridor follows the valley of Devlins Creek and is constrained by its presence. The Devlins Creek Bridge adjoining Chilworth Recreational Reserve is widened both internally (into the median) and to the south (adjacent the westbound lanes). This widening will see the loss of vegetation both for the permanent structure but also for access. Care should be taken to maximise the retention of significant trees and minimise the extent of disturbance to a minimum.

The design of the new bridge structures, in order to reduce the visual impact, should reflect the design of the existing bridge and its component parts and should not detract from the reserve. The infilling of the median between the two bridges will result in a reduction in light under the new structure and loss of any vegetation which presently exists under the bridge. This will impact the feel of the zone under the bridge. In designing the modifications to the bridge it will be important to retain a sense of openness to either side of the bridge so that a sense of safety for those using the access path is maintained (refer to Photo 3.29).

As part of the construction process new noise walls are to be constructed both on the bridge and leading on and off it. In developing the design of the new walls, the use of acrylic noise wall panels may be considered (subject to other project priorities). This would assist in reducing the scale and mass of the bridge as well as improving light distribution and connections between the road and its environment.

Just east of here the road enters a significant existing cut. The proposal sees this cut steepened with the intent to maintain the existing noise wall insitu. The existing cut has been treated with shotcrete which is coloured to minimise its visual impact. Despite this the treatment is still evident due to its uniform colouring and texture. The new works will require replacement of this treatment. In applying new treatments care needs to be taken to better integrate the new works and any shotcrete. This may involve integrating visually with the rock face through use of colouring and

Photo 3.27 View off Lamorna Avenue - Note: Visual impact reduced by vines and hedge on the surface of the wall.

Photo 3.28 View of noise wall at the end of Orchard Road.

Photo 3.29 View of space under existing westbound bridge over Devlins Creek.

Photo 3.30 View of Kirkham Street.

Photo 3.31 View of drainage line under Kirkham Road Bridge.

Photo 3.32 View from Meadow Close off Devlin Crescent, Channel Wall and M2 noise wall.

texture. The use of shotcrete should be consistent with the RTA design guidelines for the use of shotcrete.

From here the widening continues to the southern (west bound) side of the alignment, where it is required to straddle Devlins Creek (Photo 3.31and 3.32). This widening impacts the Kirkham Street Bridge with the need for relocation of a pier and the northern abutment but also sees the alignment cantilevered off the existing retaining wall bring it and the noise wall closer to properties. Visually it is not possible to enhance the screening of the structure from adjacent properties within the corridor due to the creek channel occupying much of the space within the corridor. The use of a cantilevered structure however provides a neat uncluttered appearance which will not change substantially the existing outlook. Care needs to be taken so that the noise wall is neatly integrated and coloured to minimise impacts

Permanent construction works, within this section terminate at the Kent Street Overbridge, depicted in Photo 3.33. However, to facilitate these works the need for a site compound could see the use of a parcel of motorway land which fronts Barombah Road (Photo 3.34). This parcel of land is presently vegetated and it will be important to seek to maintain this appearance in order to minimise impacts.

Photo 3.33 View of Kent Street pedestrian bridge and noise wall.

Photo 3.34 View from corner of Baromba road and Cunmore Road to site compound and M2.

