

3.0 VISUAL ASSESSMENT

3.1 Introduction

The visual assessment has been undertaken to inform the concept development process for the project in order to assist in the avoidance and mitigation requirements of potential impacts up front. The outcomes of this are reflected in the Urban Design Concept in Chapter 6.

The visual assessment of the corridor considers the impacts of both permanent and temporary works as part of the assessment process. The inclusion of temporary works is considered an important issue as they have the potential to have long term impacts beyond the period of construction, as well as to have impacts on areas beyond the immediate impacts of the works.

In assessing the visual impacts of the proposed upgrade two key viewer groups need to be considered, these are:

The Motorway Viewer - those looking into or over the motorway corridor (i.e. its neighbours). The impact on views will vary according to distance from and nature (scale, colour, texture, form) of the change proposed. The way in which the impact is considered will vary according to land use or the sensitivity of the viewer.

The Motorway User - those people travelling the motorway. The motorway user will be aware of the immediate environs and experience of the space as a cumulative sequence of views, rather than focusing on specific elements. Visual properties experienced by the motorway user are defined by the built structures of the motorway itself and the landscape beyond the corridor.

Key amongst these attributes are:

- The visual impact of poorly integrated and detailed noise walls. This element plays a significant role in defining the character of the motorway. At present opportunities to limit the impact of the noise walls are lost as a result of: poor and inconsistent colour selection; and poor detailing that emphasises the scale of the walls;
- The character of bridge structures over the motorway; and
- The vegetation of the adjoining National Park and reserves.

The responses and needs of these two groups differ due to the static nature of one of the viewers - the adjacent residents and the transitory nature of the other – the motorway user.

In assessing the impacts of the proposal both groups need to be considered and a clear methodology for the assessment defined. This chapter:

- defines the Visual Assessment Methodology,
- provides a general context of the project, and
- provides a detailed assessment of each precinct based on the visual assessment methodology.

The final recommendations of this process are then reflected in the Urban Design Concept covered in Chapter 6.

3.2 Visual Assessment Methodology

The visual assessment methodology is responsive to the overall road planning and design process. The methodology is comprised of three distinct parts:

1. Understanding of context, setting, and key view fields;
2. Assessment of the proposed concept ; and
3. Recommendations of opportunities/treatments to address impacts.

3.2.1 Understanding of Context, Setting and Key View fields

Understanding the make up of the area through which the proposal passes and what characterises it, are essential to defining critical visual issues and providing an opportunity to address these. The key physical attributes (topography, geology, vegetation, land use character, local access, and existing motorway character) have already been defined in Chapter 2. From this base information an assessment of the spatial characteristics of the corridor has been made. This has identified the relationship of properties to the corridor and the degree of visual screening that presently exists, refer Figure 3.1. This is then broken down in to more detail on a precinct basis in which key view points are defined and issues assessed.

3.2.2 Assessment of the proposed concept

With the knowledge gained by assessing the corridor and its visual attributes it is possible to assess areas where impacts are likely to occur and if they are likely to have a positive or negative effect. This involves both the identification of a viewer, and a review of the proposal for changes which will influence the viewer. Having done this if a change is proposed, which will influence the view, issues can be identified which need to be assessed ie what the change is and likely consequences arising from that change.

Having established a view point and issue this is then assessed in terms of the following attributes:

The visual sensitivity - a judgement of the ability of an environment to accept change of a particular scale and type without unacceptable adverse effects on its character. The visual sensitivity of a site reflects the nature of the present outlook but also the values of the land use viewing the site. The way an outlook is perceived and valued has been quantified and is reflected in figure 3.2.

The visual magnitude of the proposal - the scale of the change that is to occur. Magnitude is a product of the nature of the proposal and its proximity to the viewer. Changes can have both a positive or negative impact. In assessing magnitude it is important to differentiate what the nature of the impact is, be it adverse or beneficial. An adverse impact for example would be the increase in scale and height of a retaining wall in close proximity to an adjacent property. A beneficial impact for example would be the realignment of a major road away from a residential property.

The overall rating of visual impact – a combined rating of sensitivity and magnitude.

