



District Council of Karoonda East Murray

Roadside Vegetation Management Plan

June 2006

Acknowledgements

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MAYORS MESSAGE

FOREWORD

The District Council of Karoonda East Murray has as one of its key goals in its Strategic Plan to protect and enhance our natural and built environment in partnership with our Community. The redevelopment of our Roadside Vegetation Management Plan will assist Council in achieving part of this goal. The Strategic Plan sets out what the Council will achieve over the next five years and beyond in partnerships with the Community and other local and regional development groups.

Council will support the Community, local and regional development groups and promote best farming methods that support sustainable environmental management. We will recognise local examples of “best practice” environmental management and encourage the involvement of the Community in environmental management and rehabilitation projects. Council is currently working with the Murray Mallee Local Action Planning Association to revegetate areas within our Councils reserves.

This Roadside Vegetation Management Plan compliments our strategic objectives and assists Council in its responsibility towards Land Care Management. Finally I would like to thank on behalf of Council all those involved in the development of this Roadside Vegetation Management Plan. This includes representations from Elected Members, Senior Staff, Department for Environment and Heritage, Mallee and Coorong Natural Resources Management Group, Murray Mallee Local Action Planning Association and Environmental & Biodiversity Services.

KEVIN BURDETT
MAYOR

1. Introduction and Background

The District Council of Karoonda East Murray was formed in 1979 with the amalgamation of the District Councils of Karoonda (est 1922) and East Murray (est 1923). The population within the district is 1214 (2001 census). Towns within the district area include; Borrika, Copeville, Galga, Halidon, Karoonda, Kalyan, Lowaldie, Marama, Mercunda, Mindarie, Mantung, Perponda, Sandalwood, Wanbi and Wynarka. The council area encompasses 4415 square kilometres and the council, which has a total of 15 employees, is responsible for 1299 kilometres of road reserve, of which 78 kilometres are sealed. The majority of these roads reserves are three chains wide.

Road reserves have developed beyond providing for vehicle transport, to include provision of a variety of services including telecommunications, gas, electricity, water and effluent mains. Furthermore, road reserves often contain the only significant remnants of native vegetation in rural areas of South Australia. This is due to the broad-scale clearance of native vegetation within rural areas for agricultural usage of land.

Maintaining remnant vegetation within road reserves is important for many reasons. Roadside vegetation provides many functional benefits including the prevention of weed establishment, a reduction in fire risk compared with introduced vegetation, shelter for stock in adjacent land, help in defining road curves leading to a safer driving environment, and a reduction in soil erosion and hence road maintenance requirements. The presence of remnant vegetation in road reserves also provides many conservation benefits. Road reserves can support rare or threatened plant species or vegetation associations, they can provide important habitat for fauna, act as corridors between blocks of remnant vegetation, and they may provide an important source of seeds for local revegetation projects. Furthermore, road reserves containing native vegetation add to the visual amenity of areas where there has been broad-scale clearance.

Vegetation present in road reserves within the District Council of Karoonda East Murray varies from degraded vegetation with no conservation value through to vegetation associations of high biodiversity value. The native vegetation within the council area is dominated by mallee associations.

Any significant disturbance to native vegetation within road reserves has the potential to cause long-term damage which will have long-term negative impacts. Those road reserves containing native vegetation need to be managed and preserved. Good roadside management practices are required to ensure remnant vegetation is preserved, and may eliminate future management problems.

The main role of this Roadside Vegetation Management Plan is to provide the District Council of Karoonda East Murray with a framework for addressing the variety of issues associated with management of road reserves with a focus on protecting native vegetation. To this end a series of policies and guidelines for various activities conducted within road reserves has been established. Compliance with the guidelines presented within this RVMP will lead to sustainable management of native roadside vegetation and the protection of the biodiversity values within the area, whilst enabling the council to comply with legal requirements for the protection of native vegetation.

Definitions of terms used within this document

Remnant vegetation:	Native vegetation that remains in much the same form and composition in the same location since European settlement.
Native vegetation:	Vegetation that is natural to the area (indigenous) and present prior to European settlement. This includes native trees, shrubs, herbs and grasses.
Introduced plants:	All plant species that are not natural to the area (not present prior to European settlement).
Pest plants / weeds:	Introduced plants that adversely affect native vegetation and /or agricultural crops.
Roadside vegetation:	Any vegetation growing on roadsides. This includes native vegetation of conservation value and vegetation dominated by introduced species.
Carriageway:	The formed section of road reserve currently allowing for the passage of vehicles.
Clearance envelope:	Area necessary for the safe passage of legal height vehicles across the full width of the traffic lanes.
Road verge:	The area between the edge of the carriageway or the edge of the shoulder and the vegetation.
Road shoulder:	The area on a sealed road between the edge of seal and the road verge.
Road reserve:	A corridor of land bordered by property boundaries.
Undeveloped Road:	A road reserve not developed for the passage of vehicles.
Vegetation (or plant material):	Any living or dead plant material. This includes native trees, shrubs, herbs and grasses.

1.1 Council Roadside Vegetation Policy

The District Council of Karoonda East Murray will promote and actively participate in the protection, conservation and enhancement of remnant vegetation within roadside reserves to maintain these areas as significant wildlife corridors for both native flora and fauna.

1.2 Key Objectives

1. To meet legal requirements for both the provision and maintenance of a safe road network and the protection of roadside vegetation.
2. To preserve and enhance existing native vegetation on roadsides.
3. To achieve an appropriate balance between roadside vegetation conservation and the needs of the rural community for safe access for vehicles and machinery.
4. To promote community and employee awareness of the importance of roadside vegetation.
5. To achieve appropriate pest plant and vermin control.
6. To complete roadside vegetation survey work for the remaining roads within the Karoonda East Murray road network.
7. To progressively revegetate roadsides where this will not interfere with carriageway safety requirements and to encourage public and landowner participation in this work.

1.3 Role of this RVMP

This Roadside Vegetation Management Plan has been developed to provide a framework for managing roadside vegetation within the District Council of Karoonda East Murray. It has been developed in accordance with the requirements of the *Native Vegetation Act 1991*. This RVMP contains:

- An outline of the activities and issues that are affecting or have the potential to impact upon roadside vegetation. This section also states council policies, objectives and guidelines for undertaking these activities or addressing these issues.
- A risk assessment of threats to native roadside vegetation.
- A roadside management matrix that identifies activities that are acceptable for different categories of roadside vegetation and any restrictions associated with each activity.
- Information specifying how this RVMP will be implemented.
- Procedures for environmental assessment and approval prior to implementation of activities to be conducted within road reserves.
- An outline of the requirements for reporting and review of the RVMP.
- Details of the council's current progress regarding Roadside Vegetation Survey work and roadside marker scheme development.

The RVMP applies not only to road works (maintenance or minor construction) but also to other uses of roadside such as service provision, pest animal and plant control, property access, and bushfire prevention.

A RVMP does not apply to major construction projects involving the disturbance of significant areas of roadside vegetation. Major construction works require a separate approval from the Native Vegetation Council.

1.4 Responsibilities of Council for Road Reserve Management

There are several Acts of parliament that affect the way in which Roadside Vegetation is managed within South Australia. These Acts include; *Local Government Act 1999*, *Native Vegetation Act 1991*, *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth legislation) and the *National Parks and Wildlife Act 1972*. Council must ensure all works or activities conducted within road reserve areas have prior Council permission and are being conducted subject to the requirements under the relevant Act of parliament.

1.4.1 Local Government Act 1999

Under the *Local Government Act 1999* any works on road reserves requires the permission of the local council. The District Council of Karoonda East Murray is responsible for all roads within the council area (with the exception of the main arterial roads under the care and control of Transport SA) and is therefore responsible for the adjacent road reserve areas. Any works or activities to be conducted on, over or under these road reserves requires permission from the District Council of Karoonda East Murray.

