

Maintenance

Master Specification

M14 Vegetation

Document Information

KNet Number: 14297045

Document Version: 2

Document Date: July 2022

DEPARTMENT FOR
INFRASTRUCTURE
AND TRANSPORT



Government of South Australia

Department for Infrastructure
and Transport

Document Amendment Record

| Version | Change Description | Date |
|---------|--|-----------|
| 1 | Initial issue (Formerly M14 – Maintenance –Vegetation) | June 2020 |
| 2 | Review Clearance Envelopes; update format. | July 2022 |
| | | |
| | | |

Document Management

This document is the Property of the Department for Infrastructure and Transport and contains information that is confidential to the Department. It must not be copied or reproduced in any way without the written consent of Department. This is a controlled document and it will be updated and reissued as approved changes are made.

Contents

| | |
|--|----|
| Contents | 3 |
| M14 Vegetation | 4 |
| 1 General | 4 |
| 2 Response Times | 4 |
| 3 Records and Reporting | 4 |
| 4 Additional Requirements | 4 |
| 5 Clearance Envelopes | 6 |
| 6 Vegetation Control for Roads and Roadside Assets | 13 |
| 7 Hold Points | 19 |
| 8 Attachment 1 – Maintenance Activity Standard | 20 |

M14 Vegetation

1 General

- 1.1 This Part specifies the requirements for vegetation maintenance activities.
- 1.2 The Contractor shall comply with the requirements of:
 - a) Native Vegetation Act 1991;
 - b) Planning Development and Infrastructure Act 2016 (in particular for Tree Damaging Activities); and
 - c) DIT's Vegetation Impact Assessment Guideline.
- 1.3 All tree pruning is to be undertaken in accordance with the Australian Standard (AS) 4373 Pruning of Amenity Trees.
- 1.4 Any site specific amenity maintenance or other landscaping requirements can be found in the **Contract Documents**.

2 Response Times

- 2.1 All Routine Maintenance activities including rectification of Defects must be undertaken in accordance with the timeframes provided within the relevant Maintenance Activity Standards.
- 2.2 Response time for herbicide treatment shall match the optimum time applicable to the targeted vegetation, for complete eradication, and as agreed to by the Superintendent.
- 2.3 Where it is not possible to rectify a Defect within the specified Response Time, the Contractor shall implement appropriate hazard warning within the time specified, until the repair can be completed.
- 2.4 SMS activities shall be undertaken within the timeframes agreed to between the Superintendent and the Contractor.

3 Records and Reporting

- 3.1 The Contractor shall maintain records and report information in accordance with M4 "Inspections" and M6 "Data, Reporting, and Governance".

4 Additional Requirements

Roadside Vegetation Maintenance

- 4.1 The Contractor must undertake herbicide treatment at the optimum time applicable to the targeted vegetation for complete eradication.
- 4.2 Roadside vegetation maintenance Works must be undertaken in accordance with M15 "Vegetation Maintenance Controls".
- 4.3 The Contractor must maintain vegetation to the Clearance Envelopes as defined in Clause 5.
- 4.4 The Contractor must not:
 - a) remove trees with a trunk diameter equal to or greater than 150 mm, or 100 mm for multi-stemmed, measured at 1 m above the natural ground level, without prior approval from the Principal. Removal of these size trees shall constitute a **Hold Point**;
 - b) remove vegetation outside the approved Clearance Envelope; or
 - c) spread declared plants or environmental weeds. Where declared plants are present, the Contractor shall determine the appropriate time(s) to mow or slash to avoid spreading weeds

(e.g. by considering the species and the presence of weed seeds). Advice may be sought from the local Natural Resources office (Department of Environment and Water).

- 4.5 The Contractor shall maintain the following records;
- a) Daily records of herbicide applications outlined in M15 Clause 10 "Records and Reporting"; and
 - b) Any tree removal under Table 5.1, 5.2 and 5.3 "Approval and Off-Set Requirements Native vegetation – Public Safety Works" of Vegetation Impact Assessment Guideline including location details, photographs, and reasons for removal
- 4.6 The Contractor shall submit to the Superintendent records of all vegetation removed under Table 3.1 within seven days of the removal.

Maintenance of Shared Paths

- 4.7 The Contractor shall undertake the vegetation maintenance requirements as defined in Clause 5.29 "Shared Paths" for all Shared Paths within the Contract. This includes any mowing or spraying required within the defined Clearance Envelope.

Maintenance of Sealed Rest Areas and Weigh Stations

- 4.8 The scope of vegetation Maintenance Activities in this Part includes all relevant activities for all Rest Areas and Weigh Stations to ensure that vegetation does not encumber the safe intended use of these facilities for vehicles and pedestrians

Weed Control – General

- 4.9 Weed Control consists of the complete herbicide control of all broadleaf weeds, woody weeds, and other environmental weeds (including some grasses), followed by brush-cutting of all weeds and exotic grasses.
- 4.10 This activity includes control of weeds to the buffer zone at the edge of natural areas. It also includes the control of all weeds on rock cut faces and unplanted fill batters. Areas of native grasses in the works area may require spot broadleaf weed control. Native grasses should only be brush-cut after maturation of seed, and as approved by the Superintendent.

Waste Disposal

- 4.11 The Contractor must dispose of waste materials in accordance with M8 Clause 10 "Waste Management" and vegetative cut material in accordance with M15 "Vegetation Maintenance Controls".

Trimming and Removal of Dead Trees and Shrubs

- 4.12 Prior to any grass cutting, the Contractor shall remove all fallen trees and limbs which have a butt diameter of less than 200 mm. Stumps must be removed and the ground surface made level. Larger fallen trees and limbs shall be reported to the Superintendent.
- 4.13 In addition, trimming of trees and shrubs back to the alignment of kerbing, concrete spoon drains, and at all roundabouts shall be undertaken, ensuring that vegetation does not encroach over the kerb line and around chevrons.
- 4.14 All dead trees, dead branches, shrubs, and ground covers less than 3 m in height shall be removed from landscaped garden beds.

Pre-Fire Season Slashing and Mowing

- 4.15 Slashing and mowing activities shall be programmed prior to and in preparation for the fire season.

Mowing – General

- 4.16 During mowing activities the Contractor must ensure that all mowing cuttings are cleared / removed from all non-grassed areas and are not left within 300 mm of the bases of any asset.

Busways

- 4.17 If a Busway is located within the Contract Zone, maintenance will be in accordance with the **Contract Documents**.

5 Clearance Envelopes

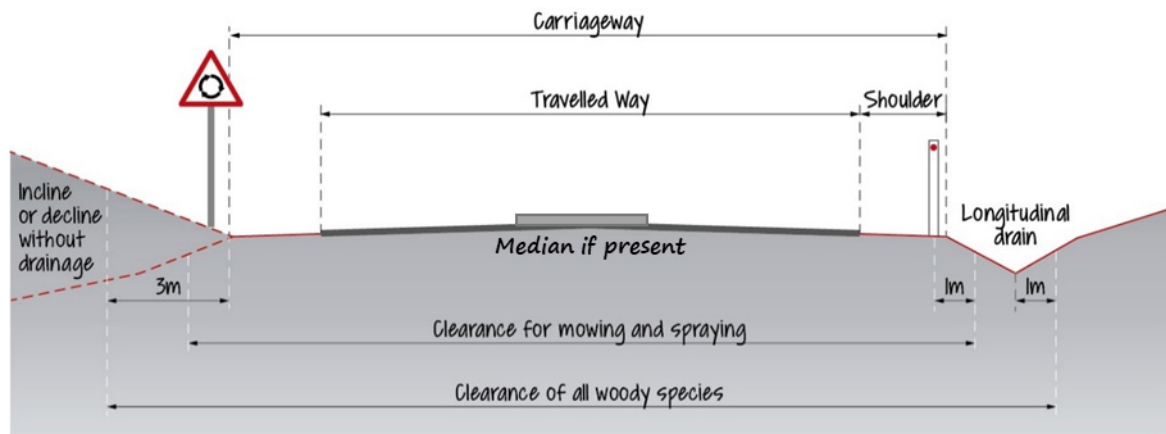
Maintenance Clearance Envelopes

- 5.1 Maintenance Clearance Envelopes or Clearance Envelopes are the vegetation clearances required to:
- provide a clear and safe traffic corridor free from obstructions and roadside hazards;
 - provide for the appropriate sight distances wherever possible;
 - provide for a safe place to pull over for the public and for maintenance activities;
 - provide reasonable access to maintain roadside assets;
 - preserve and maintain the function of and integrity of roadside assets; and
 - minimise the ongoing cost for vegetation maintenance.
- 5.2 Vegetation Maintenance Clearance Envelopes comprise two different components that complement each other to provide the required clearance: Ground Clearance and Overhead Clearance.

