Figure 4.7: Precinct 3 of the draft Landscape and Urban Design Strategy plan.
LANDSCAPE AND URBAN DESIGN STRATEGY

Figure 4.8: Section E at chainage 16960.

Figure 4.9: Section F at chainage 17380.
Figure 5.1: The three Landscape Character Zones (LCZs).
5. LANDSCAPE CHARACTER IMPACT

5.1 LANDSCAPE CHARACTER ASSESSMENT METHODOLOGY

INTRODUCTION
Roads and Maritime’s ‘Guideline for Landscape Character and Visual Impact Assessment’ (Roads and Maritime, 2013) provides the following definition of landscape character:

‘The combined quality of built, natural and cultural aspects that make up an area and provide its unique sense of place.’

Applying this definition to the specific conditions within the study area, and the features of the proposal, the landscape character assessment also considers how the area is used and how it functions as a part of the overall Great Western Highway.

LANDSCAPE CHARACTER ZONES
The study area has been divided into three Landscape Character Zones (LCZ) as illustrated in Figure 5.1. The zones correspond to landscape character types in the area and allow for a more detailed discussion of the character of each zone, of the proposal within it, and of the likely impact on the landscape character to be experienced as a result of the proposal. Each zone has been defined through the development of an understanding of land use, topography, and vegetation in combination with other factors.

The three Landscape Character Zones are:
> LCZ 1. Eastern approach.
> LCZ 2. East village.
> LCZ 3. West village.

Generally, the existing landscape character of this section of the Great Western Highway is dominated by the Mount Victoria village. The highway meanders west from Brownstown Oval through a canopy of bushland, slowly rising past residences set back from the road, before arriving at the village itself, marked by the imposing Imperial Hotel. The village itself is lined by houses on standard blocks on both sides, with generally exotic tree planting dotted along the road side. Each LCZ is described in more detail in the following sections.

LANDSCAPE CHARACTER ASSESSMENT
The landscape character zones facilitate detailed assessment of the character of the study area, of the proposal within it, and of the magnitude, sensitivity and impact likely on the landscape character of each zone to be experienced as a result of the proposal.

Magnitude
In landscape character assessment, magnitude refers to the type of proposal and its compatibility with the existing landscape character. All anticipated elements of the proposal, including the alignment, road infrastructure, planting, lighting, etc. are considered. The scale of elements (height, length), as well as its location or setting (within woodland, rural land, or over creek crossings), all have a bearing on the magnitude of the physical presence of the proposal.

A high magnitude results if the proposal is a major development or piece of road infrastructure and contrasts highly with the surrounding landscape, or entails heavy modification of the existing landscape, for example, the large scale removal of existing vegetation. A moderate magnitude rating would result if the proposal is moderately integrated into the landscape. A low magnitude rating would occur if the proposal is of a small scale and integrates well into the landscape.

The magnitude impact rating also considers whether the proposal has a positive or negative impact on the landscape character of the zone. For example, a proposal may be of a large scale but may provide beneficial outcomes such as increased open space, enhancement of the area’s ‘sense of place’, better connectivity and a safer road environment.

Sensitivity
Sensitivity refers to how sensitive the character of the setting is to the proposed change. A judgement has been made as to the quality of the landscape, its cultural and historical importance to the community, scenic quality, and overall composition of the place and its inhabitants. The following sensitivity judgements have been used as the basis for this assessment:

- Places with high social, recreational, and historical significance to local residents have higher sensitivity.
- Generally, water and natural environments are more highly valued than modified areas, though views over rolling farmland are still highly valued.
- Areas of unique scenic quality have higher sensitivity.
- A pristine environment would have greater sensitivity with less ability to absorb new elements in the landscape than modified landscapes or those areas with contrast and variety of landscape types.

Impact
Impact is the combination of the magnitude and sensitivity rating in accordance with the Impact Assessment Grading Matrix (refer to Figure 1.2).
5.2 LCZ I: EASTERN APPROACH

EXISTING LANDSCAPE CHARACTER
The character of this section of the highway is generally that of a country road enclosed by bush. The attributes that make up LCZ I are described below.

Topography
This section of the highway marks its final ascent to the Mount Victoria village. The highway rises gradually along the Mount Victoria escarpment, and has been slightly modified to provide a more even grade. There is a small cutting at the eastern end of the zone, and just to the west of Victoria Falls Road, and minor embankments as the road traverses the narrow valley associated with the Grose River.

Built Form and Heritage
There are a number of historic items recorded in this zone. These include sections of the roads previous alignment, and a small sandstone culvert. The Browntown curtilage, whilst not listed, could be of potential heritage significance due to archaeological remains associated with four houses that once stood on the site. The Gatekeepers Cottage and Toll Bar House are located just to the west of the zone boundary.

Spatial Quality
There is a slight sense of enclosure in travelling along this section of the highway. This is due to the narrow width of the two lane road and the canopy of trees adjoining the road. The road is also bound by cuttings on both sides at the southern end of the zone, the railway line embankment opposite Browntown, and a low cutting on the curve west of Victoria Falls Road. All of these factors constrain views to generally within the road corridor itself.

Vegetation
The highway travels through good to moderate-quality stands of dry sclerophyll forest. Despite being bisected by both the highway and rail line, there is still good ecological connections provided by this vegetation, linking the Blue Mountains National Park and the Fairy Bower Reserve.