1.4.2 Native Vegetation Act 1999

Under the *Native Vegetation Act 1991* removal or disturbance of native vegetation requires permission from the Native Vegetation Council unless a specific exemption applies through the regulations of the Act.

The *Native Vegetation Act 1991* includes an exemption 5(1)(y) allowing district councils to clear roadside vegetation if it is in accordance with;

- 1 - Where the clearance complies with a management plan prepared by the local council and approved by the Native Vegetation Council
- 2 - Where the clearance complies with guidelines issued by the Native Vegetation Council

This RVMP aims to fulfil the requirements of part 1 above. The previous District Council of Karoonda East Murray RVMP fulfils part 1 until this document is endorsed.

1.4.3 Environment Protection and Biodiversity Conservation Act 1999

The *EPBC Act 1999* protects matters of national environmental significance and Commonwealth land. There are a total of six matters of national environmental significance, with one in particular relevant to this RVMP;

- Nationally threatened species and communities which are listed under the *EPBC Act 1999*

Under the *EPBC Act* a person must not take an action that has, will have or is likely to have a significant impact on matters of national environmental significance. These actions require approval from the Environment Minister and may only be undertaken with this approval.

1.4.4 National Parks and Wildlife Act 1972

The *National Parks and Wildlife Act 1972* was established in part to provide for the conservation of wildlife in a natural environment. Under the *National Parks and Wildlife Act 1972*, which is administered by the Department for Environment and Heritage, the removal of native plant species from road reserves requires a permit. Permits are issued by the Department for Environment and Heritage and provide for both the general removal of native plant species and the removal of native plant species for commercial purposes, subject to the conditions of the permit.

1.4.5 Natural Resources Management Act 2004

The *Natural Resources Management Act 2004* was established, in part, to repeal the *Animal and Plant Control (Agricultural Protection and Other Purposes) Act 1986*. The *Natural Resources Management Act 2004* provides for the control of plants and animals for reasons including the protection of agriculture and the environment, and for public safety. Under the *Natural Resources Management Act 2004* it is the responsibility of the landholder to control declared pest plants and pest animals within road reserves immediately adjacent their land, up to half way across the road reserve.

1.4.6 Other legislation

Numerous other Acts of parliament regulate works on roadsides. These may include, but are not limited to-

Fences Act 1975
Telecommunications (Interceptions) Act 1988
Electricity Corporations Act 1994
Development Act 1993
Country Fires Act 1989
Occupational Health, Safety and Welfare Act 1986
Road Traffic Act 1961

1.5 Relationship between this Document and Existing Council Management Systems

The District Council of Karoonda East Murray endorses this current plan. Existing council management systems relating to roadside vegetation were thoroughly discussed throughout the production of this plan. Where appropriate, previous systems have been incorporated into the current plan, whilst others have been modified before inclusion. Modifications to previous management systems reflect an increased appreciation for the requirements to successfully protect and manage roadside vegetation.

1.5.1 Distribution of the RVMP

A total of seven hard copies of this document will be produced and they will be distributed as follows;

- Manager Corporate Services, District Council of Karoonda East Murray.
- Works Supervisor, District Council of Karoonda East Murray.
- Murray Mallee Local Action Planning.
- Department for Environment and Heritage, Berri.
- Council copy for elected members.

- Display copy within the council office for public viewing.
- Native Vegetation Council Secretariat.

An electronic copy of the document will also be provided to the Manager Corporate Services, District Council of Karoonda East Murray. The responsible person for ensuring each copy of the RVMP is kept current, and that the contents are promoted as necessary is also the Manager Corporate Services, District Council of Karoonda East Murray.

1.6 Roadside Categories

In order to manage the vegetation within road reserves a series of roadside vegetation categories have been established. These categories consider aspects of the vegetation associations present within defined segments of roadside as determined through a Roadside Vegetation Survey. Categories are assigned to sections of roadside vegetation through a combination of the conservation priority rating for the vegetation association present and the current condition of the vegetation. The conservation priority rating is an indication of how well the particular vegetation association is conserved within the state, and the condition of the vegetation is an assessment of the extent to which weeds have replaced the native understorey. The categories of roadside vegetation within the council area are described below.

Category A

Category A vegetation associations contain a high priority vegetation association in excellent or good condition. This may mean that it is a threatened vegetation association due to extensive or moderate clearance. Furthermore this category is likely to contain very few or no weeds in the understorey. These areas may also be representative of the vegetation that would have been present prior to European settlement and should not be disturbed.

Category B

Category B vegetation associations contain a high priority vegetation association in moderate condition or a lower priority association in excellent condition. This means these associations may be similar to Category A, with slightly more weed species present. Category B also includes vegetation associations that are slightly more common but the understorey is in an excellent condition with no or very few weed species present. These areas should not be disturbed.

Category C

Category C vegetation associations contain a high priority vegetation association in poor condition or a lower priority association in moderate condition. This means that this category may include vegetation associations that are threatened but are also degraded to the extent of a significant presence of weed species present in the understorey. This category also includes vegetation associations that are relatively common and have a mixture of native and exotic species present in the understorey. Disturbance should be avoided whenever possible.

Category D

Category D vegetation associations contain limited native vegetation in poor condition. These vegetation associations have usually been heavily disturbed so that

little native vegetation remains with an understorey almost exclusively dominated by exotic species. These associations may be disturbed, subject to further assessment and planning.

Category E

Category E vegetation associations contain very little or no native vegetation. The understorey of these associations is usually comprised entirely of exotic species. May be disturbed, generally with no further assessment of native vegetation required.

Category F

Category F vegetation associations contain a moderate or low priority vegetation association that has been affected by sand drift. These associations may be of conservation significance, but is difficult to assess due to sand covering the native vegetation understorey. Requires further assessment prior to any works.

Category G

The vegetation associations present within road reserves that have not yet been surveyed are assigned to Category G. This means that the conservation significance of Category G vegetation is unknown. A vegetation survey should be conducted to assign Category G vegetation associations to Category A – F prior to undertaking any works within these areas.

1.7 Hierarchical Road Classification

The road network within the District Council of Karoonda East Murray has been classified into several categories that factor into account routes for specific traffic needs. This is a classification based on functional use and has been established to allow for a consistent treatment of all roads within the road network. The specific road categories within the District Council of Karoonda East Murray are as follows:

Category 1: Sealed roads

These sealed roads are main roads (including Transport SA road ie main arterial through Karoonda) which provide a route between major towns and provide a sealed surface for vehicles travelling within major towns. These roads also support the greatest volume of traffic within the council area.

Category 2: Unsealed roads – formed and surfaced

Category 2 roads support the second greatest volume of traffic within the council area. These roads often allow a direct route for traffic between smaller towns and may allow a passage for vehicles to access the main sealed roads.

Category 3: Unsealed roads – natural surface, formed

These unsealed roads allow for vehicular access from the edge of property boundaries to Category 2 roads. These roads usually support local traffic only.

Category 4: Unsealed roads – natural surface, unformed

Category 4 roads are basically undeveloped tracks and allow for vehicles to travel within and between properties. These may allow for vehicles to connect up to Category 3 roads, and support the least amount of traffic within the council area.

The road categories assigned to specific roads within the District Council of Karoonda East Murray road network are presented within Appendix 1.

2. Summary of Management Issues

The following sections outline the management issues relevant to the District Council of Karoonda East Murray and its authority over actions within roadside reserves. For each management issue measures to minimise the impact of activities on roadside vegetation are identified and are likely to contribute to lower, long-term roadside and road verge management costs.

2.1 Road construction

When planning road construction (including road widening and re-alignments) that will result in the clearing of native vegetation, council will, in most cases, require a formal application and approval from the Native Vegetation Council prior to undertaking any on-ground work. It should be noted that native vegetation includes dead trees of a species indigenous to South Australia where the diameter of the trunk of the tree at 300mm from the base of the tree is 600mm or more and provides or has the potential to provide habitat for animals of a listed threatened species under the *Environment Protection and Biodiversity Conservation Act 1999*.