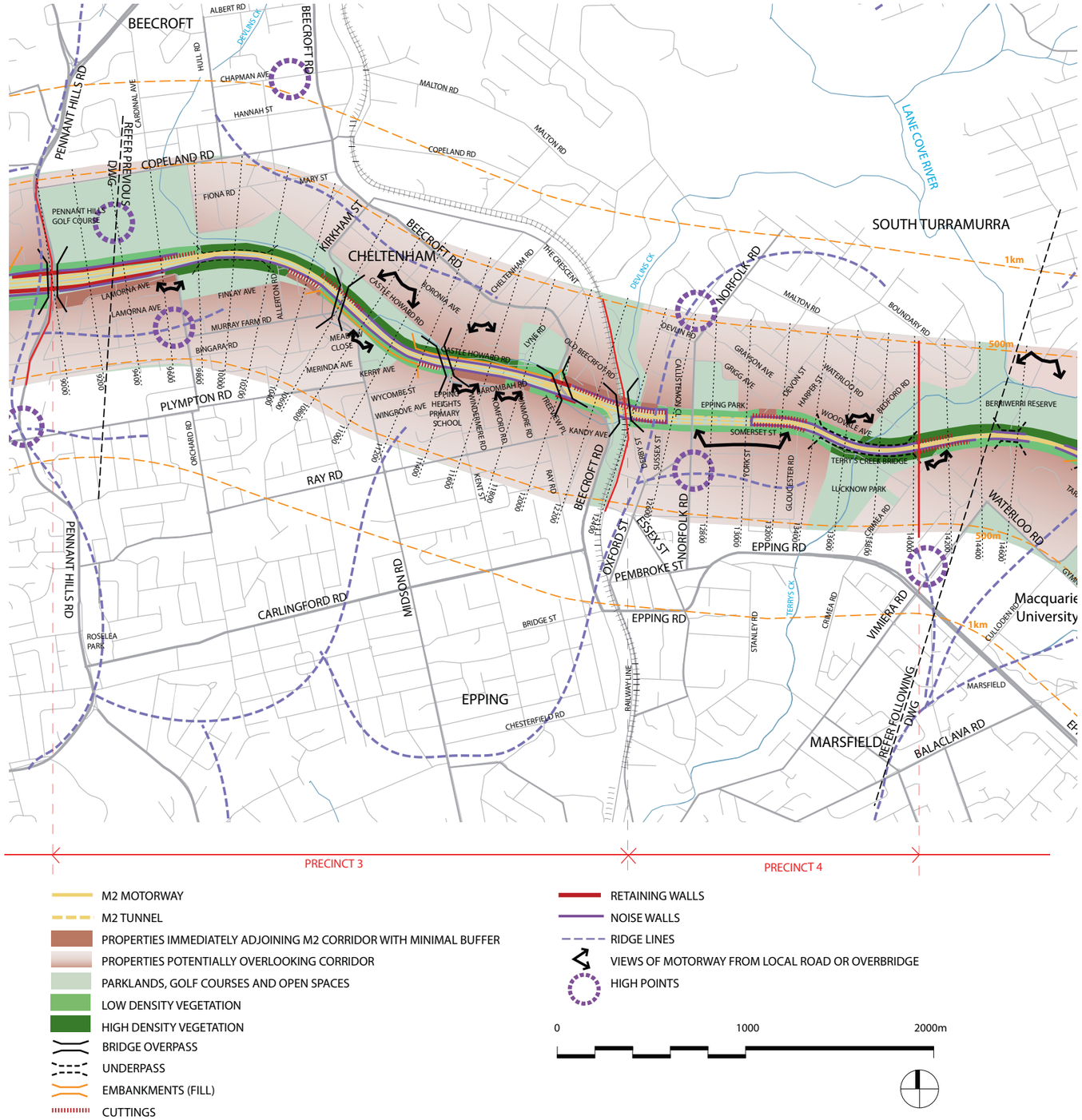


Figure 3.5 Spatial and Visual Analysis - Precincts 3 and 4

Table 3.6 Precinct 3: Visual Assessment Summary

PRECINCT 3 Pennant Hills Road to Beecroft Road/ Devlins Creek – Suburban Forest

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
9650 – 9850 (WB)	Lamorna Avenue/ Orchard Road Beecroft	■			H	M	MH	– Existing noise wall backs onto houses with mimimal offset from house wall. – Noise wall may be relocated onto boundary potentially impacting existing screening.	– Improve treatment of noise walls and provide additional screen planting behind noise wall. This may be undertaken as a property adjustments.
9670–10260 (WB)	Recreation Reserve Beecroft/ Bridge		■		M	M	M	– Existing noise wall is being relocated up to 3m into bushland.	– Re–vegetate in response to disturbance to natural bushland.
9850–10350 (EB)	Chilworth Recreation Reserve Beecroft	■			L	ML	ML	– Existing noise walls are to be replaced and increased in height.	– Acrylic noise walls may be considered to allow solar access and to improve connection with adjoining environment (subject to other project priorities).
9900–10100 (EB & WB)	Devlin Creek Bridge	■			M	M	M	– Devlins Creek Bridge widening to western side including construction of new piers, girders, deck and noise wall. – Widened in centre lane removing light well.	– Consider design of bridge to be consistent with existing. – Potential to improve linkages with natural environment with noise wall through use of acrylic panels where noise walls are replaced on bridge (subject to other project priorities). – Maintain access under new bridge structure.
10260–10550 (WB)	Allerton Road to Kirkham Street Bridge Beecroft (Motorway user)			■	ML	M	M	– Existing noise wall is retained and cutting steepened. Cutting has a significant area if shotcrete which would need to be addressed in the new cutting.	– Provide additional vegetation behind noise wall for screening. – Where structural support needs to be provided to cut face this should be undertaken in accordance with RTA Shotcrete Guidelines. Extent of shotcrete is to be minimised and integrated with cut face.
10550–10800	Kirkham Street Bridge Beecroft to Meadow Close Roselea	■			M	L	ML	– Existing noise wall is being relocated up to 2.5m closer to adjacent properties. – Lane widening over open canal and embankment. – Kirkham Street Bridge is to be lengthened, including removal and replacement of southern pier.	– Design of new structure over drainage canal to be carefully considered to reduce apparent scale of structure and maintain drainage capacity. – Bridge structure to be integrated with existing through use of common parapet and girder profile to leading edge.
10800 (WB)	7 Meadow Close Roselea			■	HM	L	M	– Proposed widening will move 4m high noise wall closer to residential properties. – Existing noise wall and concrete drainage canal are presently visually dominant as they run past residential properties.	– Noise wall and retaining walls may consider the use of materials, colour and/or texture to minimise scale of walls. – Potential for improved screen planting.
10800–11150 (WB)	Meadow Close to Kerry Avenue bushland Roselea		■		L	L	L	– New noise wall and retaining walls are being relocated up to 2.5m closer to adjacent properties and bushland.	– Noise wall and retaining walls to consider the use of colour and/or texture to minimise scale of walls.
11150–11300 (WB)	Wycombe Street Epping		■		L	NE	L	– Lane widening occurs within existing footprint, no change in noise wall location required.	– Potential to improve vegetation cover and remove weeds.
11300–11350 (WB)	Wycombe Street to Kent Street Bridge Epping	■			ML	ML	ML	– Existing noise wall is being relocated up to 2m closer to adjacent property. – Existing basin cleared and improvements made.	– Provide screen planting along property boundary to screen noise walls.

Table 3.6 (continued)

Site Compounds – potential location of temporary construction activities

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
9850–10200	Devlins Ck Bridge	■			ML	M	M	– Site compound to be established for: Site shed and lay down area. – Loss of existing vegetation. – Impacts on local pedestrian access.	– Maximise retention of mature canopy trees. – Strip and stockpile site soil to retain soil seed bank. – Reinstate pedestrian access improving accessibility where possible.
11700–11800	Barombah Road	■			HM	ML	M	– Site compound to be established for: Site shed and lay down area. – Loss of existing vegetation.	– Maximise retention of existing vegetation along street frontage. – Reinstate and improve vegetation cover post construction

Visual Sensitivity

Ne = Negligible; VL = Very Low; L = Low; ML = Medium Low; M = Medium; MH = Medium High; H = High; VH = Very High

Nature of Impact

A = Adverse; N = Neutral; B = Beneficial

Station

EB – East Bound – Works widened beyond east bound carriageway.