Ground Clearance

- 5.3 Ground Clearance is the mowing, spraying, slashing / brush cutting, or removal of vegetation at ground level in order to maintain sight distances, maintain the function of road infrastructure, prevent fires, and reduce roadside hazards.
- 5.4 Ground Clearance includes the following:
- Clearance Envelope for mowing and spraying: the area subject to the mowing and spraying requirements of the specification; and
 - Clearance Envelope for woody species: refers only to woody species. Within this area, any woody vegetation with a trunk diameter < 150 mm must be removed. No woody species shall be permitted to grow within this area unless they are protected (Roadside Significant Sites, or a threatened species in accordance with National or State legislation etc.). The Contractor must clear any new growth of woody species within this area
- 5.5 The following Figures are a general representation of the Ground Clearance requirements that must be implemented where possible. There may be locations where this clearance is not possible due access restrictions such as safety barriers, dense vegetation, hilly terrain etc
- 5.6 Where the Contractor cannot provide the Ground Clearance the Contractor must:
- seek approval from the Superintendent for exemption for that section of road from the standard Ground Clearance;
 - provide evidence and details such as photos, locations, issues, and justification for exemption; and
 - propose the modified Ground Clearance for approval.

Figure M14 5-1 Ground Clearance: Standard Clearance Envelope – Urban and Rural roads

**Notes:**

- Where medians are present these are included for Ground Clearance activities.
- There are different requirements around assets such as safety barriers, parking bays and other assets.
- There are different requirements around Roadside Significant Sites and environmentally sensitive areas.
- These clearances also apply to transverse drains associated with the road drainage infrastructure.

Clearance Envelope for Mowing and Spraying

- 5.7 A line 1 m behind the guideposts, must be sprayed, mowed, or slashed to control the growth and height of grasses and weeds wherever possible. For the avoidance of doubt, the line 1 m behind the guideposts shall extend the full length of the corridor not just in the location of the guideposts.

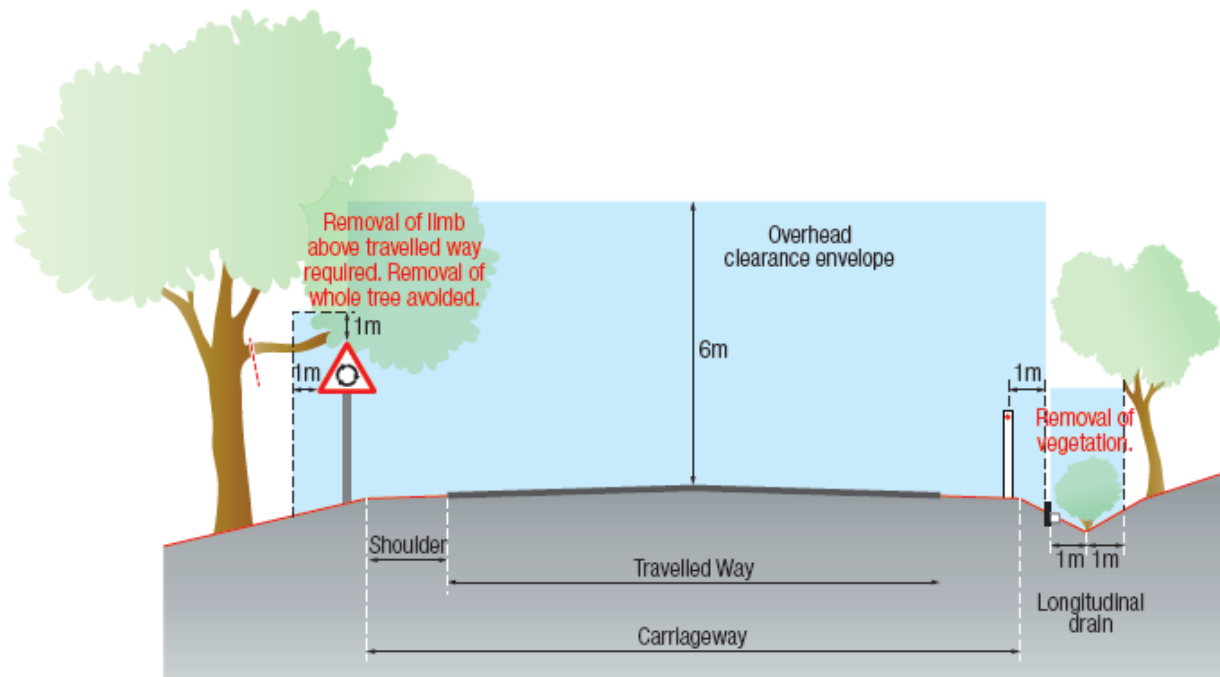
Clearance Envelope for Woody Species

- 5.8 For roads without visible drainage, 1 m past the edge of the carriageway must be kept clear of all woody vegetation regrowth. Any woody vegetation within this area less than 150 mm diameter (or less than 100 mm for multi-stemmed trees) must be removed.
- 5.9 A line 1 m past the invert of any lined or unlined drainage system must be kept clear of all woody vegetation. Any woody vegetation within this area less than 150 mm diameter (or less than 100 mm for multi-stemmed trees) must be removed. Any woody vegetation with a diameter greater than 150 mm within 1 m of the invert of a drainage system must be identified and submitted to the Superintendent for approval prior to removal.
- 5.10 If any vegetation required to be removed under Routine Maintenance is not removed within the Response Time and its size increases beyond the above criteria, the cost of removal and all approvals shall be borne by the Contractor.

Overhead Clearance

- 5.11 Overhead Clearance is the control of vegetation encroaching within the Overhead Clearance Envelope and is required to ensure that vehicle outlines permitted on the road can do so safely without hitting vegetation (including travelling on the shoulder) and to allow adequate sight distance. Overhead Clearance requires the pruning of branches or limbs which encroach within the Clearance Envelope.

Figure M14 5-2 Overhead Clearance



Overhead Maintenance Clearance Envelope

- 5.12 A line, within an envelope 6.0 m high extending to either the edge of shoulder or 1.0 m behind the guidepost, whichever is the greater, and where kerbed to 1.0 m beyond the face of the kerb / median shoulder where present.
- 5.13 Clear vegetation within 1.0 m around roadside furniture, such as ensure these markers and signs are clearly visible from a distance equivalent to the stopping distance of the speed environment of the road according to Austroads standards,
- 5.14 A line 1.0 m behind safety barrier (or in accordance with manufacturer's / supplier's requirements) and 1.0 m each side of the invert of longitudinal drains.
- 5.15 The line of 1.0 m beyond the guide posts or edge of shoulder may be increased to 2 m for areas which have known species which require regular pruning (e.g. Coastal Wattle).
- 5.16 Intruding branches must be removed back to the supporting limb or main trunk of the tree in line with Australian Standard AS 4373 Pruning of Amenity Trees.
- 5.17 Trees greater than 150 mm trunk diameter (or 100 mm for multi-stemmed trees) must not be removed without approval. Pruning of limbs is permitted up to 25% of the canopy.
- 5.18 Significant trees within the Clearance Envelope cannot be removed without development approval. Removal of limbs, where required, is permitted.