The District Council of Karoonda East Murray currently follow guidelines within the manual “Managing unsealed roads in South Australia” when planning road construction work. Some of these principles are included within this RVMP, along with guidelines established by Transport SA, including those within Transport SA’s *Environmental Code of Practice for Construction – Road, Bridge and Marine Facilities*.

A major concern to the District Council of Karoonda East Murray is that new roads be constructed such that a safe passage for vehicles is provided along the carriageway. Furthermore, the council is committed to protecting native vegetation within road reserve areas. Appropriate planning is therefore required to ensure that proposed roads, or significant road widening or re-alignments, are designed to meet engineering standards for adequate road safety and to minimise the potential impact on native vegetation.

A large proportion of roads within the District Council of Karoonda East Murray are unsealed and hence most road construction work would be conducted in relation to unsealed roads.

Policy:

Council will undertake road construction work in accordance with safe design standards whilst minimising the removal and disturbance of native vegetation.

Objectives:

- To construct new roads, or widen and realign roads, to meet road safety standards.
- To design and undertake new construction projects whilst minimising the impact of the work on native vegetation within road reserve areas.

Guidelines:

Sealed Roads (see Figure 1)

- New Category 1 (sealed) roads are to have a maximum road carriageway width of 8m, a shoulder width of up to 1.5m and a verge width of up to 2.4m on either side of the shoulder (subject to section 2.3 Verge maintenance for road safety).
- The vertical height clearance envelope of new sealed roads is to be 5m from the edge of the sealed carriageway.

Unsealed Roads (see Figure 2)

- New Category 2 (formed and surfaced) roads are to have a maximum carriageway width of 8m and a verge width of up to 2.4m on either side of the carriageway (subject to section 2.3 Verge maintenance for road safety).
- New Category 3 (natural surface, formed) roads are to have a maximum carriageway width of up to 6m and a verge width of up to 2.4m on either side of the carriageway (subject to section 2.3 Verge maintenance for road safety).
- New Category 4 (natural surface, unformed) roads are to have a maximum carriageway width of 4m and a verge width of up to 2.4m on either side of the carriageway (subject to section 2.3 Verge maintenance for road safety).
- The vertical height clearance envelope of all new unsealed roads is to be 5m from the edge of the grader line.

All Roads

- New roads are to be positioned so as to minimise the impact on native vegetation, while still taking into account the need to provide adequate road safety and to comply with design and engineering standards.
- If trees are to be removed they should be felled into the construction zone, not into undisturbed native vegetation.
- Vegetation that is to be removed should be re-used where possible, for example, seed collection, mulching or firewood. Mulched material provides a seed source and should be utilised in revegetation programs, particularly those that are being undertaken as part of the construction project.
- Keep removal and disturbance of native vegetation and the disturbance of topsoil to a minimum to prevent the spread of weed species and diseases.
- The positioning of a new road within the road reserve will take into account offsetting the alignment along one side of the road reserve as a means of retaining the best possible strip of roadside vegetation.
- In the case of major roadworks affecting native vegetation of high conservation significance, the purchase of cleared land alongside the road reserve, and the use of that cleared land for the roadworks, will be considered as an option.

- Where it appears likely that roadworks will have an impact on native vegetation, which is not covered by this Roadside Vegetation Management Plan, consultation with the Native Vegetation Council, and potentially an application under the *Native Vegetation Act 1991*, will be undertaken.
- Roadside vegetation of particular biological significance, including sections identified within the Roadside Vegetation Survey (EBS 2004) as being Category A or Category B, will be protected as much as practicable.
- If the roadside vegetation has not yet been assigned to Category A – F, a vegetation survey must be undertaken by suitably qualified persons to assign the vegetation present into these categories prior to undertaking any works.
- Larger native trees with hollows, including dead native trees, will be retained where practicable. If trees with hollows are to be removed, hollow sections will be transferred to remaining nearby trees.

Note that dead native trees within the District Council of Karoonda East Murray are included as native vegetation under the *Native Vegetation Act 1991* if;

- the tree has a trunk diameter of 600 mm or more at 300 mm from the base of the tree, and
- the tree provides or has the potential to provide, or is part of a group of trees or other plants (whether alive or dead) that provides, or has the potential to provide, a habitat for animals of a listed threatened species under the *Environment Protection and Biodiversity Conservation Act 1999* of the Commonwealth.

Hollow trees can provide important nesting and roosting sites for native fauna, including species listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999. Threatened fauna species listed under this Commonwealth Act within the District Council of Karoonda East Murray include the Eastern Long-eared Bat (SE form) (*Nyctophilus timoriensis*) which utilises hollows for habitat and nesting in large live/dead mallee trees (mostly *Eucalyptus gracilis* and *Eucalyptus oleosa*).

Clearance of trees as described above should be subject to further assessment and advice. An information sheet on dead trees included as native vegetation can be obtained at <http://www.dwlbc.sa.gov.au/native/nvsa/policy.html>
Other useful guidelines and information sheets are available from the following web address: <http://www.dwlbc.sa.gov.au/native/nvsa/index.html>

- The protection of low understorey plants, including native grasses, will be given priority.
- In the case of realignments, the old alignments will be revegetated where practicable, eg. through ripping to encourage natural regeneration.
- Vehicles are to be confined to the construction zone of the new or old alignment, and vehicles are to turn around within road intersections, private driveways, within the road envelope or within previously designated turn-around areas. Vehicles and machinery will not be driven, stored or parked in areas of native vegetation which are outside of the construction zone.

- Stockpile sites, site depots and storage of equipment will be undertaken in areas away from native vegetation and beyond the drip line of trees to avoid root compaction. If cleared areas are not available, cleared areas on adjoining properties are to be considered.
- Immediately prior to road works commencing each day the site will be surveyed for native animals trapped within the site.
- All council staff, contractors and sub-contractors conducting work on roads and road reserves are to be made aware of all related guidelines within this RVMP prior to commencing work.

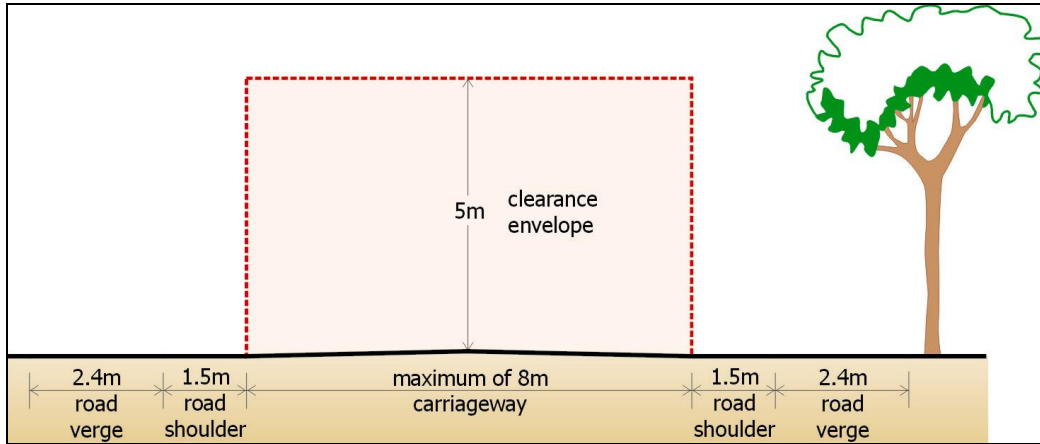


Figure 1. Guidelines for the formation of sealed roads.