Connectivity and Access
Pedestrian access within this zone is poor. The old highway alignment provides an informal route between the eastern side of the Gatekeepers Cottage to Browntown, where a gravel track links to Browntown Oval. There is no pedestrian access provided on the northern side of the highway.

Victoria Falls Road, a narrow, gravel road, intersects with the highway north of Browntown, reinforcing the bushland character of the zone.
Road Environment
The highway is a consistent moderately graded, curving road with good vegetation cover on both sides. It comprises one lane eastbound and one lane westbound. The posted speed is 60km/h in both directions.

THE PROPOSAL
The proposal in LCZ 1 is summarised as:
• Westbound shoulder widening at Victoria Falls Road.
• Two metre wide shared path adjacent to the westbound lane.
• ‘Type F’ concrete safety barrier and handrail to shared path near the Gatekeeper’s Cottage.
• Minor trimming to cut embankments, to be revegetated with shrub and groundcover planting.

PROPOSED LANDSCAPE CHARACTER
Landscape character changes and affects to LCZ 1 that would result from the project are described below.

Topography
The proposal would not impact on the topography in this zone. There would be very minor trimming to one existing cut embankment adjacent to the westbound lane.

Built Form and Heritage
The Gatekeepers Cottage would be slightly affected by the construction of the footpath. New tree and shrub planting would be provided to screen the cottage from pedestrians.

Spatial Quality
The spatial quality of the highway experience would largely remain the same.

Vegetation
A small amount of shrub and groundcover vegetation would be removed at the base of the existing cutting on the southern side of the highway near Victoria Falls Road.

Connectivity and Access
There would be major improvements to pedestrian access with the construction of a shared path linking Browntown Oval with the existing pedestrian bridge over the railway line.

Road Environment
The road environment would be similar, with only slight widening of the road pavement. The posted speed would remain the same.

Construction Activities
During construction, the existing stockpile site near Browntown, would be used as a stockpile and compound site. The site would be surrounded by temporary fencing and consist of storage facilities, site buildings and stockpile area. Following construction, the site would be dismantled and restored to its pre-construction state.

LANDSCAPE CHARACTER ASSESSMENT

Sensitivity
The existing road corridor is generally well vegetated with native woodland which has a high sensitivity to change. However, the zone includes weed covered embankments and exposed gravel tracks. It is also typical of many parts of the upper Blue Mountains, resulting in a Moderate sensitivity assessment of the zone.

Magnitude
The proposal slightly increases the amount of road pavement and would require minor earthworks to reshape an existing cut embankment. A small amount of shrub and groundcover vegetation would be lost. The new shared path would be a positive new element in the landscape.

Overall, the qualitative assessment indicates that the magnitude of the proposal would be Low.

Landscape Character Impact
The qualitative assessment indicates that the landscape character impact of the project in this zone is likely to be Moderate to Low.

<table>
<thead>
<tr>
<th>Sensitivity</th>
<th>Moderate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnitude</td>
<td>Low</td>
</tr>
<tr>
<td>Landscape Character Impact</td>
<td>Moderate to Low</td>
</tr>
</tbody>
</table>
5.3 LCZ 2: EAST VILLAGE

EXISTING LANDSCAPE CHARACTER
This zone marks the eastern edge of the Mount Victoria village. The zone is more open than the previous, with a number of residences on large blocks and more exotic tree planting.

Topography
The highway rises slightly along the Mount Victoria escarpment, following existing ground levels. To the south, the land rises toward Mount Piddington. This topography helps to obscure the highway beyond the corner; heightening the road user experience.

Built Form and Heritage
A number of houses adjoin the highway in this zone. On the southern side, the houses sit back from the road on large blocks with dense exotic tree plantings and are generally unseen by motorists. On the northern side, around Harley Avenue, houses are located closer to the highway.

Spatial Quality
The highway is generally more open in this zone as it skirts the northern slopes of Mount Piddington. Large exotic trees define the highway alignment, and provide partial enclosure on the final ascent to Mount Victoria village.

Vegetation
Planting generally consists of exotic trees in the front of properties adjoining the highway, and include pines and cypresses. A vacant area of land opposite Mount Piddington Road contains remnant native vegetation.

Connectivity and Access
Three streets intersect the highway in this zone. Harley Avenue is a busy link connecting the highway with Darling Causeway. Mount Piddington Road and Hooper Street generally service local traffic, as well as visitors to the lookouts.

No pedestrian access is provided, however, pedestrians informally move along the grass verges adjacent to the highway.

Road Environment
The highway is a flat to moderately graded, curving road transitioning from bushland to the Mount Victoria village. It comprises one lane eastbound and one lane westbound. The posted speed is 60km/h in both directions. The final 150 metres to the west of the zone falls within a school zone.
THE PROPOSAL

The proposal in LCZ 2 is summarised as:

- Curve improvements and right turn lanes at Harley Avenue and Mt. Piddington Road.
- Raised median to provide left in/left out turning movements at Hooper Street.
- Four retaining walls on both sides of the highway, varying in height from 0.5 metres to 5.5 metres.
- Six metre wide access road above new retaining wall adjacent to the westbound lane between Cecil Road (unformed) and Mt. Piddington Road.
- Two metre wide shared path between Mt. Piddington Road and Hooper Street.
- The removal of a number of large exotic trees and native vegetation for the construction of the access road and curve improvements.
- Permanent detention basin on the undeveloped land opposite Mt. Piddington Road.