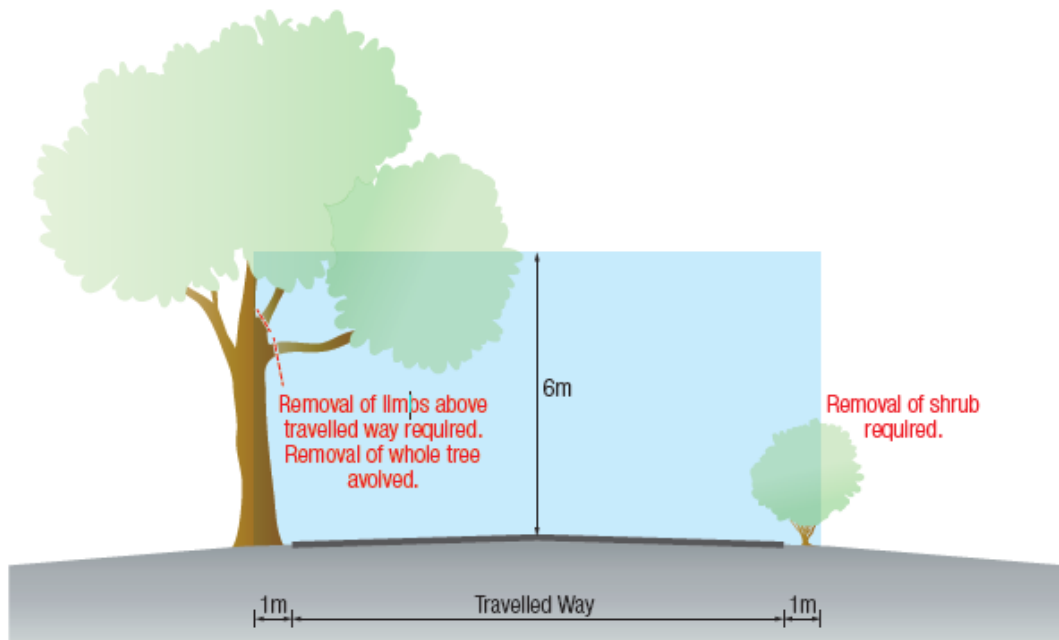
Roadside Infrastructure Outside of the Standard Clearance Envelopes

- 5.19 Notwithstanding the representative cross-section Figures above, Clearance Envelopes must be applied to all roadside infrastructure for maintenance of sight distance, and to protect and maintain the function of that roadside infrastructure.
- 5.20 Roadside infrastructure includes all roadside assets such as drainage culverts and headwalls transverse drains, road furniture, signs and devices, safety barriers, bridge elements etc. which may be located outside of the above standard cross-sections.
- 5.21 Safety barrier deflection zones must be maintained clear of non-frangible vegetation in accordance with manufacturer's / supplier's requirements.

Restricted Clearance – Mature Vegetation

- 5.22 Where existing mature vegetation makes it impracticable to achieve the standard Overhead Clearance, Envelope (e.g. in the Adelaide Hills), a Restricted Clearance applies. Locations where Restricted Clearance Envelopes apply can be found under the Vegetation heading at <https://www.dit.sa.gov.au/documents/home> or in the **Contract Documents**.
- 5.23 The Restricted Clearance is indicated in Figure 5-3 below, with an envelope 6.0 m high extending to the kerb, or 1.0 m beyond the edge of travelled way in unkerbed areas.

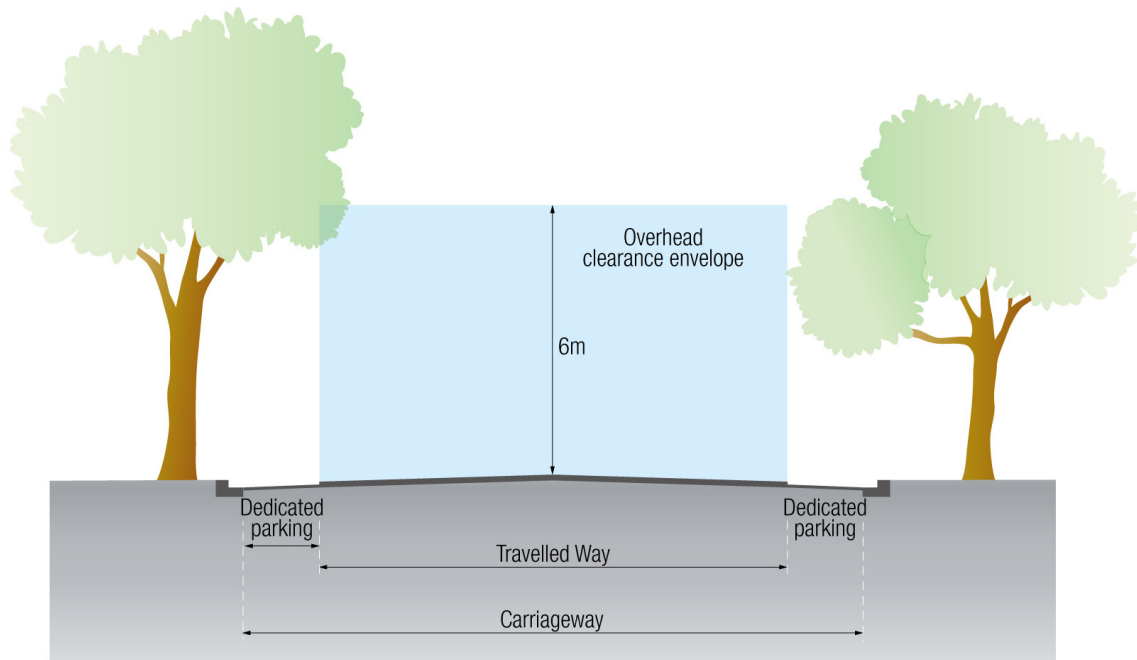
Figure M14 5-3 Restricted Clearance



Restricted Clearance – Dedicated Parking

- 5.24 Where dedicated parking lanes or areas are adjacent to the travelled way, the Principal is responsible for maintaining the Clearance Envelope to the edge of the travelled way only. The trimming of vegetation over the parking lane or area is the responsibility of Council unless agreed otherwise in writing and identified in the **Contract Documents**.

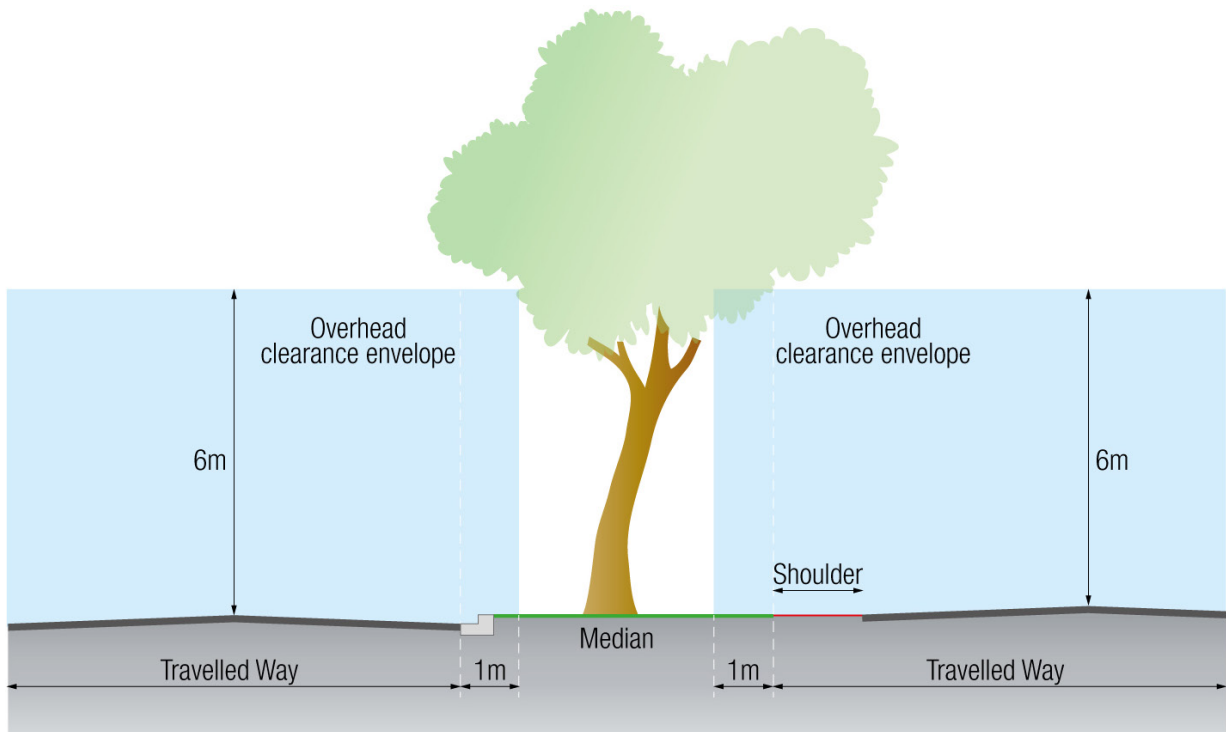
Figure M14 5-4 Restricted Clearance – Dedicated Parking



Median Clearance

5.25 For medians, the Clearance Envelope is 6.0 m up to 1 m of the edge of the median shoulder or face of kerb (as indicated in Figure 5-5), or as defined in the **Contract Documents** and as necessary to allow reasonable access for mowing.