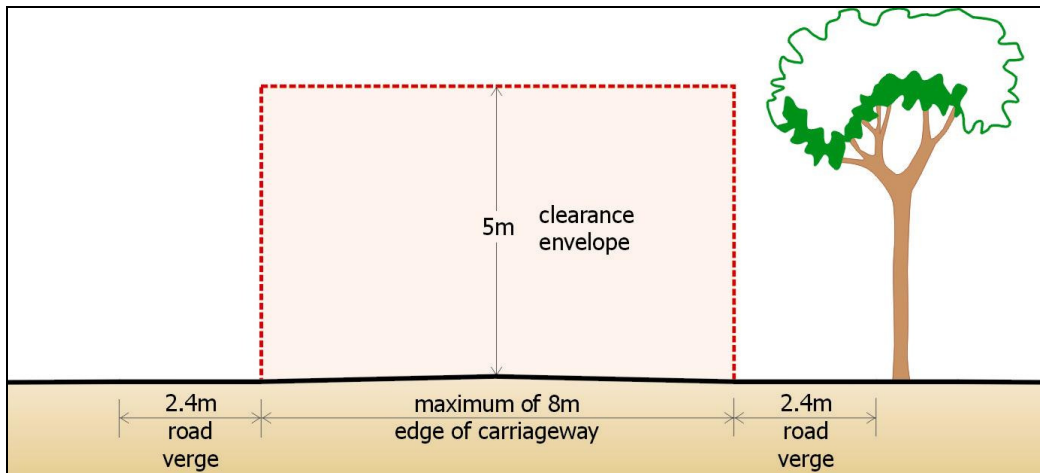


Figure 2. Guidelines for the formation of unsealed roads.

2.2 Road maintenance

Road maintenance activities are necessary to continue to provide a safe passage for vehicles along the road carriage. Road grading is the major road maintenance activity necessary to ensure a safe and efficient road network is maintained. The use of graders and other heavy machinery may have an impact upon native vegetation within road reserve areas if procedures to manage these activities are not specified and followed. The District Council of Karoonda East Murray has a dual responsibility to provide a safe road network and to protect and minimise potential impacts upon native vegetation within roadside area.

Policy:

Council will undertake road maintenance work in accordance with safe design standards whilst minimising the removal and disturbance of native vegetation.

Objectives:

- To maintain a safe passage for vehicle transport along the road network.
- To plan and undertake maintenance activities whilst minimising the impact of road maintenance on native vegetation within road reserve areas.

Guidelines:

Sealed roads

- A clearance envelope is to be maintained to a vertical height of 5m from the edge of the sealed carriageway (see Figure 3).

Unsealed roads

- A clearance envelope is to be maintained to a vertical height of 5m from the edge of the grader line (see Figure 3).

All roads

- Establish the road classification prior to conducting any road maintenance activities and follow the particular procedures for that road classification.
- Do not grade outside guideposts or edge of road carriageway.
- Excess road material is not to be pushed onto native vegetation within the road reserve, where possible the excessive material should be removed.
- Hygiene procedures should be undertaken on grading equipment before leaving a site to prevent the spread of weed species, and pests and diseases
- Graders are to turn around within road intersections, private driveways, within the road envelope or within previously designated turn-around areas.

- All council staff, contractors and sub-contractors conducting work on roads and road reserves are to be made aware of all related guidelines within this RVMP prior to commencing work.

Exemption:

- Grading equipment will only be allowed to operate outside of guideposts or edge of road carriageway for the purpose of drainage line clearance and removal of sand drift if in accordance with criteria referred to under Section 2.21 Sand Drift.

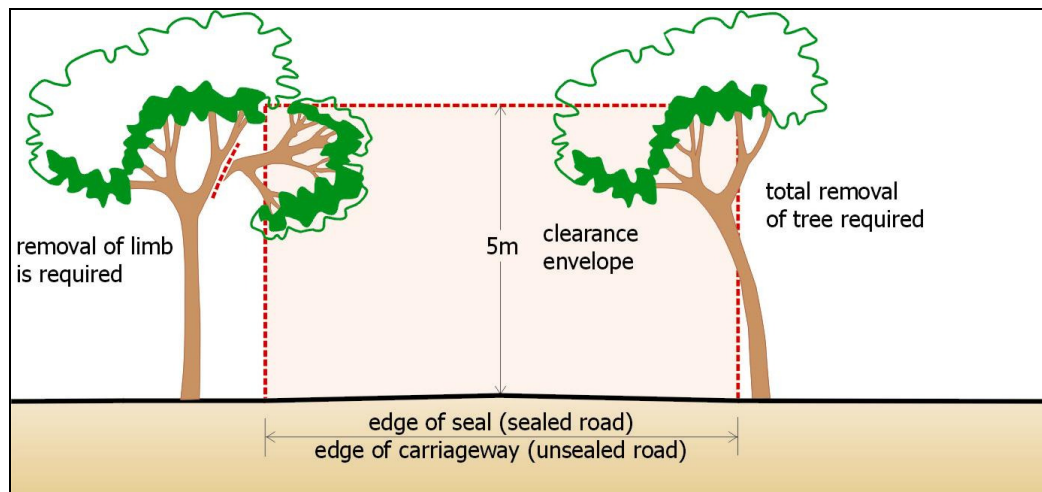


Figure 3. Maintenance of clearance envelope.

2.3 Verge maintenance for road safety

Verge maintenance of roads within the District Council of Karoonda East Murray predominantly involves clearance of vegetation from the edge of the carriageway for road safety reasons. At present verge clearing occurs infrequently within the area. When verge clearing is required the council aims to maintain road verges such that a safe passage for vehicles is provided and that conservation values of native vegetation within the road verge are maintained.

Policy:

Council will undertake road verge maintenance work in accordance with safe design standards whilst minimising the removal and disturbance of native vegetation.

Objectives:

- To maintain road verge areas to meet road safety standards.
- To manage road verge maintenance activities to minimise the potential impact to native vegetation within road reserve areas.

Guidelines:

- Low growing native plant species present within the road verge that will not impair sight distance or pose a significant risk to vehicle safety are to be retained and promoted. The presence of these species can help prevent weed invasion and soil erosion, maintain a level of biodiversity in the area and can reduce roadside management costs.
- The trimming of vegetation or removal of individual trees within the road verge may be required for safe sight distance and vehicle safety. The three-cut method is to be used for trimming of vegetation other than the smallest of branches (see Appendix 2).
- Using horticultural best practise for vegetation trimming (three-cut method) may require limbs to be pruned beyond the 2.4m road verge in order to prune limbs back to the nearest suitable fork or to the ground in the case of mallee species. This approach minimises damage to vegetation and maximises road safety.
- At road intersections where corners are created, verges are to be maintained for safe sight distance according to Figure 4.
- To allow for safe sight distance of signs and guideposts a secondary clearance envelope is to be maintained. This clearance envelope is to extend 300mm around the sign or guidepost (see Figure 5).
- Methods such as grading or bulldozing for verge clearance are not to be used to avoid ground disturbance and disturbance of understorey species.
- Equipment including flail mowers, articulated slashing devices and hydro-axe may be used for verge maintenance work.

- Trimmed vegetation and soil is not to be pushed directly back into the remaining vegetation.
- Effective use of trimmed vegetation is to be encouraged. For example, liaison with local planting groups to promote seed collection from vegetation to be trimmed, or to use trimmed timber as a mulching source or as a community firewood resource.
- All council staff, contractors and sub-contractors conducting work on roads and road reserves are to be made aware of all related guidelines within this RVMP prior to commencing work.