PROPOSED LANDSCAPE CHARACTER

Landscape character changes and affects to LCZ 2 that would result from the project are described below.

Topography
The widening of the road and the introduction of the access road would alter the topography, by adding a flat platform for the access road, and a new retaining wall. A new retaining wall opposite Mount Piddington Road, widens the footprint of the highway, creating abrupt level changes.

Built Form and Heritage
The major change in built form would be the construction of the access road opposite Harley Avenue and the four retaining walls, which are located adjacent to a number of properties.

Spatial Quality
The highway would open considerably to motorists travelling west when they would be confronted by over 20 metres of road pavement including the new access road, then slight enclosure when driving adjacent to the retaining wall, which would be over four metres tall at its highest point. The highway would open again with the widening of the road pavement near Mount Piddington Road and on the ascent to the village.

Vegetation
A number of large exotic trees would be removed for the construction of the access road and would not be able to be replaced due to space requirements. Native vegetation would be removed to realign the highway near Mount Piddington Road, however, these would be replaced.

Connectivity and Access
A new footpath, varying in width between 1.5 and 2 metres, would be constructed adjacent to the westbound lane between Mount Piddington Road and Hooper Street. The new access road, servicing the four houses east of Mount Piddington Road, would also provide pedestrian and cycle access.

Road Environment
The road environment would change considerably with the introduction of the access road, right turn lanes into Harley Avenue and Mount Piddington Road and the highway realignment. The posted speed would remain the same.

LANDSCAPE CHARACTER ASSESSMENT

Sensitivity
The existing road corridor meanders through the eastern outskirts of the Mount Victoria village. It is well vegetated with exotic trees in the large front yards of the houses adjoining the highway, resulting in a Moderate sensitivity assessment of the zone.

Magnitude
The proposal increases the amount of road pavement, and would require extensive earthworks to construct the access road, and realign the highway near Mount Piddington Road. The four large retaining walls would add a new built element to the existing environment, contrasting with the existing undulating landforms. The right turn lanes would locally increase the scale of the highway.

Overall, the qualitative assessment indicates that the magnitude of the proposal would be High.

Landscape Character Impact
The qualitative assessment indicates that the landscape character impact of the project in this zone is likely to be High to Moderate.

PLATE 5.11
Great Western Highway looking east from the Imperial Hotel service access.

PLATE 5.12
Great Western Highway looking east from the Imperial Hotel.
5.4 LCZ 3: WEST VILLAGE

EXISTING LANDSCAPE CHARACTER
This zone marks the central and western sections of the Mount Victoria village. The zone is more open than the previous zone, with a number of properties being sparsely vegetated as well as a number of residences on large blocks containing dense exotic tree plantings.

Topography
At the top of the Mount Victoria escarpment, the highway travels along very gently undulating land. The surrounding landforms slope gently down to the north away from the highway.

Built Form and Heritage
This zone includes a range of heritage and more contemporary buildings. These include two schools, two churches, a number of commercial buildings, and private residences.
A great deal of the Mount Victoria village has been listed as a Conservation Area.

Spatial Quality
The highway is generally open through this zone. There are areas of large exotic plantings at the western end which provides more enclosure to the highway as it leaves the village and begins its descent to Victoria Pass.

Vegetation
Vegetation in this zone is predominately exotic species including pines and mixed deciduous species. Much of the street tree planting on the northern side of the highway has been planted beneath power lines, and have been severely pruned to avoid conflict with the lines, compromising their natural habit.

Connectivity and Access
A number of residential streets intersect the highway in this zone. A narrow footpath, varying in quality, is located on both sides of the highway, except on the southern side, west of Selsdon Street.

Road Environment
The highway is generally flat, straight road travelling through Mount Victoria village. It comprises one lane eastbound and one lane westbound. The posted speed is 60km/h in both directions. The entire zone falls within a school zone.

Plate 5.13: Great Western Highway looking west from western end of Memorial Park.
Plate 5.14: Great Western Highway looking west.
Plate 5.15: Great Western Highway looking west from outside the Met School.
Plate 5.16: Great Western Highway looking at road verge treatment.
THE PROPOSAL
The proposal in LCZ 3 is summarised as:
- Minor road widening to provide a right turn lane into Kanimbla Valley Road.
- Kerb and guttering works along the highway and part of adjoining cross streets.
- 1.5 metre wide footpath to both sides of the highway.
- Replacement of poor quality street trees with appropriate species.

PROPOSED LANDSCAPE CHARACTER
Landscape character changes and affects to LCZ 3 that would result from the project are described below.

Topography
The proposal would not impact on the topography in this zone.

Built Form and Heritage
The proposal would not generally impact on existing buildings or properties of heritage importance. The existing fence to the Selsdon property on the corner of Selsdon Street may need to be removed and replaced with a similar fence.

Spatial Quality
The spatial quality of the highway would remain similar. Street tree planting would help to better define the highway edge as they mature over time.

Vegetation
A number of poor quality street trees under power lines would be removed to slightly widen the road pavement and to construct the footpath. New appropriately scaled street tree planting would help to reduce the scale of the highway and reinforce the character of the village.