Figure M14 5-5 Median Clearance



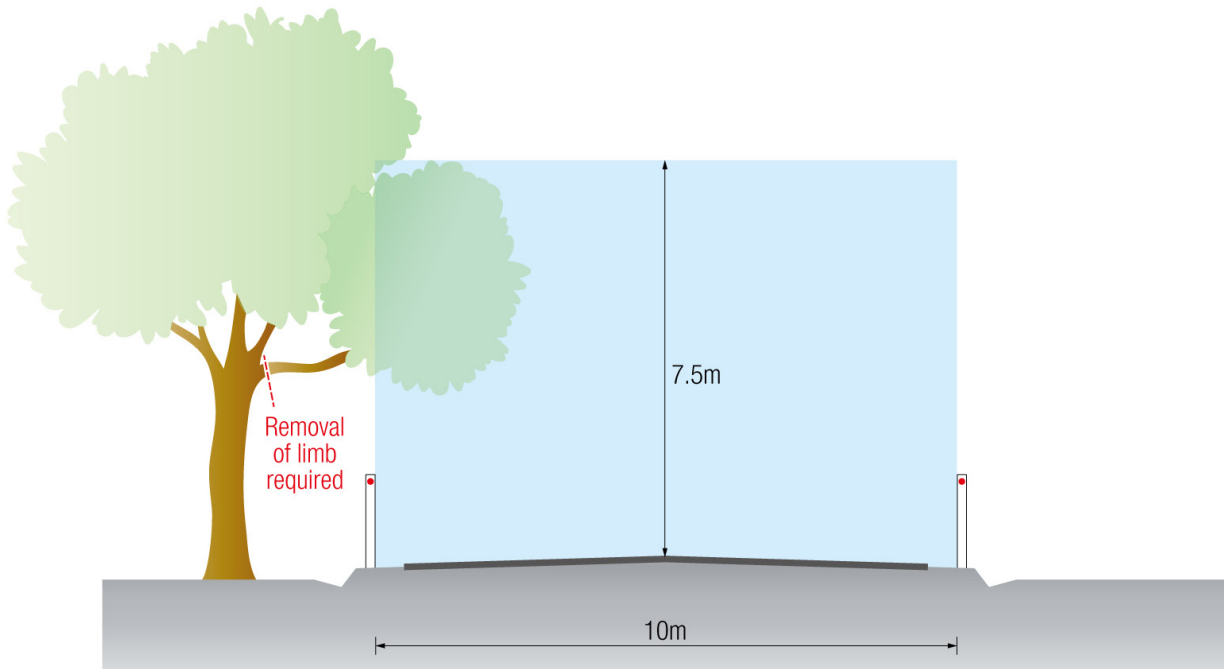
Key Oversized Vehicle Routes Clearance

5.26 The Road Network includes a nominated network of routes suitable for over mass and over dimensional vehicles (i.e. heavy vehicles that exceed the general mass, dimension and loading requirements set out under the Heavy Vehicle (Mass, Dimension and Loading) National Regulation.

The General Oversize Routes are “4.0 m Wide Load Carrying Vehicles” available at <http://maps.sa.gov.au/RAVNet/index.html>.

- 5.27 The following clearances shown for both General and Key Oversize / Overmass vehicle routes are minimum requirements only. The actual Clearance Envelopes will be the greater of these envelopes and the relevant general Clearance Envelopes specified within this Part, e.g. the Ground Clearance and Overhead Clearance requirements shown in the Figures throughout this Clause 5.
- 5.28 For General Oversize Vehicle Routes the Maintenance Clearance Envelope is 7.5 m high with a minimum width of 10.0 m, unless otherwise defined in the **Contract Documents** (refer Figure 5-6 below).

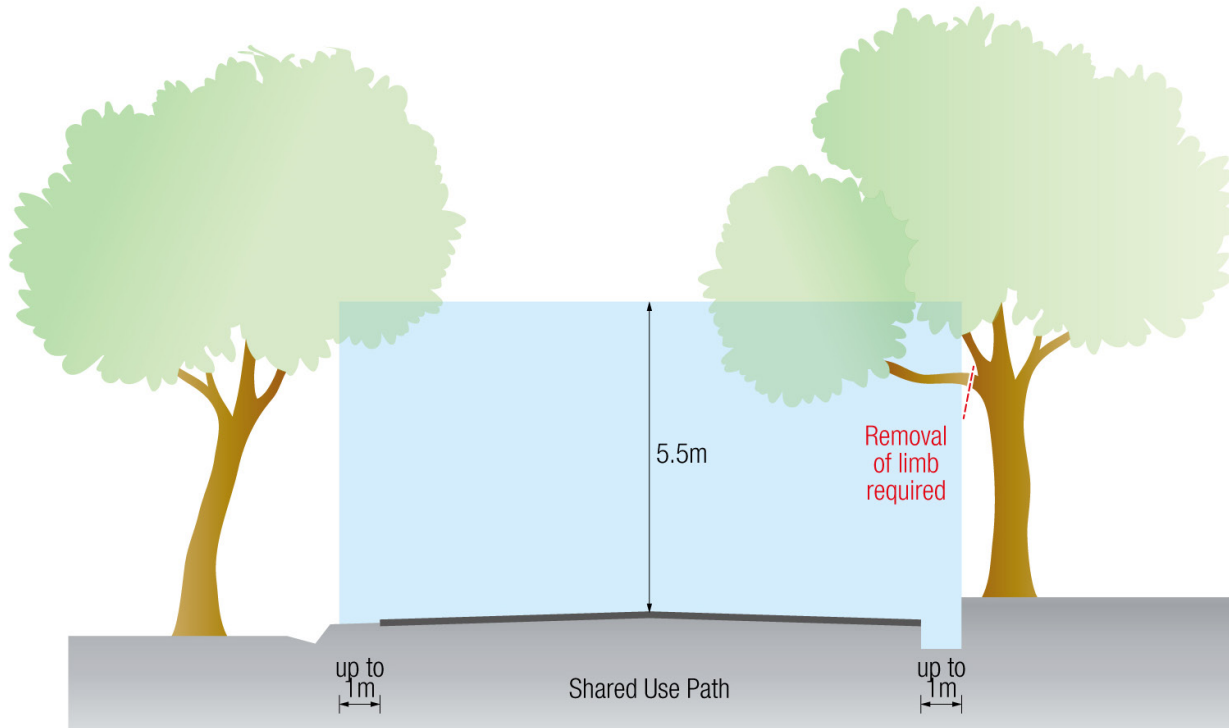
Figure M14 5-6 Clearance Requirements on General Oversize Vehicle Routes



Shared Paths

- 5.29 For Shared Paths, the Clearance Envelope is 5.5 m high extending to a maximum of 1 m beyond the edge of the seal or edge of path, if unsealed, to allow for the passage of legal height vehicles for maintenance.