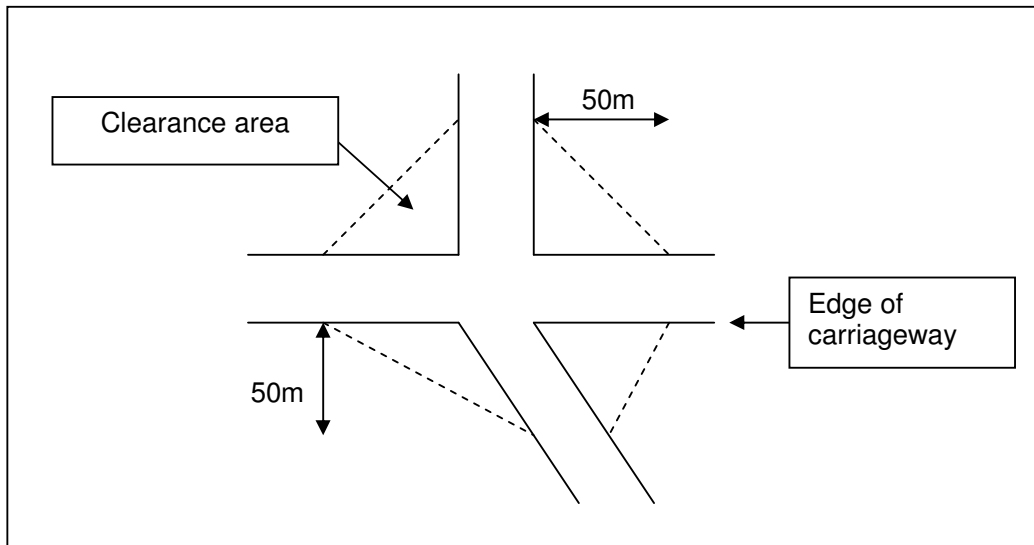


Figure 4. Maintenance of verge areas at intersections.

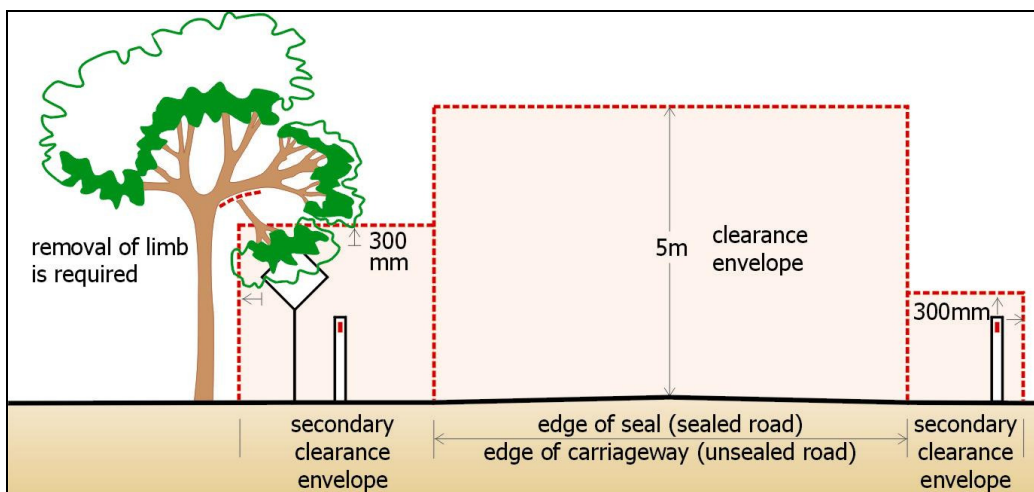


Figure 5. Secondary clearance envelope for signs or guideposts.

2.4 Quarries / Stockpile sites

The use of road reserves for the purposes of quarrying or stockpile sites is an important requirement for road construction or road maintenance activities. Quarrying entails the removal of rock and gravel materials creating a small pit. Stockpile sites are areas of road reserve used for the storage of material including aggregate, gravel, road base, topsoil, overburden and mulch which may be required for road construction or maintenance projects. Quarries tend to be sites in which gravel and rock are permanently removed whilst stockpile sites tend to be temporary, located close-by and used during specific projects. If poor planning and management occurs, the positioning of and use of quarries and stockpile sites has the potential to severely impact upon native vegetation within road reserves. Impacts to roadside vegetation may include the physical removal of native vegetation, physical damage to native vegetation, soil disturbance, and the introduction of pest weed species.

Policy:

Council will ensure quarries and stockpile sites are created and managed to minimise the impact and disturbance of native vegetation with previous quarries and stockpile sites being utilised prior to the installation of new ones.

Objectives:

- To locate new quarries within private land as a first preference where possible.
- To locate new stockpile sites and quarries in road reserve areas devoid of native vegetation.
- To manage existing quarries and stockpile sites to minimise the physical impact to existing native vegetation.
- To reduce the potential for the spread of weed species and soil pathogens.

Guidelines:

- Previously established quarries or stockpile sites located within vegetation of Category D and E should be utilised instead of creating new quarries or stockpile sites. These sites should be assessed by suitably qualified persons to ensure there is no native vegetation within the site prior to use. This will ensure any impact to native vegetation is avoided.
- Existing quarries and stockpile sites within roadside vegetation of Category A – C are to be inspected prior to use, if these sites are naturally regenerating they should not be utilised, however, if no native plant species occur within them, they can be utilised. If these areas are utilised management strategies, such as pegging the extent of the site, need to be implemented to ensure they do not expand in size and encroach on native vegetation.
- If the roadside vegetation has not yet been assigned to Category A – F, a vegetation survey must be undertaken by suitably qualified persons to assign the vegetation present into these categories prior to undertaking any works.

- Weed control is to be conducted on site prior to the installation of or use of borrow pits and stockpile sites. Monitoring of the sites whilst they are being used is required to ensure weed infestations do not occur and further weed control is to be undertaken if necessary.
- New quarries or stockpile sites are not to be created within roadsides where the native vegetation is of Category A, B, or C, and scattered trees within roadsides of other categories are to be avoided. Ideally new quarries or stockpile sites are to be located within areas containing no native vegetation.
- Adjacent cleared land including private land will be considered as a first option for positioning new quarries, and will be considered as an option for the location of new stockpile sites if no suitable sites occur within the road reserve.
- Approval from the Accountant, District Council of Karoonda East Murray is required prior to the development of any new borrow pits or stockpile sites within the council area.
- If proposed borrow pits (either in road reserves or on private land) will require the removal of native vegetation, approval from the Native Vegetation Council is required, as well as council approval.
- Vehicles and equipment required for creation of borrow pits are to be confined to the road carriageway and borrow pit area, and should not encroach into native vegetation within roadsides.
- All council staff, service providers and contractors conducting work on roads and road reserves are to be made aware of designated borrow pits and stockpile sites prior to them beginning work at a site.
- Any materials stored in stockpile sites are to be removed from the site at the completion of the project.

2.5 Installation and maintenance of utilities

Provision of services to the community typically involves locating service routes within road reserve areas. The services provided within the District Council of Karoonda East Murray include power, telecommunications, gas, water and effluent mains. Construction and ongoing maintenance of these services has the potential to impact upon roadside vegetation, through clearance, physical disturbance, and introduction of weed species, pests and pathogens. Service providers have their own external codes of practise for installation and maintenance of their service, for example, the Australian Authority factsheet: *Installation of telecommunications facilities – A guide for consumers*. The District Council of Karoonda East Murray will ensure service providers follow their own Codes of Practise whilst working within the council area. Furthermore some general procedures have been adopted by council to further protect native vegetation within road reserves. These procedures incorporate those identified within the *Guidelines for the Management of Roadside Vegetation*. Council will ensure all service providers who intend to conduct work within the council area are provided with the relevant information regarding the protection of roadside vegetation.

Policy:

Council will ensure that service providers and contractors comply with the relevant guidelines to minimise the impact of all works on native vegetation that is under the care and control of the Council.

Objectives:

- To minimise the impact of installation and maintenance of services to native vegetation within road reserves.
- To maintain a safe operating environment for services.