Visual Assessment

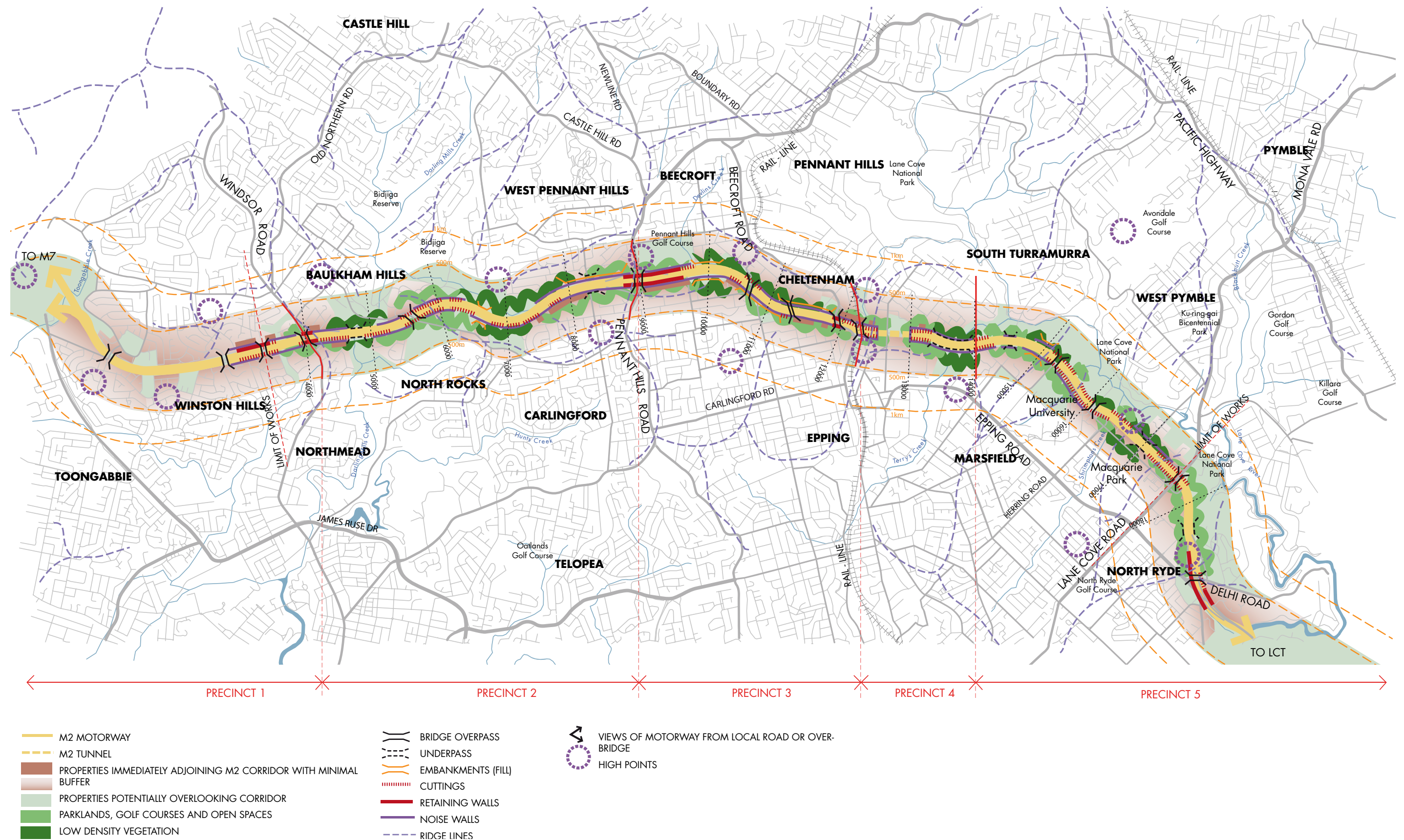


Figure 3.1 Spatial Sequence - M2 Corridor

In determining both visual sensitivity and magnitude a rating system has been adopted to provide a consistent measure of assessment from Negligible to High. These have been combined into a matrix to establish the overall rating of visual impact. This can be summarised in the accompanying Table 3.2.2 (Source: Environmental Impact Assessment - Guidance Note – Guidelines for landscape character and visual assessment. 24/3/2009)

		MAGNITUDE					
		High	High to Moderate	Moderate	Moderate to low	Low	Negligible
SENSITIVITY	High	High Impact	High Impact	Moderate - High	Moderate - High	Moderate	Negligible
	High to Moderate	High Impact	Moderate - High	Moderate - High	Moderate	Moderate	Negligible
	Moderate	Moderate - High	Moderate - High	Moderate	Moderate	Moderate - Low	Negligible
	Moderate to low	Moderate - High	Moderate	Moderate	Moderate - Low	Moderate - Low	Negligible
	Low	Moderate	Moderate	Moderate - Low	Moderate - Low	Low impact	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Table 3.2.2 Visual Sensitivity and Magnitude Matrix

3.2.3 Recommendations of Opportunities/Treatments to Address Impacts

Having identified the issue and the level of visual impact, it is then possible to assess the context of the impact and make recommendations as to how these may be addressed. This process is the identification of potential mitigation measures.

Mitigation – The purpose of mitigation is to avoid, reduce, and where possible remedy or offset, any significant negative or adverse effects on the landscape arising from the proposed development. It involves the identification of measures or strategies by which the design can be addressed to limit against any significant visual impacts.

The identification of opportunities to mitigate by various methods does not indicate a commitment to them. A number of factors influence the final design outcome which may limit the potential to adopt a mitigation method or its suitability. The final outcomes of the design process are described in Chapter 6.0.

SCORE	-2	-1	0	+1	+2	+3
LANDFORM			Flat	Rolling to low ridges	Steeply sloping to pronounced ridges	Cliffs and escarpments
STRUCTURES	Heavy industry no trees	Commercial buildings & light industry	Flats	Houses	No structures	
TREE COVER				Light	Heavy	
WATER CHARACTER				Flat still water	Moving water or ocean swell	Surf
EDGE						
(Score is combined)			Sea wall mangroves marsh	Beach and sea wall	Natural beach or rocks	
ACTIVITY		Industrial smoke and traffic	Normal urban activity	Recreational		
CONTRAST						
HARMONY						
DIVERSITY						

Visual Preference Scoring
Source: Visual Survey Methodology : Review Supplement - Jackson Teece Chesterman Willis, BBS 12A, ISBN 0-7240-4155-9, 1979 SPCC

Figure 3.2 Visual Preference Scoring

Visual Assessment



Photo 3.1 Precinct 1 - View from Windsor Road Overbridge reveals a corridor contained between noise walls.