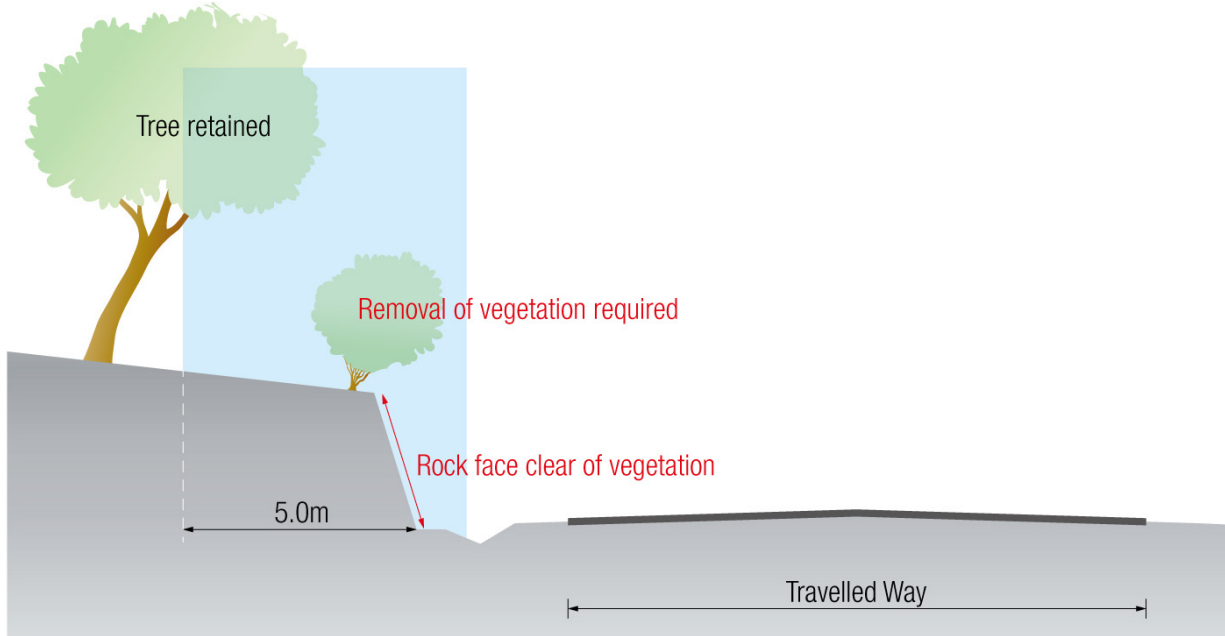
Figure M14 5-7 Clearance Envelope for Shared Paths



Cut Rock Face Clearances

- 5.30 Tree roots can destabilise cut rock faces, jacking rocks apart and causing rock falls onto roads. Vegetation Clearance Envelope requirements have been developed for cut rock faces in order to maintain the stability of those cuttings.
- 5.31 The Clearance Envelope consists of the rock face itself and an area extending a distance of 5.0 m beyond the crest of the rock face, or to the boundary of the road reserve, whichever is closer (as shown in Figure 5-8). To ensure this is achieved, the Contractor may clear the following types of vegetation:
- with roots expected to grow to a diameter greater than 10 mm (which could include trees and some understorey shrubs, but is unlikely to include grasses and low growing herbs); and
 - with part or all of the stem(s) growing within 5.0 m of the crest, measured at ground level.
- 5.32 There may be some instances where larger trees/shrubs growing beyond the Clearance Envelope described above have roots that are deemed to be destabilising the rock face (via an arborist assessment and geotechnical engineering advice). In these instances, if there is an unacceptable safety risk to road users, the tree(s) may be removed as Maintenance Activity VRV/VRR.
- 5.33 A register of designated cut rock faces is provided in the **Contract Documents**.

Figure M14 5-8 Clearance Requirements for Cut Rock Faces



6 Vegetation Control for Roads and Roadside Assets

6.1 Figure 6-1 and Figure 6-2 show the vegetation control requirements around roadside furniture and for road layout configurations.

Shoulder

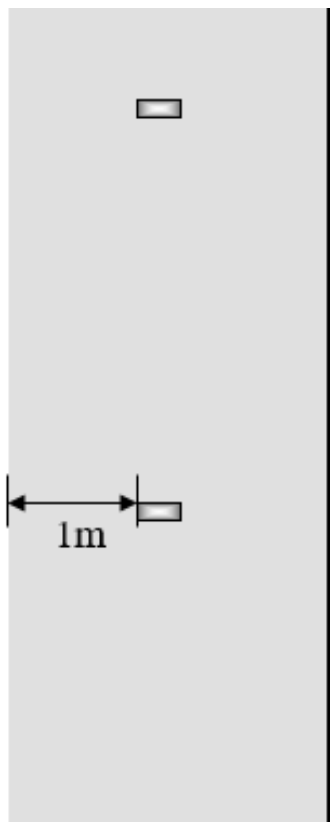


Figure M14 6-1 Rubble

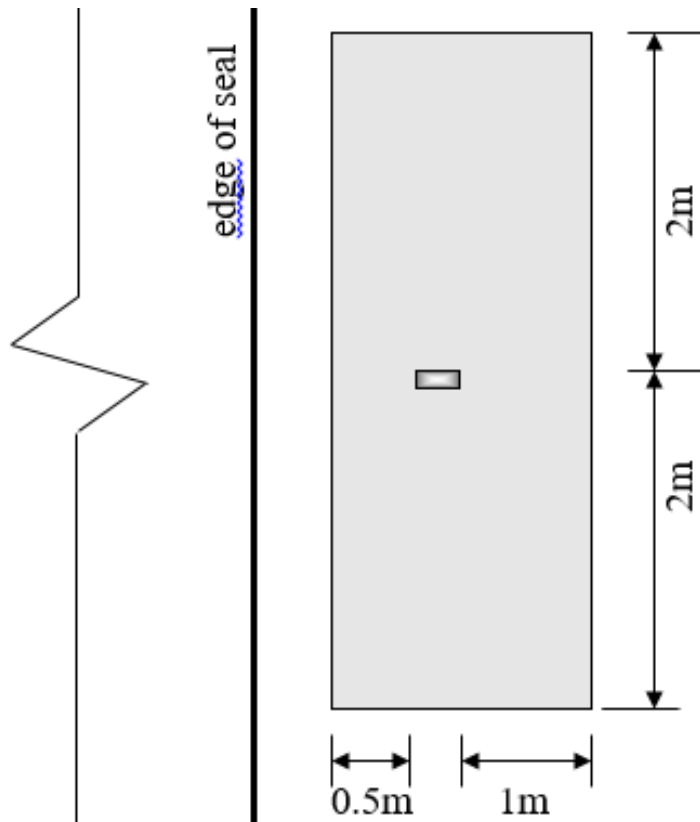
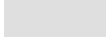


Figure M14 6-2 Grassed

Shared Path Shoulders

6.2 A 300 mm strip on both sides of all sealed and unsealed shared paths shall be kept vegetation and weed free.

Control Area Details

6.3 Area to be controlled (kept vegetation and weed free) shown as  in figures above.

a) Length

- i) Continuous on unsealed (rubble) shoulders (Figure 6-1); and
- ii) On grassed shoulders (Figure 6-2).

b) Width

- i) From edge of seal to 1 m on the opposite side of post where possible (Figure 6-1); and
- ii) On grassed shoulders (Figure 6-2).

6.4 Where a Roadside Significant Site is adjacent, spraying shall be in accordance with the Protect Actions for that site.

Distance Marker and Maintenance Marker

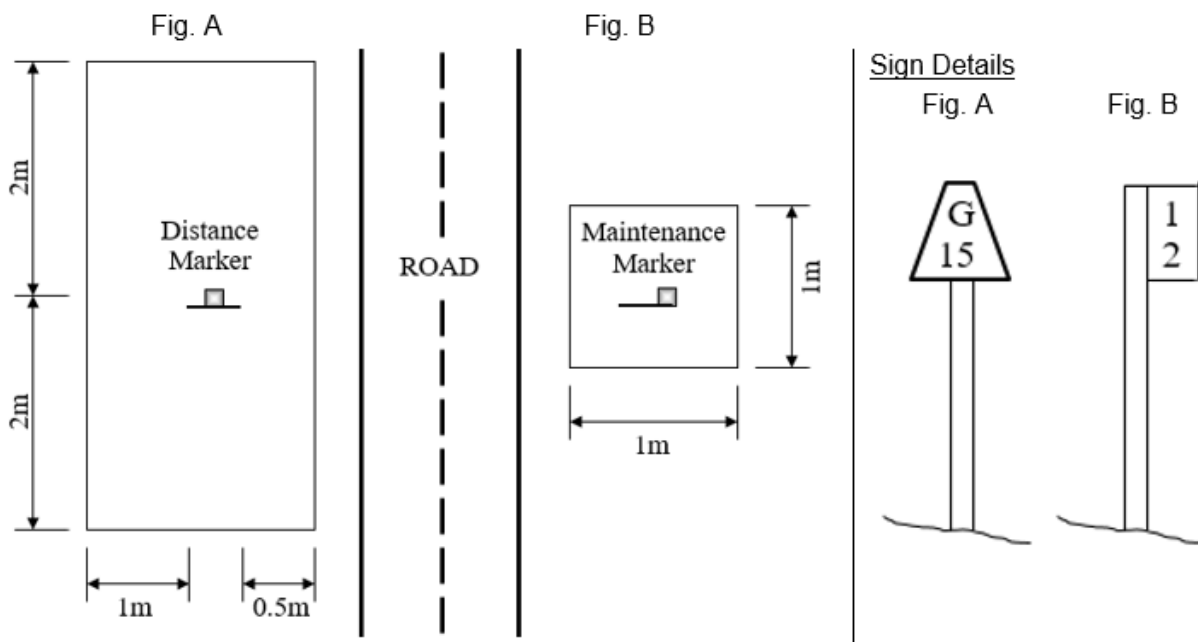
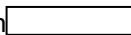