WB – West Bound – Works widened beyond east bound carriageway.

3.7 Precinct 4: Beecroft Road /Devlins Creek to Terrys Creek - Suburban Bushland Interface

Precinct 4 spatial and visual context of the motorway are illustrated in Figure 3.6.

Works in Precinct 4 relate to the widening of the road corridor between Beecroft Road at Devlins Creek and just east of Terrys Creek. Works include widening of Norfolk Road Tunnel; bridge widening over Terrys Creek; relocation of noise walls; widening of the road formation including cuttings and fill embankment extents. The details of this proposal are depicted in Chapter 6.

Impacts on Motorway Users

As part of the widening works, through this section of road, the removal of the Beecroft Rd Bus Bridge is proposed. This reflects the changes in the public transport system over the last decade and the implementation of better bus priority connections within the M2 corridor as a result of this proposal. The removal of the bridge will provide an enhanced visual outcome with the loss of part of the visual clutter created within this zone by a range of elevated structures. This is depicted in Chapter 6.

West and east of the Norfolk Road Tunnel the approach cuttings to either side of the corridor, (depicted Photo 3.35) are to be widened to facilitate the construction of additional lanes in both directions and the incorporation of a breakdown/cyclist lane. This will have the effect of broadening the cut but will not affect the height. The treatment of cuttings should ensure the strong character of the existing sandstone walls are retained and minimise the use of shotcrete which may otherwise detract from the walls.

The construction of the additional carriageway width has the potential to upset the symmetry of either of the tunnel portals. In the design development of the tunnel portals a treatment is to be developed that creates a consistent profile for the tunnel entrance.

Impacts on Motorway Viewer

Like Precinct 3 this section of the corridor adjoins a predominantly residential area being bordered by Somerset Street and Woodvale Avenue to the south and north respectively.

The widening of the cuttings at the western and eastern approaches to the tunnel has the potential to impact the noise walls which run on the southern sides adjacent to Somerset Street, depicted in Photo 3.36 and 3.37. In the proposal the alignment of the walls is generally to be retained with a small section east of Station 13250 to be moved closer to properties. Works should the limit impact to adjoining vegetation cover and if damaged reinstate.

Stn 13500 northern side of the corridor, adjoining Woodvale Avenue, has a number of properties which back onto the corridor, depicted in Photo 3.38. Presently these overlook the corridor and its noise walls. The proposal sees both the noise wall and a retaining wall moved closer to properties. This has the potential to increase the impact on the adjoining properties due to a reduction in space within the boundary for screening and a greater sense of enclosure. Care will need to be taken to improve the outlook of the noise wall and maximise potential for screen planting.

The construction of a widened bridge over Terrys Creek requires the construction of new piers, girders and abutment. The design of this needs to be simple and refined so as to minimise impact on native vegetation and limit visual impacts when viewed from walking track or adjacent properties and to relate to the existing structure (Photo 3.39). The construction of a temporary site compound to support these activities is also required. The construction of this should seek to retain as much of the existing canopy as possible to facilitate screening of works.

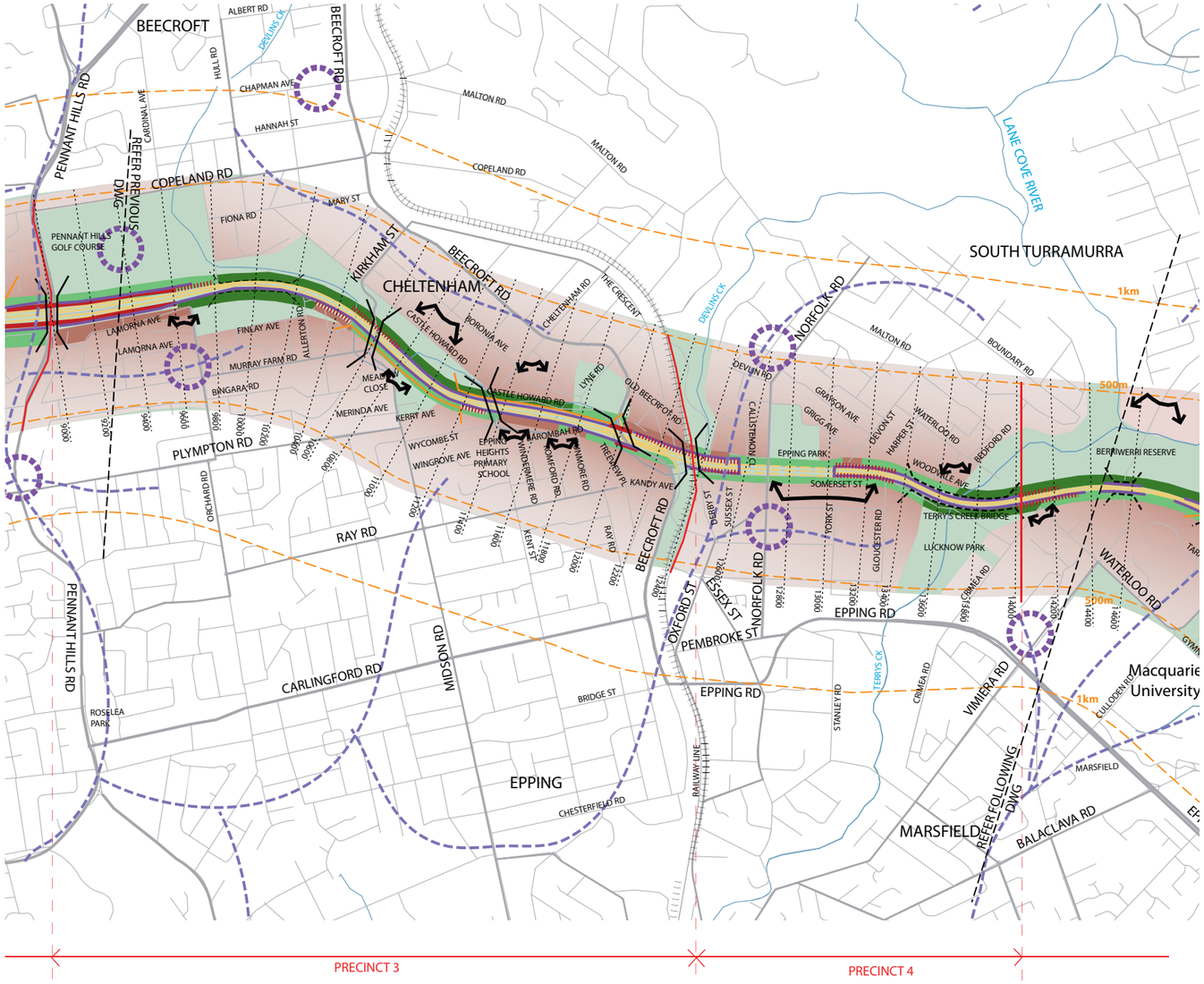
Photo 3.35 View of eastern tunnel approach.