Connectivity and Access
A new right turn lane would be provided into Kanimbla Valley Road. New 1.5 metre wide footpaths would be constructed, providing better access for pedestrians to and from the residential areas to the village.

Road Environment
The road environment would change with a slight increase in road pavement including a dedicated right turn lane into Kanimbla Valley Road. New street trees would improve the amenity of the highway. The posted speed would remain the same.

LANDSCAPE CHARACTER ASSESSMENT
Sensitivity
The existing road corridor travels through an established village setting however its visual amenity would be considered moderate to low due to the varied quality of street tree planting and treatments to the road verge. This results in a Moderate sensitivity assessment of the zone.

Magnitude
The proposal slightly increases the amount of road pavement. However, the works, such as street tree planting and new widened footpaths, would provide visual and amenity improvements to the existing streetscape. The Kanimbla Valley Road intersection upgrade would locally increase the scale of the highway. Overall, the qualitative assessment indicates that the magnitude of the proposal would be Low.

Landscape Character Impact
The qualitative assessment indicates that the landscape character impact of the project in this zone is likely to be Moderate to Low.
The landscape character impact assessment of the proposal described above, represents a qualitative assessment based on the three Landscape Character Zones (LCZ). The results of these assessments range from High to Moderate to Moderate to Low and are summarised in the following table.

<table>
<thead>
<tr>
<th>Landscape Character Zone</th>
<th>Sensitivity</th>
<th>Magnitude</th>
<th>Landscape Character Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCZ 1: Eastern Approach</td>
<td>Moderate</td>
<td>Low</td>
<td>Moderate to Low</td>
</tr>
<tr>
<td>LCZ 2: East Village</td>
<td>Moderate</td>
<td>High</td>
<td>High to Moderate</td>
</tr>
<tr>
<td>LCZ 3: West Village</td>
<td>Moderate</td>
<td>Low</td>
<td>Moderate to Low</td>
</tr>
</tbody>
</table>

Overall, the proposal would have an impact on landscape character. While the proposal is to take place in an established road corridor it would impact on all Landscape Character Zones to some degree. The greatest impact on landscape character occurs where the scale of the proposal is more substantial, for example, the new access road and extensive retaining walls in LCZ 2.

Whilst the magnitude of some of the proposal would represent minor adverse impacts within the village setting, the works have generally been confined to the existing road corridor and some enhancements have been incorporated into the proposal during the concept design process. For example, the street tree planting and new footpaths would improve the visual character and amenity of LCZ 3 over time.
6. VISUAL IMPACT

6.1 VISUAL IMPACT METHODOLOGY

OVERVIEW
The potential visual impact of the proposal has been assessed in relation to a number of key viewpoints. It is based on the existing pattern of land use and development adjoining the road corridor. The method of assessment involved:
• Defining the scale or size, form and type of proposal within the context of the study area.
• Establishing an estimated visual catchment, through desktop analysis and groundtruthing on site.
• Identifying key viewpoints from where the proposal would be visible.
• Assessing the level of potential visual impact on viewers at these viewpoints from the proposal.

THE PROPOSAL
All elements associated with the proposal are assessed as part of this visual impact assessment. These are described in Chapter 3.

VISUAL CATCHMENT
The extent from which the proposal would be visible is limited for the most part to the Great Western Highway and adjoining cross streets and the buildings fronting these streets. It is influenced by topography, vegetation, residential properties and other buildings. A detailed field and desktop assessment was undertaken to determine the area from where the proposal would be visible, defined as the Visual Envelope Map (VEM), as illustrated in Figure 6.1.

Views to the proposal are generally constrained to the highway corridor and surrounding side streets by the buildings lining them, dense native vegetation and topography.

The visual receivers of the proposal include residents, tourists, pedestrians and motorists.

VIEWPOINT LOCATIONS
Within the VEM, key viewpoints have been identified along the road corridor. This involved the analysis of views from the road to identify the extent to which houses and other buildings were visible. This provided an indication of the likely level of visibility from these buildings, as it was not feasible to inspect private residences to check potential views from these properties. Locations and directions of chosen viewpoints are representative of the range of viewpoints both within and beyond the road corridor, and are indicated in Figure 6.1.

VISUAL IMPACT ASSESSMENT
The magnitude of change to existing views and the sensitivity of the viewer has been assessed for each of the chosen viewpoints.

Magnitude
Magnitude of change to existing views refers to the nature and scale of the proposal, and the extent and proximity of the view to it. Magnitude represents the contrast in scale, form and type of proposal to the location and context to which it is to be placed. A high magnitude result if the proposal is of a major scale and is considered out of scale or uncharacteristic of the existing visual character, or if there is considerable modification to the existing landscape. A moderate magnitude would result if the proposal is prominent but not considered to be substantially uncharacteristic with the existing visual character. A low magnitude results if there is minimal alteration to the existing view and the proposal is of a scale and nature that is consistent with the existing visual character.

Sensitivity
Sensitivity is the measure of the importance of the view and is dependent on:
• Distance between viewer and the proposal.
• The category of viewer, for example, residence, workplace, shops, open space.
• The elements of the proposal that are visible.
• Importance of the view, for example, identified in tourist guides, do people deliberately seek the view.