Figure M14 6-3 Distance Markers and Maintenance Markers

Control Area Detail

6.5 Area to be controlled (kept vegetation and weed free) shown as in  the above Figures A and B:

a) Fig. A

- i) Length: 2 m in front of post and 2 m behind post
- ii) Width: 0.5 m roadside of post and 1 m on the opposite side of post.

b) Fig. B

- i) 1 m × 1 m area around Maintenance Marker

Sign Details

6.6 Fig. A.

- a) Distance Marker (white on green sign mounted on steel post) located at approx. 5 km intervals on rural roads.

6.7 Fig. B.

- a) Maintenance marker (black on white sign mounted on a star dropper) located at approx. every 1 km in rural areas.

Signs

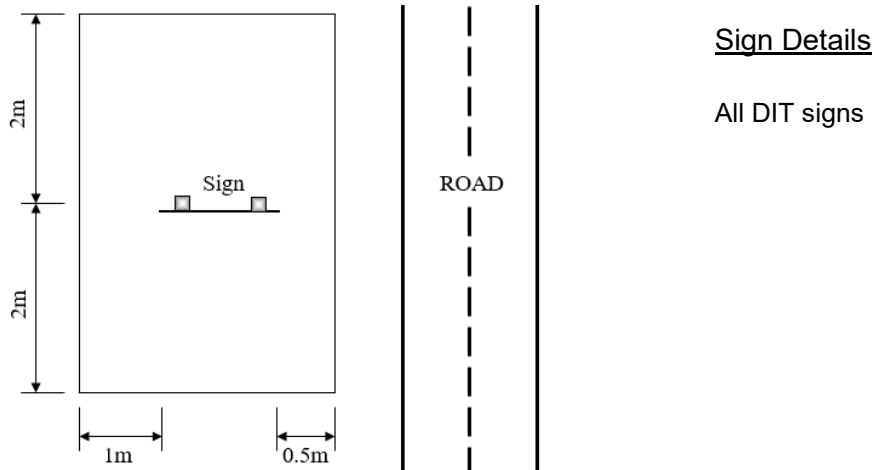


Figure M14 6-4 DIT Signs

Control Area Details

6.8 Area to be controlled (kept vegetation and weed free) shown as in Figure 6-4.

- a) Length: 2 m in front of post and 2 m behind sign
- b) Width: 0.5 m outside the roadside edge of sign and 1 m outside the outer edge of sign.

Culverts and Bridges

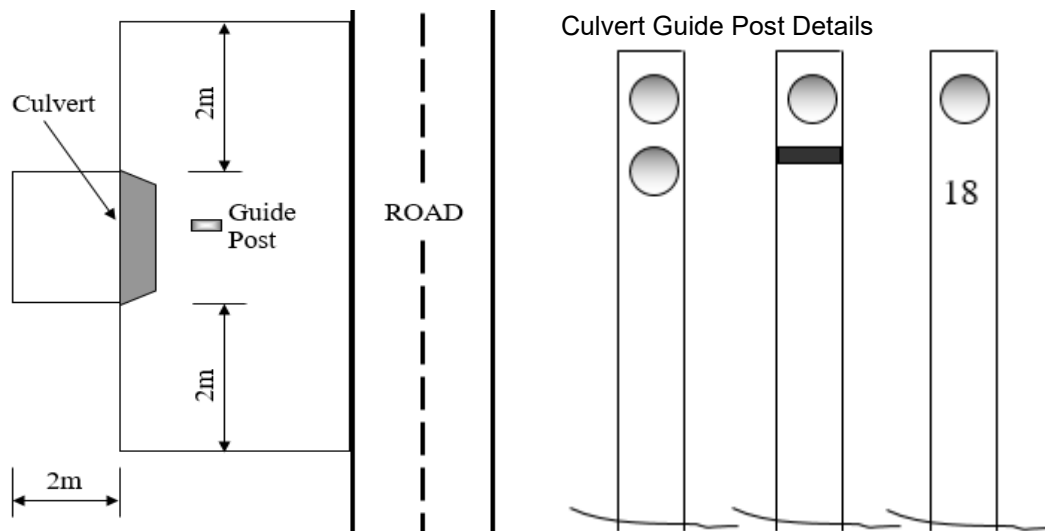


Figure M14 6-5 Culverts and Bridges

Control Area Details

6.9 Area to be controlled (kept vegetation and weed free) shown as in Figure M14 6-5.

- a) Length: 2 m before headwall and 2 m after headwall.
 - b) Width:
 - i) From edge of seal to edge of headwall.
 - ii) 2.0 m into open drain for the width of the headwall.
- 6.10 Culverts can be located by adjacent white guide posts with either two red delineators or with one red delineator and a black horizontal line. A number, in black paint, may also be present.
- 6.11 **Bridges:** The face of all bridge abutments of overpasses shall be kept vegetation and weed free and all side edges controlled for a 300 mm wide strip.