Guidelines:

- All service providers intending to conduct work within the council area are to notify council a minimum of 7 days prior to the commencement of any work, and secure agreement from council through completing an application form (see Appendix 4). For major projects the council would prefer to be notified of and consider proposed plans one year before commencement of the project.
- Service providers are to be contacted by council and notified of the District Council of Karoonda East Murray RVMP and requirements of the service provider in delivery of their work.
- Hygiene standards must be followed on all vehicles, machinery and equipment before leaving a site to prevent the introduction or spread of weed species, pest or pathogens.
- Where new or replacement services are proposed, these are to be established on cleared land wherever possible. When installation of a service is planned within a road reserve containing vegetation of Category A, B or C, alternative location options need to be considered to minimise the impact on native vegetation.

- If the roadside vegetation has not yet been assigned to Category A – F, a vegetation survey must be undertaken by suitably qualified persons to assign the vegetation present into these categories prior to undertaking any works.
- Clearance of native vegetation must be kept to a minimum.
- Disturbance of understorey vegetation, including native grasses, and soil is to be kept to a minimum.
- Existing clearance standards can be maintained without consultation with the Native Vegetation Council.
- The Native Vegetation Council must be consulted when new services are proposed to be established along roadsides containing native vegetation, or maintenance clearance in excess of existing standards is proposed.

2.6 Pest animal control

Pest animal species present within the District Council of Karoonda East Murray is both an agricultural and environmental management issue. Of particular concern are rabbits, and to a lesser extent, foxes.

The control of pest animal species that are listed as declared is the responsibility of the Regional Authorised Officer under the *Natural Resources Management Act 2004*. The Regional Authorised Officer can remind landowners and occupiers that it is their responsibility to control proclaimed animal species both on their land and up to half-width of the road reserve, and request that they do so.

Landowners or occupiers require permission from the local council prior to undertaking any works within road reserves, and any pest animal control should be conducted in accordance with advice from the Regional Authorised Officer.

When conducting pest animal control it is essential that control work be conducted in a way that minimises the potential impact to native vegetation, which is a requirement of the *Natural Resources Management Act 2004*. It is recognised that, in some cases, disturbance of native vegetation may be required in order to achieve adequate pest animal control. The Native Vegetation Council has published the following booklet 'Clearance of Native Vegetation Associated with the Control of Plant and Animal Pests'. This booklet includes guidelines for the clearance of native vegetation where this is necessary for pest animal control, and which comply with guidelines issues by the Native Vegetation Council. The District Council of Karoonda East Murray incorporates these guidelines within the guidelines below.

Policy:

Council will ensure all pest control work is undertaken in accordance with Council guidelines and advice from the Regional Authorised Officer.

Objectives:

- To manage pest animal control activities within road reserve areas to achieve effective control.
- To manage pest animal control activities to minimise any impact on native vegetation within road reserve areas.
- To encourage the establishment and recovery of native vegetation within road reserves.

Guidelines:

- Landowners or land occupiers must obtain council permission before conducting any pest animal control within road reserve areas.
- Landowners or land occupiers must liaise with the Regional Authorised Officer prior to conducting any pest animal control within road reserve areas.
- Clearance of native vegetation must be kept to the minimum required for effective pest plant control.

- If pruning of native vegetation is essential to provide access to pest animals (eg. rabbit warrens), it is acceptable to prune if kept to a minimum and it does not affect the overall viability of the plant(s) involved.
- If entire native plants need to be removed in order to facilitate effect pest animal control, prior discussion with and endorsement by the Native Vegetation Council Secretariat, DWLBC is required.
- The removal of tree saplings or more mature trees is not normally necessary for pest control.
- Soil disturbance (eg. ripping of rabbit warrens) is to be minimised and where soil disturbance is unavoidable, site monitoring should follow the initial control work to selectively eradicate pest plants which might establish at the site.

Control of specific pest animals within the Karoonda area

Control of pest animals should always be undertaken with advice from the Regional Authorised Officer. The methods the Regional Authorised Officer uses and will recommend are those that minimise any impact to native vegetation and are appropriate for each individual case. It is to be remembered that the impact on native vegetation will be far greater and last a lot longer if control of pest animals is not undertaken.

Rabbit control

There are several methods used for rabbit control programmes within the Karoonda area and the method/s chosen for a particular area are determined by prior assessment of the native vegetation present. The methods to be used may include;

- 1080 poisoning program

The trail of bait is laid out so there is minimal damage to native vegetation.

- Warren destruction

The destruction of rabbit warrens is the stage of a rabbit control program with the greatest potential to cause damage to native vegetation, but a very important component of rabbit control. A warren may have up to 20 holes and cover an area of approximately 100m².

In thick mallee scrub some trimming of native vegetation may be required for access of machinery (eg a ripper on the back of a tractor) to the warren. This method, however, is rarely used now within the council area. Alternatively, some strategically placed explosives may be used.

The preferred method of warren destruction in vegetation of Category A, B and C is to fumigate warrens followed by closing of the warren by hand.

Fox control

Fox dens are usually only single holed dens and these need to be destroyed when found. There is less potential damage to the environment in destroying a fox den compared with a rabbit warren. Control is usually performed using a ripper on the back of a tractor. In areas of good quality native vegetation the fox den can be fumigated and closed in by hand with a shovel.

2.7 Pest plant (weed) control

Pest plant species are of particular agricultural concern within the District Council of Karoonda East Murray, and control of these species within road reserves is a significant management issue within the region. Particular emphasis is on controlling pest plant species within roadside vegetation classified as Category A and B.

The control of pest plant species that are listed as declared is the responsibility of the Regional Authorised Officer under the *Natural Resources Management Act 2004*. The Regional Authorised Officer can remind landowners and occupiers that it is their responsibility to control proclaimed plant species both on their land and up to half-width of the road reserve, and request that they do so.

Landowners or occupiers require permission from the local council prior to undertaking any works within road reserves, and any pest plant control (both agricultural and environmental proclaimed pest plant species) should be conducted in accordance with advice from the Regional Authorised Officer.

When conducting pest plant control it is essential that control work be conducted in a way that minimises the potential impact to native vegetation, which is a requirement of the *Natural Resources Management Act 2004*. It is recognised that, in some cases, disturbance of native vegetation may be required in order to achieve adequate pest plant control. The Native Vegetation Council Guidelines Clearance of Native Vegetation Associated with the Control of Plant and Animal Pests provide guidelines for the clearance of native vegetation where this is necessary for pest plant control, and which comply with guidelines issues by the Native Vegetation Council. The District Council of Karoonda East Murray incorporates these guidelines within the procedures below.

Policy:

Council will ensure all pest plant control work is undertaken in accordance with Council guidelines and advice from the Regional Authorised Officer.

Objective:

- To manage pest plant control activities within road reserve areas to achieve effective control.
- To manage pest plant control activities to minimise any impact on native vegetation within the road reserve areas.
- To encourage the establishment and recovery of native vegetation within road reserves.

Guidelines:

- Landowners or land occupiers must get council permission before conducting any pest plant control within road reserve areas.
- Landowners or land occupiers must liaise with the Regional Authorised Officer prior to conducting any pest plant control within road reserve areas.

- Clearance of native vegetation must be kept to the minimum required for effective pest plant control.
- If pruning of native vegetation is essential to provide access to pest plants, it is acceptable to prune if kept to a minimum and it does not affect the overall viability of the plant(s) involved.
- Spraying of declared plant species located adjacent native vegetation is allowed, if acceptable herbicides are used according to the instructions provided by the manufacturer and advice from the Regional Authorised Officer. Spot-spraying is to be used to ensure a careful application of chemicals such that potential impacts to native vegetation are avoided or minimised.
- Boom-spraying or broad-scale spraying amongst native vegetation requires approval by the Native Vegetation Council Secretariat, DWLBC, and may require the consent of the Native Vegetation Council through a clearance application.
- If entire native plants need to be removed in order to facilitate effective pest plant control, prior discussion with and endorsement by the Native Vegetation Council Secretariat, DWLBC is required.
- Amongst dense native vegetation bushcare principles and methods should be utilised to prevent damage to native vegetation. Care must be taken to minimise soil disturbance and off-target effects on native vegetation (eg. trampling). See Control of specific pest plants within the Karoonda area below.
- The removal of tree saplings or more mature trees is not normally necessary for pest control.
- Hand-held equipment is preferable to heavier machinery for pest plant control, where pest plant control issues are localised, to minimise the impact on native vegetation.
- Soil disturbance is to be minimised and where soil disturbance is unavoidable, site monitoring should follow the initial control work to selectively eradicate pest plants which might re-establish.
- The cultivation of road reserve areas as a means of pest plant control requires permission from the council, and is usually only approved where there is an associated long term plan to revegetate with native plant species.