Visual sensitivity includes the consideration of the perceived cultural and historical values of the visual environment and the elements within it.

Generally, viewers with the highest sensitivity include:
• Residents who have existing attractive views that will be affected by the proposal.
• Users of public open space where their attention is focused on the visual landscape, for example, lookouts or other scenic natural areas.
• Communities that place high cultural and historical significance on the visual landscape.

Viewers with the lowest sensitivity are most likely to be:
• Employees focused on their work.
• Motorists whose attention is focused on driving.

Impact
Impact is the combination of the magnitude and sensitivity rating in accordance with the Impact Assessment Grading Matrix (refer to Figure 1.2).

The following pages contain a table quantifying the visual impact at each viewpoint. The gradings are measured on their impact relative to each other within the scope of the proposal rather than to an absolute scale covering all potential forms of impact.

KEY VIEWPOINTS
A total of 16 viewpoints have been identified on the basis of the criteria outlined above. Each viewpoint is comprised of the following summary information:
• Location.
• Existing site description.
• Viewpoint selection rationale.
• Visual impact based on assessment of magnitude of change and sensitivity.
• Mitigation measures that have been incorporated into the landscape and engineering designs.

The viewpoints are as indicated in Figure 6.1 and are listed from east to west.
Figure 6.1: Visual Envelope Map (VEM) illustrating the location of key viewpoints.
**VIEWPOINT 1**
Great Western Highway, chainage 15500, looking west.

**Site description**
The eastern end of the study area adjacent to Browntown. The railway embankment adjoins the highway to the west and dense woodland planting occurs to the north.

**Viewpoint selection**
This viewpoint is from the perspective of motorists travelling west on the Great Western Highway, and pedestrians using the informal track adjacent to the road. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Foreground view</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The road pavement footprint extends about 1.75 metres to the left to accommodate a widened road shoulder. A two metre wide shared path would replace the eroded gravel track between the ‘W’ beam that would be replaced, and the railway embankment.

Both pedestrians and motorists, including tourists, would be affected by the changes. Their sensitivity would be assessed as moderate to low, due to motorists vehicle speed, the limited number of pedestrians and cyclists, and the beneficial inclusion of the shared path.

**VIEWPOINT 2**
Great Western Highway, chainage 15570, looking east.

**Site description**
The highway winds around Browntown Oval, on the right, from Soldiers Pinch and is heavily vegetated on both sides. The track to the right leads to the oval.

**Viewpoint selection**
This viewpoint is from the perspective of pedestrians using the informal track to Browntown Oval. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Foreground view</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The road pavement footprint extends about 1.75 metres to the left to accommodate a widened road shoulder. A two metre wide shared path would replace the eroded gravel track between the ‘W’ beam, that would be replaced, and the railway embankment, which would link with the track visible to the right leading to Browntown Oval.

Pedestrians would be affected by the changes. Their sensitivity would be assessed as moderate to low, primarily due to the limited number of pedestrians and cyclists, and the beneficial inclusion of the shared path.
VIEWPOINT 3
Great Western Highway, corner of Victoria Falls Road, looking west.

**Site description**
The highway curves to the left through a small cutting, towards the railway line bridge. There is good coverage of native woodland obscuring the cuttings and fill embankments on both sides of the highway.

**Viewpoint selection**
This viewpoint is from the perspective of motorists turning on to the Great Western Highway from Victoria Falls Road. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate to Low</td>
</tr>
</tbody>
</table>

**Foreground view**
The extent of road pavement increases to provide a 2.5 metre road shoulder adjacent to the left lane. Some vegetation at the bottom of the embankment would be removed to increase the clearance of the cutting to the road.

**Viewpoint Magnitude Sensitivity Impact**

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>High</td>
<td>Moderate</td>
<td>High to Moderate</td>
</tr>
</tbody>
</table>

**Foreground view**
The extent of road pavement would increase by about 4.5 metres to the left to accommodate a right turn lane into Harley Avenue and a three metre wide road shoulder. A new six metre wide, access road would be constructed to service four houses on the left, substantially increasing road pavement visible from this location. Two retaining walls would be constructed between the highway and access road (up to 4.8 metres high) and the access road and residences (up to 2.1 metres high) providing a notable hard edge to the highway.

**Viewpoint selection**
This viewpoint is from the perspective of a resident entering the informal track to access their properties. It addresses foreground views to the upgrade works.
VIEWPOINT 5
Eastern side of Harley Avenue, looking south.

Site description
Harley Avenue intersects with the Great Western Highway and is used as a route for those travelling between the highway and the Darling Causeway. A number of houses are located on the eastern side of the road.

Viewpoint selection
This viewpoint is from the perspective of motorists travelling south on Harley Avenue, approaching the Great Western Highway and pedestrians near the houses on Hartley Avenue. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Foreground view</td>
<td>High</td>
<td>Hartley Avenue and the Great Western Highway would be slightly lowered and the highway widened to accommodate road shoulders and a right turn lane into Harley Avenue. A 4.8 metre high retaining wall (with traffic barrier) would be located between the highway and the six metre wide access road. A second retaining wall (up to 2.1 metres high) would be located between the access road and the residences. The construction of the walls would require the removal of a number of trees and a large area of turf.</td>
</tr>
</tbody>
</table>

The sensitivity of viewers would be high as they include residents, tourists and other travellers moving at relatively slow speeds. The pleasant views of the sloped front yards of the properties, with dense planting behind, would be broken up by a large retaining wall out of scale with its surroundings.