Guard Rail and Wire Rope Barriers

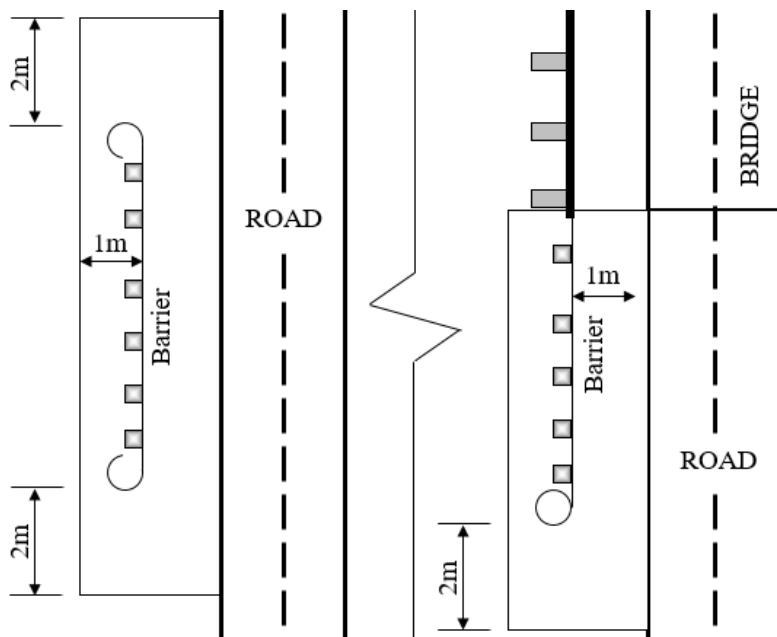


Figure M14 6-6 Roadside

Figure M14 6-7 Bridge Approach

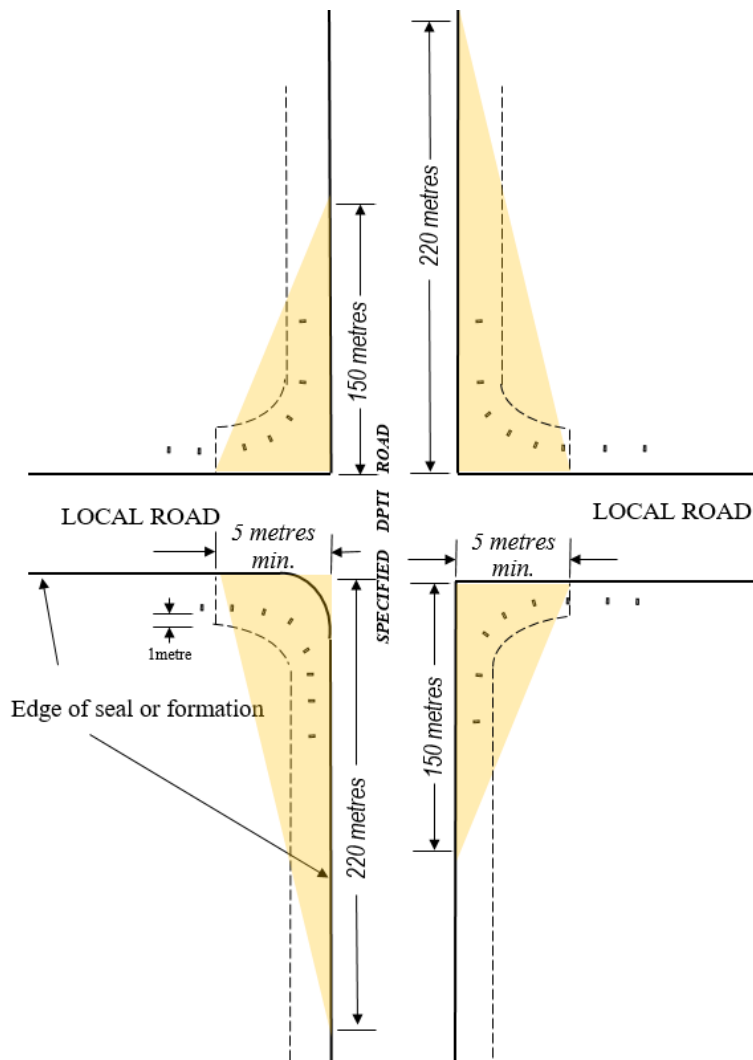
Barrier Details

Areas around all barriers either on roadside (Figure M14 6-6) or on bridge approaches (Figure M14 6-7) to be treated as shown here. This includes control of the area directly underneath the railing and DIT barriers that extend behind kerbs or footpaths

Control Area Details

- 6.12 Area to be controlled (kept vegetation and weed free) shown as in Figure M14 6-6 and Figure M14 6-7.
- a) Length
 - i) Full length of rail plus 2 m past both ends (Figure M14 6-6); or
 - ii) Full length of rail to bridge plus 2 m in front of rail (Figure M14 6-7); whichever is applicable.
 - b) Width
 - i) 1 m behind rail; plus
 - ii) Area between face of rail and seal edge (Figure M14 6-6 & Figure M14 6-7)

Junctions



Control Area Details

Area to be controlled shown as [dashed line] and [yellow triangle] to

maintain sight distance.

Sketch is not to scale.

Width - from the edge of seal to 1 m behind the guide post line on the side road, around radii to the tangent point with the side road or to minimum of 5 m.

Figure M14 6-8 Junctions

Parking Areas and Road Side Amenities

- 6.13 **Roadside Amenities:** Area to be controlled (kept vegetation and weed free) shall extend 2 m out from the outside edge of the base. (Example of picnic table below, also applies to water tanks, bins, monuments, structures etc.)
- 6.14 **Fence line:** An area 1 m wide up to and including the fence line shall be kept clear of all vegetation.

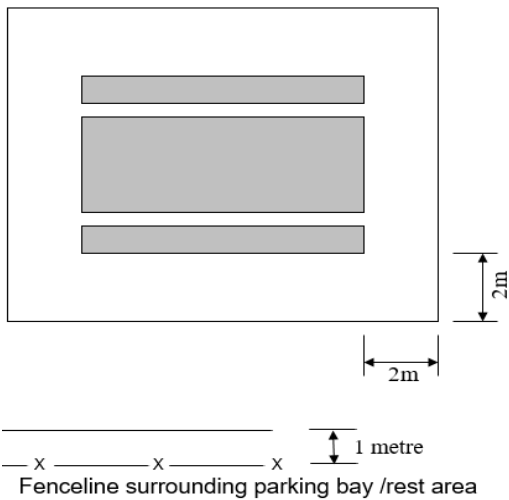


Figure M14 6-9 Parking Bays / Rest Areas

6.15 **Parking Bay:** All of the travelled and parking area within all parking bays are to be kept clear of all vegetation and weeds.

Drains and Medians

6.16 **Grassed Medians:** Grassed Medians refers to all medians with soil infill or similar where it is clearly constructed to allow the growth of grass and other vegetation.

6.17 Grassed areas are to be kept clear of all vegetation and weeds as per the following control areas details and drawing.

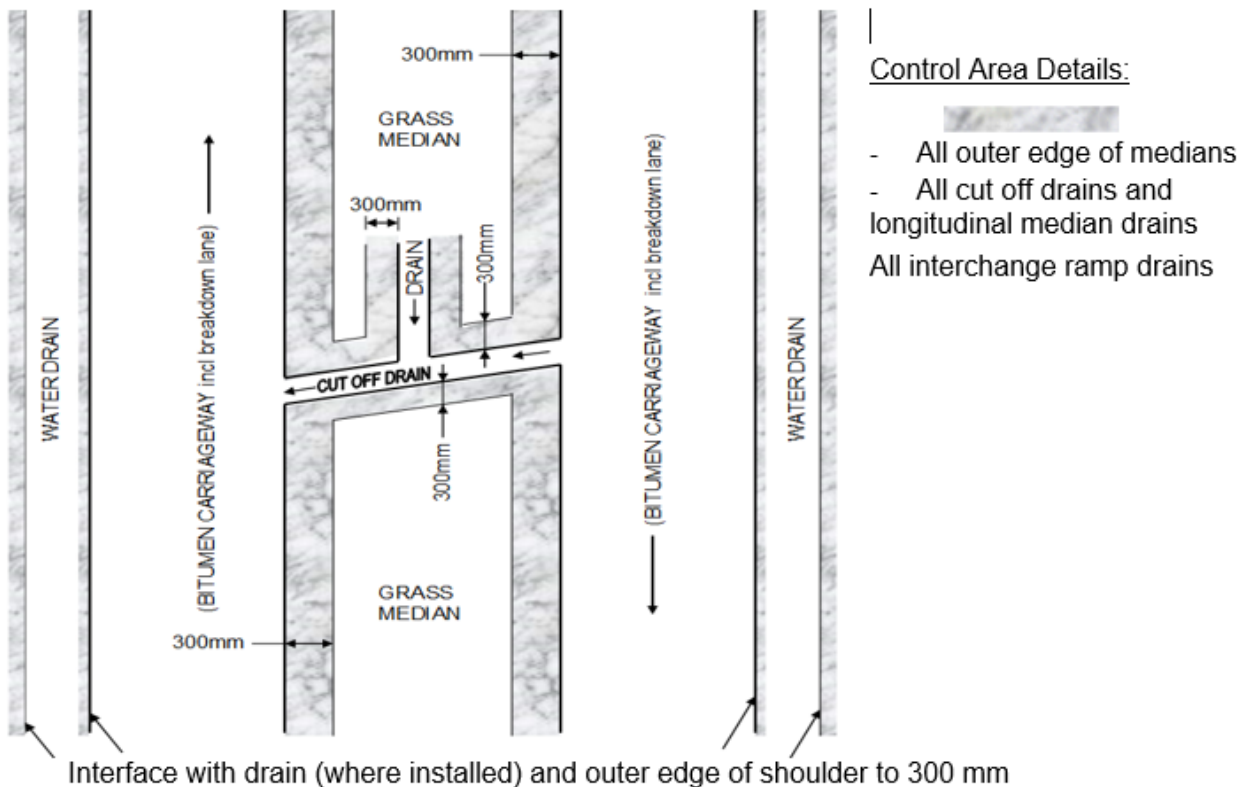


Figure M14 6-10 Drains and Medians

6.18 **Non-Grassed Medians:** Non-Grassed Medians refers to all medians which are rubble filled, artificial turf, concrete, paved or any other infill which are clearly constructed to deter any vegetation growth.