Photo 3.2 Precinct 2- View from Barclay Road looking west as motorway passes through bushland corridor.



Photo 3.3 Precinct 3 - View from Kirkham Road bridge showing bushland setting adjoining motorway.



Photo 3.4 Precinct 3 - View looking east from Kent Street bridge showing walled corridor.



Photo 3.5 Precinct 3 - View from Western Tunnel Portal to Beecroft Road.



Photo 3.6 Precinct 4 - Eastern Tunnel Portal with sandstone geology exposed



Photo 3.7 Precinct 5 - View from Christie Street bridge looking west.



Photo 3.8 Precinct 5 - View from Herring Road towards Macquarie Park commercial.



Photo 3.9 Precinct 5 - View from Lane Cove Road looking west revealing shale cutting and the office development beyond.

3.3 Definition of View Points and Catchments

The upgrade nature of this project means that to some extent the ability to substantially influence the degree of change is minimal as the general alignment is a given. This does not mean that the activities of avoidance and minimisation are inappropriate but rather that the extents to which modifications can occur are limited. Minimisation is therefore a product of the careful handling of the elements which contribute to the motorway formation and structures.

The Motorway Viewer

While the motorway already exists its impact in a visual sense beyond its immediate neighbours is limited. The context in which the motorway sits is one which has been associated with natural communities, be that the Lane Cove National Park, Devlins Creek Valley or the Darling Mills Creek Valley. The suburban development adjacent to the corridor is also an environment in which trees are dominant (be they natural/indigenous or exotic).

The limited visibility of the motorway from the public domain reflects both the heavily treed nature of the adjoining suburbs and parkland but also the topography of the terrain through which the motorway passes and the way it has been constructed. Of the elements visible it is predominantly the noise wall and cuttings/retaining walls that are easily discerned from beyond the corridor. Limited opportunities to view either road pavement or traffic exist with the exception of views from bridges which cross the alignment.

As part of the original assessment process the following objective was proposed in terms of mitigation strategy and means of addressing the impacts of the current M2 motorway.

"The basic aims of designing to reduce the impact of the built roadway are to visually screen it entirely where possible and otherwise to whatever extent practicable; to reduce the apparent scale of its structures, especially its noise barriers; to add landscape elements where possible such as earth mound profiling to assist the process of reducing noise impact and to obscure or reduce views to the traffic stream"¹

This strategy has been largely effective, in upgrading the motorway this intent should be carried forward. Space however will be the critical limitation. Where activities occur on boundaries the only means of addressing the impact is the handling of the design of this element so that its detailing is simple and refined and the material qualities texture, colour, etc. address the critical concerns of the adjacent use.

The Motorway User

The spatial experience of the motorway user and the general attributes of the corridor are illustrated in Photos 3.1 to 3.9. This series of photos captures the character of the motorway within the corridor revealing key elements: close coupled retaining walls, rock cuttings and a strong vegetated back drop to the corridor created by the adjoining bushland forest and leafy suburbs.



Photo 3.10 View looking east to Windsor Road Bridge and Interchange.



Photo 3.11 View from Godin Street to retaining walls of M2 Motorway.



Photo 3.12 View looking west along Junction Road



Photo 3.13 Existing noise wall and screen planting on Junction Road.

¹ North West Transport Links East: Environmental Impact Statement Working Paper - Landscape and Visual Assessment, Bruce Mackenzie and Associates, 1992