Moderate
Pedestrians would be affected by the changes, however, due to the relatively small number of viewers, surrounding landuses, and the works being screened by existing and proposed vegetation, their sensitivity would be considered moderate.

VIEWPOINT 6
Harley Avenue, looking south.

Site description
Harley Avenue contains a mix of buildings and uses, including houses, a workshop, Mt Vic Flicks and a small substation. A large, undeveloped block of land slopes up the Great Western Highway. A mix of exotic and native trees occur in random groups throughout the area.

Viewpoint selection
This viewpoint is from the perspective of pedestrians walking along Hartley Avenue. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Foreground view</td>
<td>Moderate</td>
<td>The highway would be extended about 12 metres south towards the viewer and a 5.5 metre retaining wall would be constructed. Some trees near the highway would be removed. Native trees would be planted to screen the wall from this viewpoint, reducing the rating to moderate.</td>
</tr>
</tbody>
</table>

Pedestrians would be affected by the changes, however, due to the relatively small number of viewers, surrounding landuses, and the works being screened by existing and proposed vegetation, their sensitivity would be considered moderate.
**VIEWPOINT 7**
Great Western Highway, corner of Mount Piddington Road, looking west.

**Site description**
The Great Western Highway makes its final curve before arriving at the centre of Mount Victoria village. The village is screened by a large stand of pines on the right. A number of houses adjoin the highway and are generally screened by fences or hedge planting.

**Viewpoint selection**
This viewpoint is from the perspective of motorists travelling west on the Great Western Highway, or turning from Mount Piddington Road, as well as pedestrians walking on the road shoulder. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>High</td>
<td>Moderate</td>
<td>High to Moderate</td>
</tr>
<tr>
<td>Foreground view</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The curve radius of the highway and the road pavement width would be increased to provide a left turn lane into Mount Piddington Road and 2.5 metre wide road shoulders. To the left, a two metre wide shared path would be constructed and feature tree planting provided. Opposite, a new retaining wall would be constructed below the highway, with new native tree planting below. A 1.6 metre retaining wall would be constructed below the Cypress Pines to the centre of the view.

**Moderate**
Motorists affected by the changes and would include tourists and locals. Due to the high visibility of the changes and the generally scenic quality of the view and the slow speed of travel, the rating would be moderate.

**VIEWPOINT 8**
Great Western Highway, chainage 16500, looking west.

**Site description**
The Great Western Highway travels up a small slope before arriving at the centre of Mount Victoria village. The Imperial Hotel can be seen at the centre of the viewpoint. The nearby houses are screened by fences and hedge planting.

**Viewpoint selection**
This viewpoint is from the perspective of motorists travelling west on the Great Western Highway. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Foreground view</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The extent of road pavement would increase by about 2.3 metres to accommodate widened road shoulders. A new 1.5 metre wide footpath and 1.6 metre high retaining wall would be constructed on the left hand side of the highway.

Motorists affected by the proposed changes include tourists and locals travelling at relatively slow speeds. The visibility of the increased areas of road pavement and new retaining walls would result in a moderate rating.
VIEWPOINT 9
Bus stop, Great Western Highway, outside Imperial Hotel, looking east.

**Site description**
The Great Western Highway approaches the crest at the intersection with Station Street. The Imperial Hotel is on the left and a small grouping of buildings, including the old Post Office, is opposite. The highway is located within a school zone.

**Viewpoint selection**
This viewpoint is from the perspective of passengers waiting at the bus stop outside the Imperial Hotel. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Foreground view</td>
<td>The increased road pavement footprint would be noticeable, and the new 1.5 metre wide footpath and 1.6 metre high retaining wall would be highly visible. New entry tree planting at the bottom of the slope would reduce the rating to moderate.</td>
<td>People waiting for the bus or walking along the footpath would have time to focus their attention on the works, so would have a moderate sensitivity.</td>
<td></td>
</tr>
</tbody>
</table>

VIEWPOINT 10
Memorial Park, corner of Great Western Highway and Station Street, looking west.

**Site description**
The Great Western Highway leaves the small commercial centre of Mount Victoria, heading west. Memorial Park is on the right and Mount Victoria Public School is of the left, with a convenience store to its left. The highway is located within a school zone.

**Viewpoint selection**
This viewpoint is from the perspective of pedestrians waiting at the traffic signals on the corner of the Great Western Highway and Station Street. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Foreground view</td>
<td>Minor works would be visible from this location, including a slightly widened footpath on the left hand side.</td>
<td>The sensitivity of pedestrians would generally be high, however the minor visibility of the works reduces the rating to low.</td>
<td></td>
</tr>
</tbody>
</table>
### Viewpoint 11

**Kanimbla Valley Road, looking north.**

**Site description**
Kanimbla Valley Road is a small residential street that heads south from the highway, terminating at Pulpit Rock lookout. There are no kerbs and gutters or footpaths located within the road corridor.