Control of specific pest plants within the Karoonda area

Control of pest plants should always be undertaken with advice from the Regional Authorised Officer. The methods the Regional Authorised Officer uses and will recommend are those that minimise any impact to native vegetation and are appropriate for each individual case. It is to be remembered that the impact on native vegetation will be far greater and last a lot longer if control of pest plants is not undertaken.

African Boxthorn control

Where African Boxthorn is growing with an understorey of native vegetation there are a number of control options that are highly successful for both control of the target

plant and protection of the native vegetation. These include; cut and swab the target plant, stem inject it or physically remove it.

Horehound, Innocent Weed and other small sized pest plant control

When the target species is/are small and the non-target native species are large (eg large shrubs or trees) spot spraying may be used for control dependent on suitable weather conditions that eliminate potential spray drift onto native vegetation. Other recommended control options are dependent upon a number of factors including weather conditions, type and size of target species and the type and size of off target species and the vulnerability of off target species to various herbicides.

Bridal Creeper

Bridal Creeper is viewed as one of the most serious weed species within the District Council of Karoonda East Murray, as the potential of this climber to impact upon native vegetation is considered to be great. Control methods for this weed within the council area are currently being trialled, as the rust being used for control in other areas does not appear to be effective in this region. In recognition of the serious threat Bridal Creeper poses control efforts are to focus on those areas of high quality native vegetation first (Category A and B).

2.7.1 Branched Broomrape

Branched Broomrape (*Orobanche ramosa*) is a parasitic weed which can infect a variety of hosts including broadleaf crops, broadleaf weeds, and to a lesser extent, native plants. This weed infects and attacks the root systems of its host, and can cause a significant reduction in health of the host plant, or even death. Branched Broomrape is a particularly invasive species as a single plant is capable of producing up to 500 000 seeds, which are minute in size and can remain viable in the soil for a period of up to 10 years. These dust-like seeds may be spread by vectors including vehicles, machinery, equipment and boots. The current known distribution of this introduced weed is presented in Figure 6. Within the District Council of Karoonda East Murray infestations of Branched Broomrape occur in the south-west corner within the Hundreds of Hooper, Bowhill and Vincent. These areas are identified along road reserves by star-droppers with signs located at the edge of each infested area. As this species is both present within the council area and difficult to control, guidelines are necessary to ensure Branched Broomrape does not spread further.

Policy:

Council will raise awareness of Branched Broomrape with Council staff, service providers and contractors who work within road reserve areas and ensure appropriate hygiene is conducted when work is undertaken within the known infested areas.

Objectives:

- To prevent the further spread of Branched Broomrape within the council area.
- To ensure appropriate hygiene is conducted, when necessary, to maintain the health of roadside vegetation.

Guidelines:

- Council is to raise awareness of Branched Broomrape and associated hygiene principles with anyone who may be conducting work within road reserves.
- Anyone who is to conduct work using large equipment within road reserves containing Branched Broomrape is to contact the Broomrape Operational Centre hotline (1800 245 704) to arrange for hygiene to be conducted on vehicles/equipment/machinery. This arrangement must be made prior to undertaking work in the infested area. A designated meeting place at the edge of the infested area is to be established (preferably at a designated wash down area. Prior to leaving the infested site all vehicles/equipment/machinery are to be washed down with water at the wash down area prior to spraying all contaminated surfaces with a solution of Niproquat®. A certificate will be issued by an Inspector to show that all necessary hygiene has been performed before the vehicles/equipment/machinery are free to leave the infested areas.
- If road reserves infested with Branched Broomrape are to be entered on foot only, a 5L pump spray pack containing a solution of Niproquat® is to be taken on site. Prior to leaving the infested area, boots and any small tools that have come in contact with contaminated soil must be cleaned with the Niproquat® solution. This cleaning must be performed at the very edge of the infested area. Contact with the Broomrape Operational Centre, in this case, is not required.
- Soil must not be removed from areas infested with Branched Broomrape. If soil extraction is required, topsoil to a depth approved by an Inspector from the Broomrape Operational Centre must be cleared away from the extraction area. Soil samples need written approval from the Broomrape Operational Centre to be moved out of the infested area.

2.8 Soil-borne pests and diseases

A decline in health of native plant species may in some cases be due to soil-borne pests and diseases. Plants that are affected by soil-borne pests and diseases often exhibit a slow decline in health that usually results in death. Two other major soil-borne pathogens affecting native vegetation within areas of South Australia are *Phytophthora* and Mundulla Yellows, which are described and discussed in the brochure 'Dieback in Native Vegetation in the South Australian Murray-Darling Basin' by the Department for Environment and Heritage.

2.8.1 Phytophthora

Phytophthora, often referred to as a 'root-rot fungus', is a microscopic, soil-borne organism that infects root systems and basal stem tissue of native vegetation. Once infected with *Phytophthora*, native vegetation will suffer from root-rot, show signs of dieback and may eventually die as the movement of water and nutrients to the plant is inhibited. There is currently no cure for *Phytophthora*, so areas that become infested, remain infested.

Spread of *Phytophthora* to new hosts is known to occur via transport of infected soil or plant matter (even small amounts). Infected soil and plant matter may adhere to surfaces including machinery, vehicles, equipment and footwear which may be a potential means of spreading *Phytophthora* within and between roadside reserves. The District Council of Karoonda East Murray is located in a **Nil - Low Risk** *Phytophthora* area. There are no indications of its presence within the council area and it is not considered to be a threat to roadside vegetation within the area.

2.8.2 Mundulla Yellows

Mundulla Yellows is a relatively recent plant die-back syndrome known to predominantly affect eucalypt species. Mundulla Yellows was first discovered in the southeast of South Australia and has since spread widely throughout the state and has also been reported interstate. Eucalypts with Mundulla Yellows are identifiable initially by the presence of small clusters of bright yellow leaves within the tree canopy, followed by a slow deterioration in health, before death. The symptoms exhibited by plants affected by Mundulla Yellows are similar to symptoms presented due to other environmental factors, hence diagnosis can be difficult.

Research into understanding Mundulla Yellows is only in its initial stages so the cause of this plant die-back syndrome is not well understood.

Although no indications of Mundulla Yellows were noted at the time of the roadside vegetation survey, it is important that procedures are in place to potentially prevent the introduction and/ or spread of this dieback syndrome.

Policy:

Council will raise awareness of Mundulla Yellows with Council staff, service providers and contractors who work within road reserve areas.

Objective:

- To prevent the introduction and/ or spread of Mundulla Yellows within the council area.

- To ensure appropriate hygiene is conducted, when necessary, to maintain the health of roadside vegetation.

Guidelines:

As the current level of knowledge on Mundulla Yellows is limited, specific control measures have not been established. In the meantime, the following general hygiene practices are recommended;

- Strict hygiene measures should be conducted on all equipment, machinery, vehicles and footwear before leaving a site to prevent the potential spread of Mundulla Yellows into the council area.
- Hygiene should be conducted using a strong alkali or bleach solution before moving away from the infected area to another area.
- Do not remove any potentially infected material from the site.
- Do not translocate seedlings from potentially infected sites to other sites.
- When conducting revegetation work, only collect local seed from trees showing no signs of Mundulla Yellows infection.