Visual Assessment

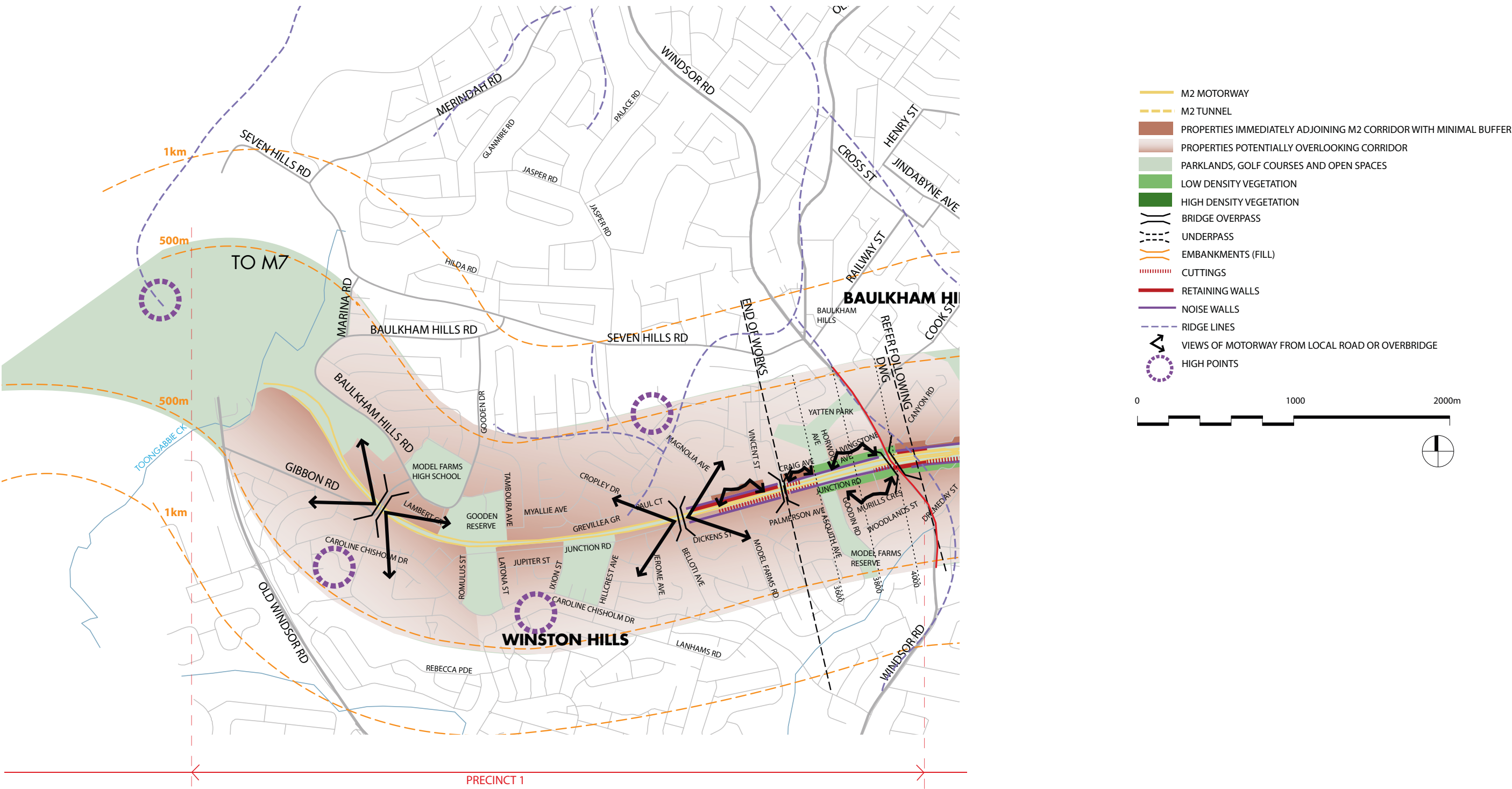


Figure 3.3 Spatial and Visual Analysis - Precinct 1

3.4 Precinct 1: Old Windsor Road to Windsor Road - Windsor Road Interchange

Precinct 1, depicted in Figure 3.3., is proposed to have the construction of on and off ramps to the western side of the Windsor Road interchange. The present configuration of this is depicted in photo 3.10. The proposed design for Precinct 1 is detailed in Chapter 6.

Impacts on Motorway User

Within the corridor, the main changes to the view of the motorway user are the expansion of road pavement and structures associated with the Windsor Road Bridge works. These works include construction to the western side of the bridge of: west bound on and east bound off ramps and associated retaining walls to support these; widening of the bridge structure to facilitate the new movements; and modifications to parapets and throw screens.

Modifications to the bridge structure should seek to minimise the impact of the additional structural element by designing them as an integrated part of the existing composition which seeks to achieve a consistent uncluttered profile.

Within the M2 corridor the expansion of the motorway pavement and introduction of new retaining walls to either side of the carriageway to support the new on/off ramps will create a moderate impact. The impact of these new walls and pavement, from within the motorway corridor, can be moderated by planting located behind barriers in front of walls and appropriate detailing.

Within the Windsor Road corridor the increase in pavement area can be minimised by the introduction of planting associated with turning islands. These islands would assist in defining travel paths and reduces the visual expanse of pavement.

Impacts on Motorway Viewers

The corridor is constrained, with much of the corridor on retaining walls and/or lined by noise walls. Consequently the alignment through this section is located above the adjacent residences. Presently the walls range in height from 2 to 4 metres on the northern side of the corridor and 3 to 9 metres on the south. Vegetation has been used effectively to minimise the impacts of these walls, as illustrated in photo 3.11.

The proposed changes have the potential to impact the landscape screening that exists and will increase the scale of the structures required. Properties which potentially may be impacted are located in: Junction Road and its environs (depicted in Photo 3.12); Craig Avenue (East) and Livingstone Avenue.

In Junction Road, the proposal sees the construction of a new retaining wall, above the existing wall (depicted in Photo 3.13). The total height of the resultant wall will be up to 11 metres tall. On top of this a new noise wall is to be constructed. Existing vegetation on top of the retaining wall will be lost and construction access could see the loss of vegetation below the wall reducing level to which this element is screened from adjacent properties.

The view, (Photo 3.14), from Murrills Crescent, will see a significant change in the short term, with the loss of all screen planting and the construction of a retaining wall. These impacts in part could be reduced by the retention of existing vegetation cover, where possible, and in the longer term by the re-establishment of planting to the front of the walls.