**Viewpoint selection**
This viewpoint is from the perspective of motorists and pedestrians travelling north along Kanimbla Valley Road. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 Foreground view</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The Great Western Highway would be widened by about three metres to accommodate road shoulders and a bus bay on the opposite side of the road. Kerb and guttering would be constructed along Kanimbla Valley Road for about 30 metres from the intersection.

### Viewpoint 12

**Bus stop, Great Western Highway, outside Met School, looking east.**

**Site description**
The Great Western Highway gently undulates and sits within a small cut embankment. The Met School is located on the left. A 1.2 metre wide footpath is located on both sides of the highway. It is at the western end of the school zone, and includes associated signage.

**Viewpoint selection**
This viewpoint is from the perspective of passengers waiting at the bus stop outside the Met School. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Foreground view</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

The road pavement width would increase by about three metres, predominately on the right hand side, to accommodate a road shoulder, right turn lane into Kanimbla Valley Road and formalised bus bay to the left of the viewpoint. A 1.5 metre wide footpath, street tree planting, and kerb and guttering would be provided on both sides of the highway.

Bus stop users and pedestrians would have time to focus their attention on the view, and therefore a high sensitivity, however; the quality of the existing view would reduce their rating to moderate.
**VIEWPOINT 13**
Great Western Highway, chainage 17020, looking west.

**Site description**
The two lane highway is relatively flat in this location. A 1.2 metre wide footpath is located on the left hand side of the highway. There are severely pruned deciduous street trees located on the right hand side of the highway. Residential properties adjoin the road on both sides.

**Viewpoint selection**
This viewpoint is from the perspective of pedestrians walking west along the Great Western Highway. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreground view</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

The amount of road pavement would increase by about three metres, to the left of the viewpoint, to accommodate road shoulders, and kerb and guttering would be constructed. A 1.5 metre wide footpath and street tree planting would be provided on both sides of the highway, and the existing poor quality trees under the power lines would be replaced.

**Pedestrians generally have high sensitivity, however, the relatively moderate extent of the roadworks and the improvements, both visually and to the amenity, would reduce the rating to moderate.**

**VIEWPOINT 14**
Entry gate of St Peter’s Anglican Church, looking north east.

**Site description**
The two lane highway is relatively flat in this section. There is a 1.2 metre wide footpath on the southern side. Residential dwellings are located on the northern side, opposite the church. There are also a number of deciduous street trees on this side.

**Viewpoint selection**
This viewpoint is from the perspective of church goers congregating at the front of St Peter’s Anglican Church. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreground view</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

The amount of road pavement would increase by about three metres, in the foreground of the viewpoint, to accommodate road shoulders, and kerb and guttering would be constructed. A 1.5 metre wide footpath and street tree planting would be provided on both sides of the highway, and the existing poor quality trees under the power lines would be replaced.

**Pedestrians and church goers would generally have high sensitivity, however, the relatively moderate extent of roadworks and the improvements, both visually and to the amenity, would reduce the rating to moderate.**
Burwood Road, looking south.

**Site description**
Burwood Road is a narrow residential street heading north away from the Great Western Highway. It contains a number of houses and is quite well vegetated with predominately exotic plantings. There are no kerb and gutters or footpaths present.

**Viewpoint selection**
This viewpoint is from the perspective of motorists and pedestrians travelling south along Burwood Road. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Foreground view</td>
<td>Low</td>
<td>Low</td>
<td>The Great Western Highway would be widened by about three metres to accommodate 2.5 metre wide road shoulders. Kerb and guttering would be constructed along Burwood Road for about 30 metres from the intersection.</td>
</tr>
</tbody>
</table>

**Foreground view**
Motorists and pedestrians sensitivity, despite their slow travel speed, would be considered low due to the minor visibility of the works from this viewpoint.

**Viewpoint 16**
Great Western Highway, west of Fairy Dell Road, looking east.

**Site description**
At the western end of the upgrade works, before the highway descends Victoria Pass. The road pavement widens with a large shoulder; generally used as truck parking.

**Viewpoint selection**
This viewpoint is from the perspective of motorists parked adjacent to the eastbound lane of the Great Western Highway and pedestrians walking east along the highway. It addresses foreground views to the upgrade works.

<table>
<thead>
<tr>
<th>Viewpoint</th>
<th>Magnitude</th>
<th>Sensitivity</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 Foreground view</td>
<td>Low</td>
<td>Low</td>
<td>The extent of road pavement would decrease by about one metre, and kerb and guttering would be constructed. A 1.5 metre wide footpath would be provided on both sides of the highway, along with street tree planting between the footpath and the highway.</td>
</tr>
</tbody>
</table>

**Foreground view**
The sensitivity of the motorists would be considered low due to the relatively moderate extent of roadworks and the visually and physically beneficial nature of the works viewed from this location.
A total of 16 viewpoints form the basis of the visual impact assessment. The viewpoints are focused across the range of anticipated magnitudes and sensitivities including residents, tourists and motorists, providing a more even ratings outcome.

Out of the 16 selected viewpoints, visual impact ratings were determined as follows:

- One viewpoint has High visual impact.
- Two viewpoints have High to Moderate visual impact.
- Six viewpoints have Moderate visual impact.
- One viewpoint has Moderate to Low visual impact.
- Six viewpoints have Low visual impact.