Photo 3.36 View looking west along eastern half of Somerset Street.

Photo 3.37 View from Woodvale Avenue showing proximity of houses and existing screening.

Photo 3.38 View of Terrys Creek Bridge from the walking track located on the valley floor, illustrating the level of screening offered by existing vegetation.

Visual Assessment



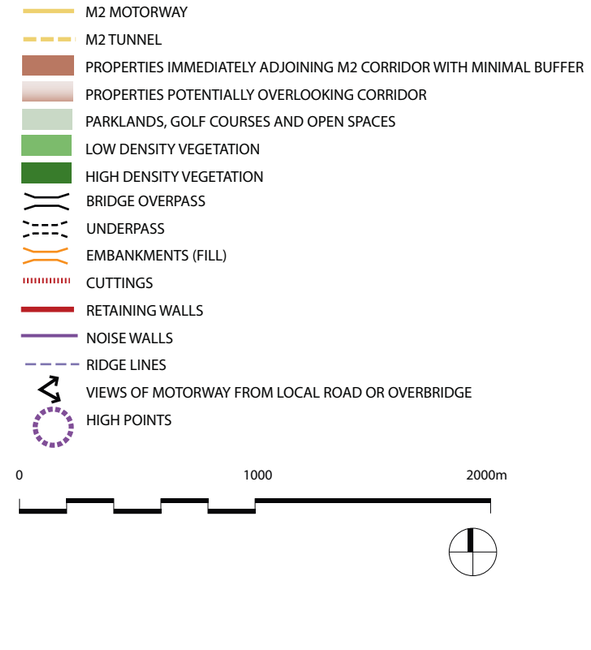


Figure 3.6 Spatial and Visual Analysis - Precinct 4

Table 3.7 Precinct 4: Visual Assessment Summary

PRECINCT 4 – Beecroft Road /Devlins Creek to Terrys Creek – Suburban Bushland Interface

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
12000 to 12300	Beecroft Road Interchange (Motorway User)		■		ML	MH	M	– Removal of existing busway bridge. – Expansion of detention basin in central island.	– Potential for enhanced landscape treatments. – Removal of bridge enhances the skyline at this point by reducing visual clutter.
12440–12600 (WB)	Somerset Street Epping (Motorway Viewer)		■		M	NE	NE	– Existing noise walls remain unchanged along Somerset Street.	– Maintain existing vegetation cover in front of Noise wall
	(Motroway User)			■	ML	M	M	– Rock cutting below wall is steepened.	– Stabilisation treatments to be minimised. If shotcrete is to be used treatment should be in accordance with RTA design guidelines and part of an integrated treatment to the tunnel portal.
12620–13080	Norfolk Tunnel North Epping (Motorway User)		■		L	L	L	– Additional lane and cycle lane in Norfolk Tunnel requiring widening of tunnel including portals.	– Rework of tunnel lining and ventilation. – Consider potential to create and strengthen character of tunnel portals. Portals to integrate any requirements for rock fall etc with the revised structure.
13080–13250 (EB)	Devon Street Epping (Motorway viewer)		■		HM	NE	NE	– Existing noise walls are being retained unchanged along Devon Street. .	– Enhance screening of existing wall
	(Motorway User)		■		M	M	M	– Rock cutting below wall is steepened	– Stabilisation treatments to be minimised. If shotcrete is to be used treatment should be in accordance with RTA design guidelines and part of an integrated treatment to the tunnel portal.
13080–13250 (WB)	Somerset Street Epping (Motorway viewer)		■		HM	NE	NE	– Existing noise walls are being retained unchanged along Somerset Street.	– Enhance screening of existing wall
	(Motorway User)		■		M	M	M	– Rock cutting below wall is steepened.	– Stabilisation treatments to be minimised. If shotcrete is to be used treatment should be in accordance with RTA design guidelines and part of an integrated treatment to the tunnel portal.
13250–13460 (WB)	Somerset Street Epping	■			HM	M	MH	– Existing noise walls are being relocated closer to properties between 62 –76 Somerset Street. – This potentially could impact existing road carriageway width and result in the loss of street trees and screen planting within the adjacent verge.	– Improve treatment of noise walls and provide additional screen planting behind noise wall. – Potential to widen verge and reduce carriageway width to improve screening of noise wall.
13460–13680 (WB) 13460 – 13540 (EB)	Terrys Creek Bridge approach	■			M	M	M	– New bridge alignment will see both retaining and noise walls realigned with impacts on bushland on both side of bridge approach, due to a widened footprint.	– Revegetate bushland adjacent to bridge approaches, strengthening screen planting to reduce impact. – Retaining walls may consider colour and/or texture to reduce mass of structure.
13540–13680 (EB)	Woodvale Avenue North Epping	■			H	HM	H	– New road alignment will require noise walls to be relocated closer to adjacent properties. Existing noise walls will move from approx. 10m way to 3m from property boundaries. – Loss in buffer planting.	– Improve treatment of noise walls and provide additional screen planting behind noise wall.