Craig Avenue properties vary in offset and impact (refer to Photo 3.15). Presently properties at the western end of Craig Avenue, closer to Watkins Road, back onto the noise wall, this condition will not change. East of this, the M2 corridor widens and the motorway moves onto embankment or retaining wall. Where on retaining wall, the existing retaining wall is to be retained and a new wall constructed above the existing and closer to the M2 alignment. The introduction of these retaining walls will see the noise wall located along the top of the retaining wall increasing the visual bulk and removing much of the screen planting which reduced the current alignments impact. Some mitigation of this is possible through reinstatement of a reduced vegetated buffer.

Livingstone Avenue, like Craig Avenue, is impacted by the proposal moving the motorway closer to property boundaries and an increase in scale of the built

structures proposed. Offsets from adjacent property boundaries vary - some properties have large backyards with trees that screen the corridor, others have minimal backyard space. The impact on these properties varies according to the available yard space. Similarly the offset of the proposed structure varies from minimal offset from the boundary which has limited potential for screening to up to 5 metres which should enable some screening to limit the impact.

The proposal's interface with Windsor Road also sees changes to the configuration of Windsor Road and its neighbours. Changes to Windsor Road include the addition of turning lanes to facilitate turning movements associated with the new on and off ramps. As part of this widening process, the resumption of land from properties on the western side of the corridor is required. In particular the historic villa at 266 Windsor Road (Refer to Photo 3.16.) which loses several metres from its frontage. Property adjustment works will be required to both address the loss of curtilage and to provide a buffer between house and road. The treatment to this property is to be resolved subject to heritage assessment and property negotiations. Key to this will be the establishment of screen planting to the front and the retention in some form of the side drive and turn-a-round.



Photo 3.14 Murrills Crescent looking to embankment and noise wall of M2 Motorway.



Photo 3.16 View of Heritage Homestead 266 Windsor Road



Photo 3.15 View from Craig Avenue to M2 Motorway retaining wall and noise walls.

Visual Assessment

Table 3.4 Precinct 1: Visual Assessment Summary

PRECINCT 1 – Old Windsor Road to Windsor Road – Windsor Road Interchange

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					
3550–3640 (EB)	Windsor Road EB Off-Ramp (No. 14–22 Craig Avenue to 22 Livingstone Avenue)				HM	H	H	<ul style="list-style-type: none"> – An existing 4–7m high wall will increase to 7–11m high + 4m noise wall along property boundaries. – Loss of existing embankment and screen planting above retaining wall. 	<ul style="list-style-type: none"> – Design treatment of noise walls and retaining walls may consider use of texture, materials and colour to reduce mass of new walls. – Offset from boundary to be maximised to allow revegetation/ screen planting to occur.
3600 EB/ VVB	Entry/exit to off ramps (Motorway viewer)				M	M	M	<ul style="list-style-type: none"> – Construction of Toll gantry may result in light spill beyond the corridor. 	<ul style="list-style-type: none"> – Design gantry and associated lighting so that gantry is simple, clean structure and lighting is focused and is of a cut off type that minimises light spill.
	(Motorway user)				M	L	ML	<ul style="list-style-type: none"> – Structure could be visually obtrusive within the corridor 	<ul style="list-style-type: none"> – Design gantry so that a simple, clean light profile is achieved.
3640–3770 (EB)	Windsor Road EB Off-Ramp (No. 12–20 Livingstone Avenue to 3 Horwood Avenue)				H	HM	H	<ul style="list-style-type: none"> – Between stations 3640–3770 the existing walls range between 0–7m high and will increase to 8.5–11m high + 4m noise wall, leaving a 3.5–4m green corridor behind noise wall. – Loss of existing embankment and screen planting behind noise wall. 	<ul style="list-style-type: none"> – Design treatment of noise walls and retaining walls may consider use of texture, materials and colour to reduce mass of new walls. – Offset from boundary to be maximised to allow revegetation/ screen planting.
3700 (WB)	Windsor Road WB On-Ramp (Junction Road and Goodin Road)				HM	H	H	<ul style="list-style-type: none"> – An existing 6m high wall will increase to 10m high + 4m noise wall. – Loss of existing embankment and screen planting behind noise wall but potential to retain verge planting. – There is no opportunity for additional screen planting to top of wall in current proposal. 	<ul style="list-style-type: none"> – Acrylic noise walls may be considered where solar access is reduced to adjacent properties (subject to other project priorities). – Potential to widen the verge, on the north side of Junction Road to allow the establishment of screen planting at the base of the retaining wall to be reviewed with agencies.
3730 (WB)	Windsor Road WB On-Ramp (Junction Road)				H	H	H	<ul style="list-style-type: none"> – A new 3.5m high wall + 4m noise wall will move closer to adjacent properties. – Loss of existing embankment planting behind noise wall. 	<ul style="list-style-type: none"> – Provide additional vegetation behind noise wall for screening. – Potential to widen verge, on north side of Junction Road to allow the establishment of screen planting at the base of the retaining wall to be reviewed with agencies.
3770–3820 (EB)	Windsor Road EB Off-Ramp – 3 Horwood Ave to 8 Livingstone Ave Baulkham Hills				H	H	H	<ul style="list-style-type: none"> – A new 6–7m high wall + 4m noise wall will be introduced, leaving a 0–3.5m wide green corridor behind wall. – Loss of existing embankment planting behind noise wall. 	<ul style="list-style-type: none"> – Design treatment of noise walls and retaining walls may consider use of texture, materials and colour to reduce mass of new walls. – Provide additional vegetation behind noise wall for screening.
3700– 4000 EB/VVB	Adjacent on/off ramps (Motorway user)				M	M	M	<ul style="list-style-type: none"> – Construction of new retaining walls adjacent the main alignment both east and west bound. – Expansion of Motorway footprint. 	<ul style="list-style-type: none"> – New alignment will see revisions to the existing shotcrete abutment which should improve the visual appearance of the abutment integrating it with the bridge. – Landscape can be incorporated adjacent walls to create a distinct interchange character.
3820–3880 (EB)	Windsor Road EB Off-Ramp – No. 2 to 8 Livingstone Avenue Baulkham Hills Model Farms				H	H	H	<ul style="list-style-type: none"> – A new 7–7.5m high wall + 4m noise wall will be introduced along property boundary. – Loss of green buffer zone between motorway. 	<ul style="list-style-type: none"> – Design treatment of noise walls and retaining walls may consider use of texture, materials and colour to reduce mass of new walls. – Potential to provide screen planting as part of property adjustments to mitigate against impacts.
3550-4000 (EB & VVB)	Verge of Motorway Corridor (Motorway user)				ML	M	M	<ul style="list-style-type: none"> – Construction of new noise wall and removal of patchy landscape 	<ul style="list-style-type: none"> – Enhance noise wall treatment and simplification of landscape and barrier treatments will improve visual appearance.