Ratings of High and High to Moderate impact occur in areas where the magnitude of the proposal is the greatest, such as the construction of the six metre wide access road and two associated retaining walls opposite Harley Avenue and the road realignment and new retaining wall below the highway near Mount Piddington Road. The majority of impacts are rated between Moderate and Low and generally result from the relatively moderate extent of roadworks and improvements, both visual and to amenity of the highway for example, the new street tree planting along the highway in LCZ 3.

Landscape and urban design mitigation strategies have been developed from the outcomes of the landscape character and visual assessments and have been incorporated in the landscape and urban design strategy plans presented in Chapter 4. These are discussed in Chapter 7 along with mitigation strategies to be considered during the concept design phase of the project.
7. MITIGATION STRATEGY

7.1 INTRODUCTION

This chapter describes the mitigation measures that have been undertaken as part of the proposal described in Chapter 3 of this report, and a summary of further mitigation measures to be considered during the detail design phase of the project. They have been developed in accordance with the urban design objectives and principles, and landscape and urban design strategy outlined in Chapter 4.

The integration of the engineering and performance objectives with urban and landscape design objectives for the Mount Victoria village safety upgrade aims to produce a design outcome that fits sensitively with the existing qualities and characteristics of Mount Victoria. In order to achieve this, a range of mitigation measures have been incorporated into the project as the road design has developed. These measures combine to develop a solution that seeks to protect and enhance the existing visual character of Mount Victoria village and its surrounds, where possible.

The mitigation measures that have been undertaken during the development of the urban and landscape design concept are summarised below:

• The project footprint has been minimised as a result of integrated development of the concept design. This has lead to the width and extent of road pavement being minimised, and proposed realigned sections being kept as close as possible to the existing highway corridor to reduce impacts.

• Improvements to pedestrian access has been achieved with the provision of new and upgraded footpaths along the highway, including access between the village and Browntown Oval.

• Maximise the areas of new street tree planting to minimise the increased visual scale of the highway.

• New ‘gateway’ planting at key intersections and important cultural areas have been provided as visual landmarks and to enhance local identity.

• The removal of existing vegetation has been minimised.

• Additional native planting has been provided at the base of the retaining wall near Mount Piddington Road to screen the wall from Harley Avenue.

• The size of cut and fill embankments has been minimised, and have been revegated to minimise their visual impact and integrate them into the surrounding landscape.

• New retaining walls would have a site specific finish to relate to the character of the surrounding landscape.

Following the environmental approval process, it is recognised that further work will be required to develop a urban design concept for the project.

Whilst development of the strategic plan has attempted to mitigate the overall impact of the proposal, opportunities will arise during concept design to further refine and improve the design of the project to produce enhanced urban design outcomes.

Below is a summary of the key mitigation and management strategies that would be considered during the design design phase of the project:

• Further investigate the design of the service road opposite Harley Avenue to minimise its overall footprint and impacts on adjoining properties, and reduce its visual impact within this area of Mount Victoria. Opportunities to explore include:
  ¬ reducing the overall width of the service road;
  ¬ investigating options to reduce the scale and visual dominance of the retaining walls; and
  ¬ integrating planting opportunities.

• Further refinement of roadside elements and furniture should be undertaken, including fences, balustrades and barriers, to reduce their visual intrusion and better integrate them into the existing village character.

• Further examine safe pedestrian and cycle connections, particularly those in the eastern section of the proposal, between the Gatekeepers Cottage and Browntown Oval, and across the highway to Victoria Falls Road.

• Investigate opportunities to:
  ¬ reduce impacts on trees identified to be removed;
  ¬ include further tree planting and other vegetation throughout the project.
8. CONCLUSION

The study area for the Mount Victoria village proposal is within a predominately village landscape with exotic vegetation and residential dwellings dominating. The eastern end of the study area travels through an area of native bushland prior to entering the outskirts of the village. The character of the road itself is relatively constant as a generally winding and undulating two lane road.

The proposal aims to improve road safety and, in doing this, would introduce a number of elements into the environment, as described in Section 3 of this Report, including:

• Slightly widened pavement surface.
• Realignment of the highway in the vicinity of Mount Piddington Road.
• Additional right turn lanes at Harley Avenue, Mount Piddington Road and Kanimbla Valley Road.
• New access road east of Mount Piddington Road.
• Construction of four new retaining walls on both sides of the highway from east of Harley Avenue to Hooper Street.
• New and upgraded footpaths and shared paths.
• New street tree planting from Mount Piddington Road to Fairy Dell Road.

These proposal elements affect the existing character but are consistent with other projects, either completed or under construction along the Great Western Highway. The urban design principles developed take into account urban design and visual character not only for the study area itself, but also reflect its relationship with surrounding areas. Development of the project as an integrated engineering and urban design outcome will further help achieve the desired future character. The urban design will:

• Include a planting design intended to maintain and enhance the vegetated character and amenity of the corridor.
• Would incorporate materials and finishes for new road elements that align with those elements already used along the Great Western Highway.
• Would seek to limit the visual dominance of road elements relative to the wider vegetated corridor through a consistent colour palette.

Development of the project during a future detail design phase should consider the further key mitigation strategies outlined in this report.
REFERENCES

Roads and Maritime Services (formerly RTA) references and guidelines
Roads and Traffic Authority of NSW, Beyond the Pavement, RTA urban design policy, procedure and design principles, July 2009.

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