Table 3.7 (continued)

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
13680–13850	Terry's Creek Bridge	■			ML	L	ML	– Residential properties on both sides of bridge have filtered views of bridge and are almost at level with the bridge. – Widening the bridge on the northern side will bring the bridge marginally closer to residential properties. – Visual amenity under bridge should consider existing walking tracks and aim to minimise disturbance of bushland vegetation.	– Acrylic noise walls may be considered where noise walls are adjusted on bridge to reduce visual impact of solid noise walls and improve road user experience (subject to other design considerations). – Care needs to be taken with the design of the bridge structure so that it does not detract from the natural environment and is consistent in character with the existing.
13920–14250 (EB)	Bushland (Motorway User)			■	L	L	L	– Road widening will create a new small embankment along edge of bushland.	– Revegetate embankment providing potential for weed removal and landscape improvement.

Site Compounds – potential location of temporary construction activities

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
12200–12300	Area below old bus ramp parallel to Beecroft Road			■	L	L	L	– Site compound to be established for: Site shed and lay down area. – Loss of existing vegetation. – Cannot be used until demolition is complete affecting staging.	– Potential to enhance landscape character and vegetation cover as a result of removal of Bus over bridge.
12400–12500 (EB)	Adjoining Sutherland Road – former compound site			■	L	L	L	– Site compound to be established for: Site shed and lay down area. – Residential properties 30m plus from compound	– Potential to enhance landscape character and vegetation cover. Present area is derelict with heavy cover of grass and weeds. Could be integrated with adjoining remnant of vegetation.
13300 – 13500(WB)	Somerset Road (Terrys Creek Approach)			■	M	L	ML	– Site compound to be established for: Site shed and lay down area. – Drainage channel which runs through site.	– Potential to enhance visual screening of motorway noise walls and improve connection with remnant bushland.
13750–14050 (WB)	Terrys Creek			■	M	M	M	– Site compound to be established for: Site shed and lay down area. – Overlooked by apartment blocks. – Utilises former access track.	– Potential to enhance visual screening of motorway noise walls and improve connection with remnant bushland.

Visual Sensitivity

Ne = Negligible; VL = Very Low; L = Low; ML = Medium Low; M = Medium; MH = Medium High; H = High; VH = Very High

Nature of Impact

A = Adverse; N = Neutral; B = Beneficial

Station

EB – East Bound – Works widened beyond east bound carriageway.

WB – West Bound – Works widened beyond east bound carriageway.

3.8 Precinct 5 - Crimea Road to Delhi Road – Urban Bushland Interface

Precinct 4 spatial and visual context of the motorway are illustrated in Figure 3.6

Works in Precinct 5 relate to the widening of the road corridor between Crimea Road and Lane Cove Road. Works include bridge and pavement widening over Busaco Road and Khartoum Road, relocation of noise walls; widening of road formation including cuttings and fill embankment extents. The details of this proposal are depicted in Chapter 6.

The character of Precinct 5 is predominantly defined by commercial addresses on the southern side of the corridor and natural woodland or parkland to the north of the corridor. West of Culloden Street is predominantly residential. A small pocket of residential development is also located north of the road between Khartoum Road and Lane Cove Road.

Impacts on the Motorway Viewer

The road is predominantly in cutting and lined by noise walls with landscape screening throughout this section limiting the visual impact of the proposed widening from the public domain. Key areas where the changes will be visible are:

- where motorway bridges cross the alignment; or
- where local roads cross the alignment; or
- from high rise or multi-storey offices/residential.

Unlike other sections of the corridor in this section the motorway can be glimpsed from sites almost a kilometre from the alignment due to a combination of topography and vegetation cover. These locations include Wallalong Crescent, Photo 3.40, and Koombalah Avenue, Photo 3.41, from which the motorway traffic can just been discerned through the canopy.

Retaining walls

Retaining walls have been used in locations where the motorway is on fill. Locations include: a bushland interface at stations 14200 to 14550, 14800 to 15050 which also includes Busaco Bridge (Photo 3.42); and a commercial interface 16950 to 17150. The use of retaining walls minimises the extent of disturbance to existing vegetation cover and consequently on views from adjacent properties. The design of retaining walls should consider the use of different materials and texture to minimise its impact. Reinstatement of the vegetation cover to the disturbed footprint will assist in mitigating against the impact of the walls.

Photo 3.39 View from Intersection of Koombalah/ Ashburton Avenue.

Photo 3.40 View from Wallalong Crescent.