Table 3.4 (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					
3900 (WVB)	Windsor Road WB On-Ramp – Junction Road (Murrills Crescent) Model Farms				H	H	H	<ul style="list-style-type: none"> Existing embankment and screen planting will have to be removed. A new 3.5m high wall + 4m high noise wall will have significant visual impact along Junction Road. 	<ul style="list-style-type: none"> Acrylic noise walls may be considered where solar access is reduced to adjacent properties (subject to other project priorities). Potential to widen verge, on north side of Junction Road to allow the establishment of screen planting at the base of the retaining wall to be reviewed with agencies.
3900 (EB)	Windsor Road EB Off-Ramp				HM	H	H	<ul style="list-style-type: none"> A new 3.5m high wall + 4m noise wall will have significant visual impact to properties on Livingstone Avenue. Existing corridor for screen planting visible from adjacent open space will be lost. Large level difference between off-ramp and adjacent land. 	<ul style="list-style-type: none"> Review grading to minimise scale of wall and provide usable space on adjoining land.
4000 (WVB)	Windsor Road On-Ramp/ Vacant Land Model Farms				H	H	H	<ul style="list-style-type: none"> Road alignment of on-ramp will be closer to adjacent properties. A new 2m high wall (approx.) + 4 m noise wall will have significant impact to adjacent property. 	<ul style="list-style-type: none"> Provide additional planting for screening at base of new wall. Opportunity for surplus land to be used for noise wall housing or similar as a show case for housing adjoining arterial roads.
4000 (EB)	Windsor Road Bridge widening				L	L	L	<ul style="list-style-type: none"> Increase in scale, width of the existing bridge. 	<ul style="list-style-type: none"> Provide a structure that is consistent with the proportions of the existing structure and its elements. Provides a smooth clean transition between the old and new structures.

Site compounds – potential location of temporary construction activities

4000 (WVB)	Windsor Road (north)				M	M	M	<ul style="list-style-type: none"> Site compound to be established for duration of works, including: team office and lay down area. 	<ul style="list-style-type: none"> Siting of buildings to consider impact of overlooking of adjacent properties. Siting of noise generating activities(lay down area) to be sited as far from adjoining residences as possible. Temporary screening to minimise dust and noise impacts.
------------	----------------------	--	--	--	---	---	---	--	---

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.

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

Visual Assessment

3.5 Precinct 2: Windsor Road to Pennant Hills Road – Bushland Interface

Refer to Figure 3.4.

Precinct 2 spatial and visual context of the motorway are illustrated in Figure 3.4 and the Proposed design in Chapter 6.

Works in Precinct 2 relate to the widening of the motorway carriageway between Windsor Road and Pennant Hills Road. Works include bridge widening at Darling Mills Creek, and Barclay Road; relocation of noise walls; widening of road formation including cuttings and fill embankment extents.

For significant lengths of this section the corridor is lined by parklands - either Nature Reserve or recreational areas - with remnant vegetation adjacent the edge of the corridor. This vegetation cover provides the ability to absorb some of the visual impacts associated with the proposal.

Impacts within this section relate to both sides of the corridor, as the widening alternates from side to side to fit within the corridor, to maintain geometric standards for motorways and to minimise the impacts on adjoining properties.

Impacts on Motorway Viewers

The widening of Darling Mills Creek Bridge will require the construction of new piers and deck to the northern side of the bridge. The bridge presently is a substantial yet slim structure, (refer photos 3.18 and 3.19). The new works need to consider the present bridge design and not detract from it. The access to the valley floor for construction is limited and any clearing associated with this should seek to limit removal of mature trees and keep earthworks to a minimum.

Between Windsor Road and just north of Barclay Road, Stn 4000 to 5700, widening is to the northern side of the corridor adjoining the eastbound carriageway. Properties affected by this are in Barclay Road and Mill Drive, which back onto the corridor. The properties in Mill Drive currently overlook a noise wall, which varies in distance from the boundary but generally has sufficient offset from the boundary for some screening. As a result of the works the noise wall will move closer to properties reducing the potential for this to be screened by planting. The design needs to consider the visual scale and bulk of the wall where screening is not possible.