6.19 All Non-Grassed medians and associated pedestrian crossings must be kept free of all vegetation.

Poles, Posts and Electrical Assets

6.20 An area 300 mm around all poles, posts and electrical assets is to be kept free of all vegetation and weeds. These include;

- a) all electrical posts and poles. Examples include poles associated with lighting, CCTV, ITS, traffic signals, pedestrian crossings etc.; and
- b) all ground mounted field cabinets, enclosures, and traffic signal enclosures. Examples include traffic signal controllers, lighting switchboards, electrical switchboards, ITS controllers, UPS cabinets etc. and buildings that house electrical infrastructure.

7 Hold Points

7.1 The following is a summary of Hold Points referenced in this Part:

| Document Ref. | Hold Point | Response Time |
|---------------|---|-----------------|
| 4.4a) | Approval of the removal of a tree with a trunk diameter equal to or greater than 150 mm, or 100 mm for multi-stemmed, measured at 1 m above the natural ground level. | 10 Working Days |

8 Appendix 1 – Maintenance Activity Standard

VRM
VRS
VRV/VRR

Mowing
Herbicide Treatment
Vegetation Control

MOWING (VRM)

Application: This standard applies to the control of annual growth by mowing or slashing.

| Activity Type | Intervention Level | Response Time | Road Class | Compulsory Intervention Level | Performance Requirements |
|--|--|---------------|---|---|--|
| <p>Routine Maintenance: Excessive growth.</p> <p>Growth impeding 'sight distance' or safe passage over the carriageway.</p> <p>Removal of fallen trees < 200 mm diameter</p> <p>Cyclical Routine Maintenance: Nil.</p> <p>Specific Maintenance: Nil.</p> | <p>Growth exceeding 100 mm</p> <p>Defects over > 1 km road length with growth greater than as follows:</p> <p><u>Urban areas:</u></p> <ul style="list-style-type: none"> Grassed medians and shoulders - 120 mm in height; Kerbs and shoulders growth protrudes 180 mm into the pavement; Verges - 250 mm in height. <p><u>Rural areas:</u></p> <ul style="list-style-type: none"> Medians - 180 mm in height; Grassed Shoulders - 300 mm (M and RA) roads; or 350 mm (RC and A) roads; Verges - 500 mm in height. <p>MDR Recording: Routine Maintenance Defects reaching Intervention Level shall be recorded on the MDR as VRM.</p> | 6 weeks | As specified within Intervention levels | <p>Growth exceeding 150 mm</p> <p><u>Urban areas:</u></p> <ul style="list-style-type: none"> Grassed medians and shoulders - 200 mm in height; Kerbs and shoulders growth protrudes 300 mm into the pavement; Verges - 400 mm in height. <p><u>Rural areas:</u></p> <ul style="list-style-type: none"> Medians - 300 mm in height; Grassed Shoulders - 500 mm (M and RA) roads; or 600 mm (RC and A) roads; Verges - 800 mm in height. <p><u>Sight Distance:</u> for both urban and rural areas, the stopping sight distance shall be maintained to the distance defined in AS 1742.2 Table 2.3.</p> | <p><u>URBAN:</u></p> <p>Landscaping and other Grassed areas: growth > 25mm and < 50 mm</p> <p>Roadsides or verges: growth < 100 mm</p> <p><u>RURAL:</u></p> <p>Grassed areas: growth < 75 mm</p> <p>Roadsides or verges: growth < 150 mm</p> <p>Native grasses 100 – 150 mm.</p> <p>Extent: Vegetation removed to the extent of all Clearance Envelopes as defined in Clause 5.</p> <p>Appearance: Growth control against structures and roadside furniture shall be consistent with the adjacent mown area.</p> <p>Environmental: No spread of proclaimed weeds through slashing / mowing.</p> <p>No clippings on road pavement or around any pole or posts.</p> |

Special Requirements: This activity includes edge trimming where specified in **Contract Documents**.

HERBICIDE TREATMENT (VRS)

Application: This standard applies for Pest Plant Control and Herbaceous Weed Control.

| Activity Type | Intervention Level | Response Time | Road Class | Compulsory Intervention Level | Performance Requirements |
|--|---|--|------------|---|--|
| <p>Routine Maintenance: Excessive vegetation growth, declared pest plants, and environmental weed growth within the Maintenance Clearance Envelope.</p> <p>Cyclical Routine Maintenance: Nil.</p> <p>Specific Maintenance: Nil.</p> | <p><u>Grassed Areas:</u> Declared pest plants present.</p> <p><u>Unsealed areas:</u> Declared pest plants or vegetation present.</p> <p><u>Sealed Areas:</u> (i.e. Pavement, medians, and traffic islands): Declared pest plants, environmental weed growth, or vegetation present.</p> <p><u>MDR Recording:</u> Defects reaching Intervention Level shall be recorded on the MDR as VRS.</p> | <p>Optimum time applicable to the targeted vegetation for effective control.</p> | <p>All</p> | <p><u>Grassed Areas:</u> Declared pest plants present with height or spread > 300 mm or setting seed.</p> <p><u>Unsealed Areas:</u> Declared pest plants, environmental weed growth or vegetation present with height or spread > 300 mm.</p> <p><u>Sealed Areas:</u> (i.e. pavement, medians, and traffic islands): Declared pest plants, environmental weed growth or vegetation present with height or spread > 200 mm.</p> | <p>Grassed Areas No declared pest plants present.</p> <p>Unsealed areas No declared pest plants or vegetation present.</p> <p>Sealed areas (i.e. pavement, medians, and traffic islands): No declared pest plants, environmental weed growth or vegetation present.</p> <p>Extent: Shall not exceed the parameters of Maintenance Standard for the asset element.</p> <p>Drift: No "off target" damage.</p> |

Special Requirements

Works shall be undertaken in compliance with M15 Vegetation Maintenance Controls.
 Herbicide treatment shall match the optimum time applicable to the targeted vegetation, for effective control.
 Any vegetation exceeding CIL after spraying shall be physically removed.

VEGETATION CONTROL (VRV/VRR)

Application: This standard applies to the control of woody vegetation by tree pruning and removal.

| Activity Type | Intervention Level | Response Time | Road Class | Compulsory Intervention Level | Performance Requirements |
|--|--|---------------|------------|---|--|
| <p>Routine Maintenance: Woody vegetation growth within the Maintenance Clearance Envelope</p> <ul style="list-style-type: none"> • Woody vegetation growth; • impeding drainage flows; or • restricting sight distance. <p>Cyclical Routine Maintenance: Nil.</p> <p>Specific Maintenance: Trees with a butt diameter greater than 150 mm or multi-stemmed trees with a butt diameter greater than 100 mm that require removal.</p> <p>Any works associated with Cut rock face Clearances.</p> | <p>Defects where vegetation:</p> <ul style="list-style-type: none"> • protrudes below 5 m above the carriageway; • protrudes past the line of the guideposts; • restricts sight distance; • Seedlings growing within drainage elements. <p>For General oversize vehicles Routes.</p> <ul style="list-style-type: none"> • protrudes below 7.0 m above the carriageway. • Clearance width less than 9 m <p>MDR Recording: Routine Maintenance Defects reaching Intervention Level shall be recorded on the MDR as VRV. Specific Maintenance Defects shall be recorded on the MDR as VRR.</p> | 6 months | All | <p>Defects where vegetation:</p> <ul style="list-style-type: none"> • protrudes, below 4.6 m above the travelled way; • protrudes, within the edge of the travelled way; • obscures any road side furniture including signage, ITS, and traffic signals from the approach sight distance; • impedes drainage flows causing flooding; or • Vegetation that presents an immediate hazard to road users. <p>For General oversize vehicles Route:</p> <ul style="list-style-type: none"> • protrudes below 6.5 m above the carriageway. • Clearance width less than 8 m. | <p>Vertical clearance: To the full extent shown in Clause 5 unless specified otherwise in Contract Documents.</p> <p>Lateral clearance: above intervention level, up to the extent shown in Clause 5 unless specified otherwise in Contract Documents.</p> <p>Sight distance: In accordance with AS 1742.2 Table 2.3.</p> |

Note: Clearance Envelopes for oversize vehicles are minimum values that can be achieved anywhere within the road reserve. General ground and overhead clearances must also be met.