Photo 3.41 View of Busaco Road headwall, illustrating sandstone headwall, to be replaced by vertical headwall and noise wall on top.

Photo 3.42 View from Herring Road overlooking motorway. Vegetation in foreground will be lost as a result of bridge works.

Photo 3.43 View of Talavera Road looking east twoards Herring Road.

Photo 3.44 View from Lane Cove Road of office/commercial buildings overlooking the motorway.

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Photo 3.45 View of Christie Road Bridge and abutments.

Photo 3.46 View of cutting opposite Vimiera Road transmission tower looking east.

Photo 3.47 View from Northern Suburbs Cemetery looking west. Office towers are located on the southern side of the motorway.

Noise Walls

Realignment and replacement of noise walls along Talavera Road has the potential to increase the visual impact of the proposal. The impact of this is most prominent at Stations 15700 to 15900 where offset from Talavera Road is tightest. The impacts of this can be mitigated through the use of appropriate noise wall design and the reinforcement of screen planting along this edge.

Talavera Road

Modifications to Talavera Road are proposed to facilitate improved access to and from the Motorway. These works will see the widening of Talavera Road, (Photo 43) from three lanes and a bike lane to four lanes and a turning lane. This will see the loss of a portion of the verge on the northern side of the street corridor. Visually much of the streets character is created within the private domain of the adjoining properties and this will not change. In addition to modifications to Talavera Road an off ramp is to be provided at Herring Road (Photo 44), doubling the width of Herring Road at the intersection of Talavera Road. This area is presently utilised for stockpiling of materials etc. The visual address will be improved as part of these works.

Impacts on the Motorway User

Impacts on Motorway users relate to changes in bridge configuration, widening of pavement and realignment and replacement of noise walls.

Bridges

Culloden Road and Christie Road are both overbridges which need changes to abutment and cuttings to facilitate the increased in travel lanes. In the case of Christie Road, (Photo 3.45), the lengthening and widening of Christie Road Bridge will alter the visual character increasing its scale. The bridge design should consider the character of the existing bridge in its design, improving existing details so that a simple elegant bridge profile is achieved. The design should integrate all elements of the bridge including: pier and headstock, parapets, drainage and throw screens and barriers.

Khartoum and Busaco Roads have local road underpasses which are widened to facilitate the addition carriageway requirements. The changes here will be evident in the widened pavement and realignment and replacement noise walls.

Cuttings

Cuttings are to be impacted in a number of locations where they are cut back for bridges or to facilitate the introduction of additional lanes without the need to relocate noise walls if possible. This includes Stations 15200 to 15400 (east bound), 15700 to 16100 (west bound) and 17200 to 17300 (west bound, Photo 46). All are existing cuttings. The character of the existing sandstone cuttings, depicted in Photo 3.47, is to be retained, with cuttings kept vertical where rock strength permits. This minimises the impacts beyond the corridor as noise walls are retained and consequently views remain unchanged.

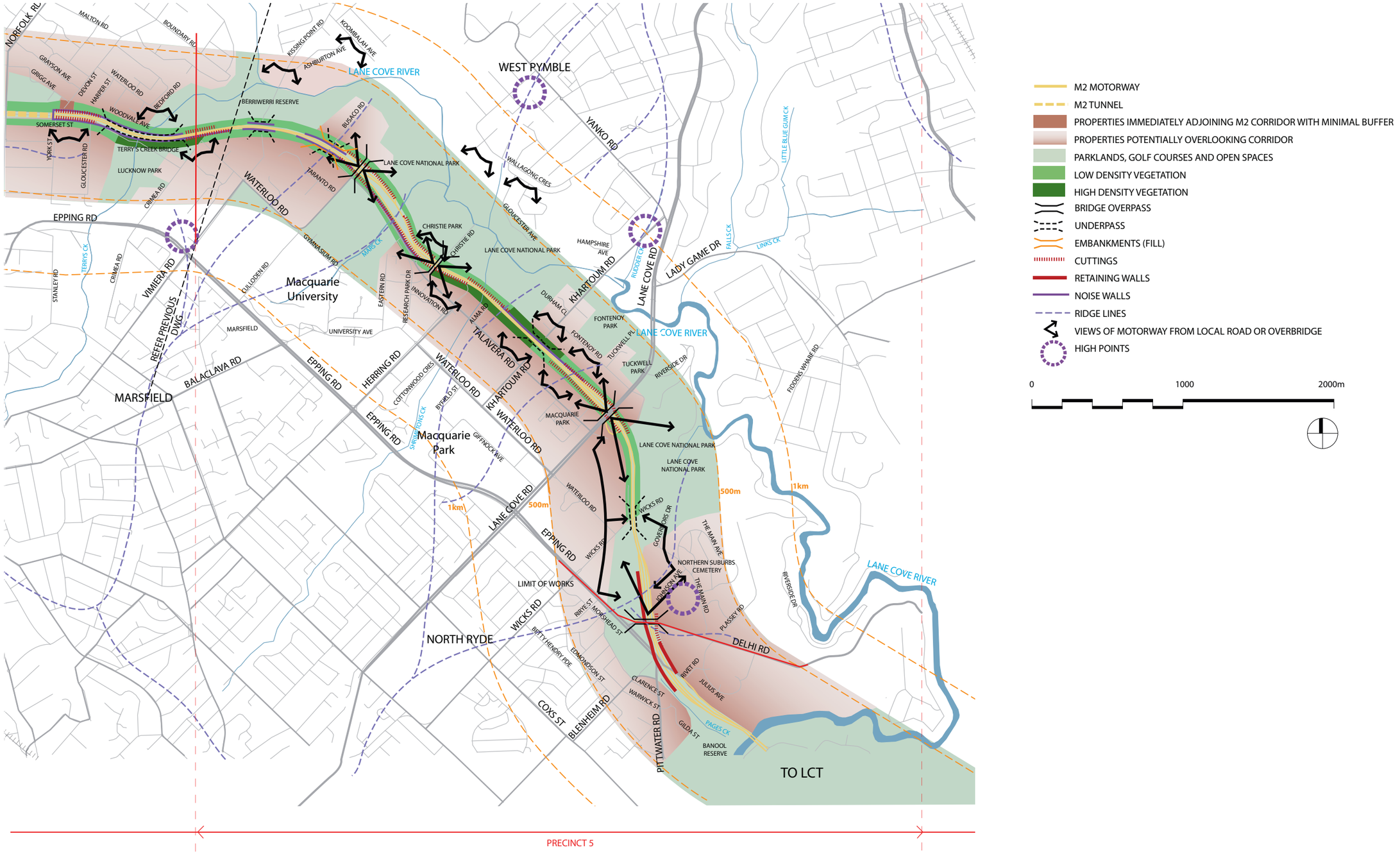
Care, however, needs to be taken in the steepening of slopes to minimise the use of shotcrete. Treatments similar to those of an existing cutting within the M2 Corridor illustrated in Photo 3.48 are unacceptable. Should it become evident that significant areas of shotcrete are required then appropriate treatments would need to be considered to ensure an acceptable finish.