Photo 3.17 View of noise wall at rear of property in Dremeday Street, where no change is experienced



Photo 3.18 View of eastern abutment to Darling Mills Bridge.



Photo 3.19 Close view of bridge from rear property boundary.

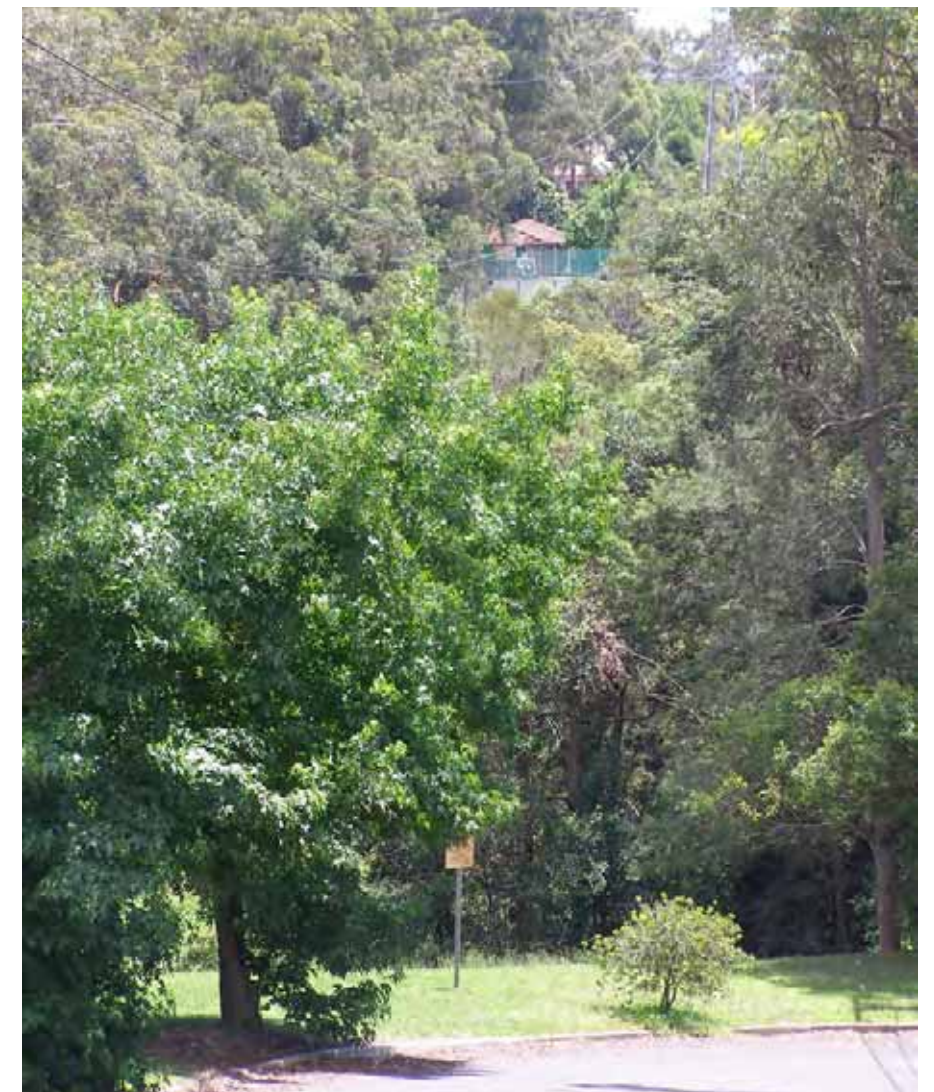


Photo 3.20 View from Morton Avenue overlooking the Motorway.

A site compound has been identified at the intersection of Barclay and Perry Roads. The treatment of this needs to consider the present vegetated address that this site presents and seek to limit the scale of visual change. This may be achieved by the retention of vegetation along the Perry Street frontage. Where this is not possible the re-establishment of vegetation cover should be prioritised.

East of Dale Place, Stn 6100, the widening moves to adjacent the west bound lane. Widening is typically 3.5 metres in width, resulting in a steepening of the existing cut and minor adjustment to the noise wall location. A wide landscape verge behind the wall means any change to the motorway viewer is easily managed.

At Yale Close (Photo 3.20) the bridge is widened to the west, moving both bridge and noise wall closer to properties. Presently vegetation in this zone is of a relatively poor density and could be improved to mitigate the impacts of the proposed widening.

Widening continues along this western edge of the corridor until Oakes Road. Widening works will result in impacts to cuttings and noise walls along this edge of the corridor. Generally cuttings within the corridor have been steepened enabling noise walls to be retained rather than moving noise walls closer to properties. This minimises impacts to the adjoining community through maintaining both the existing offset but also the vegetation cover. Morton Avenue is an example of such a situation photo 3.20. Presently views overlooking the motorways alignment consist of obscured glimpses of passing traffic. This situation is likely to remain unchanged with the existing noise wall retained in place.

Carmen Drive on the other hand is presently impacted by noise walls which occur at the edge of the verge (refer to Photo 3.21); and walls which occur just to the rear of properties as is depicted in Photos 3.22 and 3.23. There will be no change in this outlook with the existing walls retained.

Impact on Motorway Viewers

Widening from Darling Mills Creek to Barclay Road has minimal visual impact on the road user. From the existing motorway, (photo 3.24), the main change will be evident in an increase in paved area, as the existing bushland backdrop will be retained.

At Barclay Road, Photos 3.25 and 2.26, the bridge is to be lengthened requiring changes to cuttings, abutments to the northern edge of the alignment and the bridge structure itself. The treatment to the cuttings should avoid the use of shotcrete particularly in proximity of the bridge itself. Lengthening of the bridge should adopt a profile which is simple, clean and integrated with the existing structural profile.



Photo 3.21 View of existing noise wall adjacent Carmen Drive.



Photo 3.22 View of existing noise wall to the rear of property in Carmen Drive.



Photo 3.23 View of noise wall adjacent to east bound off ramp from Westmore Drive. No additional impacts to occur at this location.



Photo 3.24 View of existing motorway environs crossing Darling Mills Creek.



Photo 3.25 View from Barclay Road looking west.



Photo 3.26 View from Barclay Road Bridge and abutment.

Visual Assessment

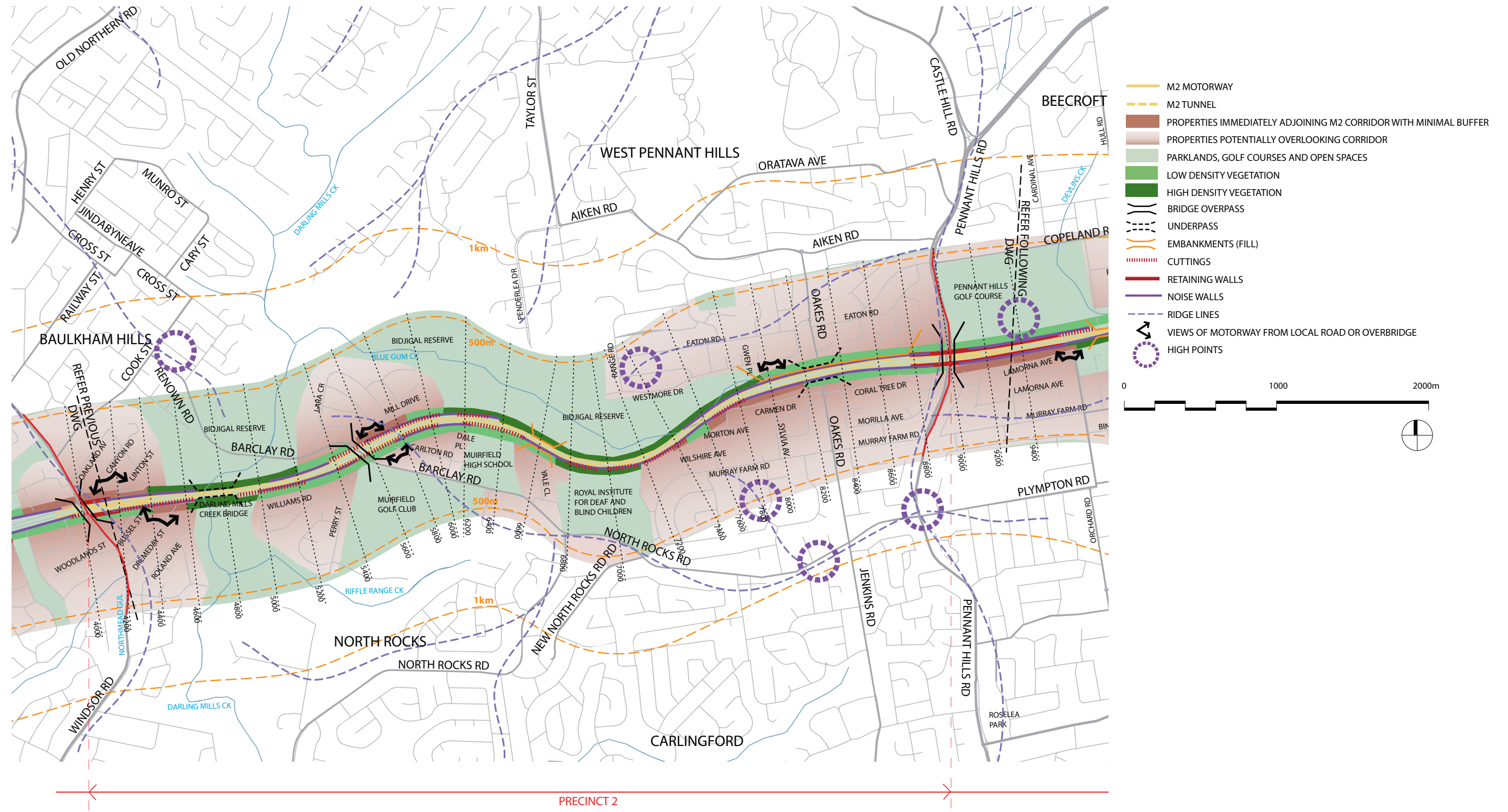


Figure 3.4 Spatial and Visual Analysis - Precinct 2