Landscape should be used to assist in the integration of this element and to minimise change on adjacent properties. Screen planting should be used along the southern edge of the corridor. The landscape treatment should assist in the creation of an identity for the road and interchanges in general, to enhance legibility of the motorway.

Site Compounds

A number of site compounds are proposed within this precinct, reflecting the movement from a residential dominant landuse to commercial and industrial landuses which are more compatible with the works proposed. In principle potential sites have identified areas which are already utilised for similar activities such as the TIDC compound used for the Chatswood to Epping rail line; and Wicks Road sites associated with the waste transfer site and Northern Suburbs Cemetery Photo 3.49. In addition to these a number of sites within the corridor have been identified including the Toll Plaza site and Macquarie Park site which both occur within the corridor and have limited impact on the adjoining properties.

Three potential site have been identified which adjoin residential precincts and as a result are considered to have a greater impact. These include Vimiera Road, Busaco Road and Christie Road. The scale of works associated with these compounds is limited to stockpiling of materials either won from site or materials required for construction of the road such as bridge girders. All sites have been disturbed in the past and have a range of vegetation cover including grassed areas, weed infestations and some canopy trees. Existing vegetation cover should be preserved to at least the perimeter of the site, where possible to maintain a level of screening from the adjoining land uses.



- M2 MOTORWAY
- M2 TUNNEL
- PROPERTIES IMMEDIATELY ADJOINING M2 CORRIDOR WITH MINIMAL BUFFER
- PROPERTIES POTENTIALLY OVERLOOKING CORRIDOR
- PARKLANDS, GOLF COURSES AND OPEN SPACES
- LOW DENSITY VEGETATION
- HIGH DENSITY VEGETATION
- BRIDGE OVERPASS
- UNDERPASS
- EMBANKMENTS (FILL)
- CUTTINGS
- RETAINING WALLS
- NOISE WALLS
- RIDGE LINES
- VIEWS OF MOTORWAY FROM LOCAL ROAD OR OVERBRIDGE
- HIGH POINTS

0 1000 2000m

Figure 3.7 Spatial and Visual Analysis - Precinct 5

Table 3.8 Precinct 5: Visual Assessment Summary

PRECINCT 5 – Crimea Road to Delhi Road – Urban Bushland Interface

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
14090 (WB)	Crimea Road and Waterloo Road Marsfield		■		L	NE	NE	– There are existing distant views to the Norfolk Road tunnel from the corner of Crimea Road and Waterloo Road. Expansion of the road pavement and changes to tunnel portal will be visible. – No change in noise wall height or location is to occur here.	– Handling of tunnel portal needs to be considered.
14200–14550 (EB)	Vimiera Road		■		ML	L	L	– Retaining wall to be constructed to top of existing fill embankment, adjacent to widened East bound lanes, minimising footprint of works.	– Retaining wall may consider use of materials and/or texture to minimise mass and scale of structure. – Re–vegetation of area cleared for construction will assist in mitigating impacts, screening structure from view.
14260 - 14400	Vimiera Road	■			M	M	M	– Construction of new section of noisewall 3m high at top of existing embankment over looked by residential apartments	– Potential to improve vegetation cover to embankment minimising visibility of wall
14260 - 14400	Vimiera Road (Motorway user)	■			M	M	MH	– Construction of close coupled noisewall reducing visual connection with context	– Potential to achieve a consistent maintenance edge treatment – Potential to provide colour and texture in wall to reduce mass and provide interest
14550–14850 (EB)	Bushland			■	L	L	L	– Road widening will create a small to large embankment. – Ensure embankment is no steeper than 1 in 2 slope to allow planting.	– Revegetate embankment.
14850–15050 (EB)	Busaco Road Marsfield		■		M	L	ML	– Existing road and noise wall is being relocated closer to adjacent property. – Road to be supported by retaining wall due to steep topography and to minimise extent of impact.	– Retaining and noise walls may consider use of materials, colour and/or texture to minimise mass and scale of structure. Walls should be integrated with the existing bridge structure. – Provide additional screen planting behind noise wall.
15200–15280 (EB)	Culloden Road Bridge (Motorway User)		■		L	L	L	– Existing spill through bridge abutment to be stood vertical to widen opening under bridge	– Exposed shotcrete should be concealed by the use of cladding. Cladding is to be designed to present a smooth even abutment profile that ties in with the adjoining embankment.
15260–15400 (WB)	Talavera Road Macquarie Park (Motorway user and viewer)		■		L	L	L	– Existing noise wall is being relocated closer to Talavera Road, requiring removal of some vegetation cover. – Cutting is to be steepened, potentially increasing visual presence and need for shotcrete type treatments.	– Avoid the use of shotcrete on cutting where unavoidable use is to be in accordance with RTA design guidelines. – Provide additional screen planting to front and behind noise wall to minimise impacts of wall from within and outside of the corridor.
15500–15700	Main toll plaza, Talavera Road Macquarie Park (Motorway user)		■		L	L	L	– Existing toll awning and booths to be substantially removed with new tolling gantries to be installed. – Lanes through toll plaza to be rationalised to enhance user legibility.	– Tolling gantry should be a simple, functional slimline structure with lighting placement considered as part of the overall design. – Lighting to be cut off type lighting to minimise light spill.
15700–16070 (WB)	Talavera Road Macquarie Park	■			M	MH	MH	– Existing noise wall is being relocated closer to Talavera Road. – Large cutting for lane widening. – Loss in street planting and buffer vegetation along Talavera Road.	– Provide additional screen planting behind noise wall to maintain streetscape character. – Avoid the use of shotcrete on cutting where unavoidable use is to be in accordance with RTA design guidelines.

Table 3.8 (continued)

Station	Location	Nature of impact			Visual sensitivity	Scale or magnitude of visual affect	Overall rating of visual impact	Issues	Opportunities/Potential Treatments
		A	N	B					
16070–16170 (EB)	Christie Road Bridge	■			L	M	ML	– Existing spill through bridge abutment to be stood vertical. – Bridge is to be widened and lengthened.	– Exposed shotcrete is to be concealed by the use of cladding. Cladding is to be designed to present a smooth even abutment profile that ties in with the adjoining embankment.
16820–17100(EB)	Khartoum Road Macquarie Park (EB)	■			ML	M	M	– Existing noise wall is being relocated closer to adjacent properties.	– Improve treatment of noise walls and provide additional screen planting behind noise wall.
16900–17140 (EB)	Khartoum Road Bridge (EB)			■	L	L	L	– Bridge is to be widened including reconstruction of abutments perpendicular to Khartoum Road.	– Bridge design is to present a simple, clean profile similar to existing which incorporates noise walls to parapet in an integrated fashion.
17240–17650 (EB)	Fontenoy Road Macquarie Park	■			ML	L	ML	– New noise wall is being relocated closer to adjacent properties.	– Additional screen planting to be undertaken behind noise wall to reinstate vegetation lost as part of construction works and to minimise impact.
17200– 17300 (WB)	West bound on ramp from Lane Cove Road			■	M	L	ML	– Existing shale cutting, overlooked by residential tower, to be steepened potentially requiring stabilisation treatments.	– Treatment of embankment to be provided which is consistent with urban design strategy and minimises shotcrete. If shotcrete and bolting is required appropriate treatments need to be considered.
17600 (EB)	EB Off–Ramp to Lane Cove Road Macquarie Park		■		ML	ML	ML	– New noise wall to be constructed	– Provide screen planting along open corridor.

Site compounds – potential location of temporary construction activities

14400– 14600 (WB))	Vimiera Road		■		ML	L	ML	– Site compound to be established for: Stockpile and lay down area. – Overlooked by a number of apartment blocks. – Divided by access associated with Vimiera Pedestrian Underpass.	– Potential to retain vegetation located on boundaries adjoining residences.
15000 (WB)	Busaco Road		■		M	M	M	– Site compound to be established for: Stockpile and lay down area – Parkland adjoins Creekline with some large trees.	– Potential to address privet infestation of creekline and improve usability of parkland.
15400–15800 (EB)	Toll Plaza		■		L	L	L	– Site compound to be established for: Stockpile and lay down area.	– Treatment of hoardings to consider site lines for safety and may address the character of the interchange.
15900–16100 (WB)	Christie Road		■		M	M	M	– Site compound to be established in informal carpark for: Stockpile and lay down area. – some existing vegetation cover to be removed.	– Potential to maintain vegetation on perimeter of site to limit impact on street address.
16500–16900 (EB)	Macquarie Park		■		L	L	L	– Site compound to be established for: Stockpile and lay down area. – Adjoins national park and is overlooked by some residences.	– Opportunities to screen and improve revegetation on previous compound area which is becoming weed infested.
18200–18400 (EB)	Wicks Road		■		L	L	L	– Site compound to be established for: Stockpile; lay down area; and overflow car park.	– Existing waste transfer handling site, potential to revegetate depending on owner end use.
18400–18700 (EB)	Wicks Road Cemetery		■		HM	M	MH	– Site compound to be established for: Stockpile, batchplant; and lay down area.	– Part of cemetery land would need to screen and control activities adjoining cemetery to avoid negative impacts. – Batchplant would need to be sited closer to Wicks Road.
18700–18900 (WB)	TIDC compound		■		L	L	L	– Primary Site Compound including: Main office; Canteen; Laboratory, Traffic management stores, and Main Car park.	– Existing Chatswood to Epping Rail compound provides the perfect opportunity to continue this use with no significant change in impact.

Visual Sensitivity

Ne = Negligible; VL = Very Low; L = Low; ML = Medium Low; M = Medium; MH = Medium High; H = High; VH = Very High

Nature of Impact

A = Adverse; N = Neutral; B = Beneficial

Visual Assessment

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