2.9 Clearing along fence-lines

Under the *Local Government Act 1999* (Section 221) landholders who want to clear native vegetation, within the road reserve, for fence-line clearance require approval from the council. The District Council of Karoonda East Murray recognises that landholders have a reasonable right for vehicular access to their fence-lines, particularly for maintenance and construction purposes. However, it is usual for the adjacent farmland to be cleared and fences can be accessed from that side, without any impact on native vegetation within the road reserve.

There are some instances where private land adjacent fence-lines does contain native vegetation. Under Regulation 5(1)(s) (Native Vegetation Regulations 2003) native vegetation may be cleared on landholders property if clearance is for the purpose of providing a strip of cleared land of up to 5m in width to provide access for maintenance of an existing fence or establishing a fence and;

- 1 - the fence is reasonably required to control access by people or the movement of animals; and
- 2 - the clearance is required to give reasonable access to the fence and is limited to the extent reasonably required to achieve that access; and
- 3 - there is no other practicable alternative (including, in the case of a new fence, to the position of the fence) that would involve no clearance or the clearance of less vegetation or the clearance of vegetation that is less significant or (if relevant) the clearance of vegetation that has been degraded to a greater extent than the vegetation proposed to be cleared.

Removal of roadside vegetation for fence-line clearance requires council approval. Branches of trees protruding through or overhang the fence from the road reserve may be removed. Shrubs and bushes growing through the fence-line within the road reserve may be removed if they are growing within one metre of the fence-line. The council intends that all fence-line maintenance and construction by landholders is conducted in a manner that minimises any potential impact on native vegetation.

Policy:

Council will ensure clearance of roadside vegetation along fence-lines complies with Council policies and procedures and Native Vegetation Council guidelines. Any approved clearance will be conducted using minimal impact techniques.

Objective:

- To enable landholders to gain appropriate access to fence lines for maintenance and construction purposes.
- To ensure the potential impact on native vegetation within road reserves for maintenance/ construction of fence lines is minimised.

Guidelines:

Fence maintenance

- Removal of any roadside vegetation for fence-line maintenance requires council approval, following a formal application justifying the need for clearance to the council.
- The removal of limbs growing through or overhanging the fence will be permitted. For mallee trees these branches should be cleanly cut off at the base of the tree, not broken off. For other trees, limbs should be cut cleanly off at the nearest major fork.
- The removal of stumps on the actual fence-line will be permitted by council.
- Where shrubs or bushes within the road reserve are growing through the fence-line, council will allow those bushes growing within one metre of the fence-line to be removed.
- Where shrubs are to be removed from the base, minimal impact techniques should be used to prevent soil disturbance.
- Any native vegetation cut or cleared for fence-line clearance will need to be removed from areas of native vegetation, not left lying within the road reserve.
- Where the proposed clearance of roadside vegetation along fence-lines is in excess of the above standards, or includes rare or threatened species (*NPW Act 1972 Schedules* or *EPBC Act 1999*) applications will be referred to the Native Vegetation Council for formal approval.
- Council Officers will ensure landholders have permission to remove native vegetation and, if approval has not been granted, the matter will be referred to the Native Vegetation Council.

Fence construction or replacement

- Ploughing or grading of roadside vegetation will not be permitted.
- Removal of any roadside vegetation for fence-line construction or replacement requires council approval, following a formal application justifying the need for clearance to the council.
- Removal of vegetation for the purposes of construction or replacement will follow those guidelines and standards presented above for Fence Maintenance.
- Where the proposed clearance of roadside vegetation along fence-lines is in excess of the above standards, or includes rare or threatened species (*NPW Act 1972 Schedules* or *EPBC Act 1999*) applications will be referred to the Native Vegetation Council for formal approval.
- Council Officers will ensure landholders have permission to remove native vegetation and, if approval has not been granted, the matter will be referred to the Native Vegetation Council.

2.10 Property access

Clearance of native vegetation may be required by landowners to provide for access or improved access to private properties. Proposed construction of driveways or widening of driveways that would require the removal of native vegetation must be in accordance with obligations under the *Native Vegetation Act 1991*, and requires development approval from the council under the *Local Government Act 1999*, and along arterial roads, Transport SA.

The NVC's booklet *Guidelines for the Management of Roadside Vegetation* outlines clearance standards with regard to property access and the District Council of Karoonda East Murray incorporates these standards within the current RVMP.

Constructing or widening driveways can potentially impact on significant and sizable areas of native vegetation and council intends to manage property access applications such that the clearance or disturbance of native vegetation is minimised.

Policy:

Council will ensure all vegetation clearance for property access complies with Native Vegetation Council and local council guidelines. Any approved clearance will be conducted using minimal impact techniques.

Objective:

- To enable landholders to gain appropriate access to private properties, whilst keeping access to a minimum.
- To ensure the potential impact on native vegetation within both road reserves and private property for property access is minimised.

Guidelines:

- The establishment of new property access points requires council approval.
- Unless there is no other option, additional access points will not be permitted on road segments of Category A, B or C.
- Where clearance of native vegetation is required, approval will only be given where there will be an overall environmental gain eg appropriate revegetation is undertaken. This may include revegetating suitable cleared sections of road reserve.
- If the roadside vegetation has not yet been assigned to Category A – F, a vegetation survey must be undertaken by suitably qualified persons to assign the vegetation present into these categories prior to undertaking any works.
- Vegetation trimmed or cleared and soil that has been removed is not to be placed on the road reserve.
- Where clearance of native vegetation is necessary to provide access to private property, a clearance width of 5m is allowed for access by normal vehicles plus minimum clearance along the road reserve needed to provide adequate sight distance. Minimum clearance for adequate sight distance is to be an area 5m

back from the intersection of the road and driveway extending to the road at a point 50m on either side of the intersection. The distance along the road required for adequate sight distance will be assessed more specifically on a case by case basis with vegetation selectively removed within the area such that only vegetation impairing sight distance is removed. Proposed clearance for sight distance greater than 50m from the intersection will need to be assessed by suitably qualified persons.

- Where clearance of native vegetation is necessary to provide access to private property, a clearance width of 10m is allowed for wider farm vehicles, plus the minimum clearance along the road reserve needed to provide adequate sight distance. Minimum clearance for adequate sight distance is to be an area 5m back from the intersection of the road and driveway extending to the road at a point 50m on either side of the intersection. The distance along the road required for adequate sight distance will be assessed more specifically on a case by case basis with vegetation selectively removed within the area such that only vegetation impairing sight distance is removed. Proposed clearance for sight distance greater than 50m from the intersection will need to be assessed by suitably qualified persons.
- Where the proposed clearance exceeds the minimum clearance widths as described in the guidelines above, formal NVC approval for vegetation clearance will be required.

2.11 Bushfire hazard reduction

The District Council of Karoonda East Murray is required to manage vegetation within road reserves to comply with its responsibility towards bushfire prevention under the *Country Fires Act, 1989*, and to conserve native vegetation as required under *Native Vegetation Act, 1991*.

There is a current District Bushfire Prevention Plan for the Karoonda East Murray and Southern Mallee areas. Combined these areas form the Mallee Bushfire Prevention District. An objective of this plan is to provide community protection from fire whilst maintaining a land management and environmental balance.

The following guidelines for the district are based upon the premise that undisturbed native roadside vegetation will usually be less of a bushfire hazard than roadsides with a mixture of native species and exotic species, particularly introduced grasses, but that a planned approach is needed with fuel reduction at strategic sites to protect assets.

Procedures incorporated within this RVMP incorporate the guidelines within *Guidelines for the Management of Roadside Vegetation*, issued by the Native Vegetation Council.

Policy:

Council will follow guidelines within this RVMP when planning and conducting fire prevention activities.

Objective:

- To manage vegetation within road reserves to minimise the threat of fire to life and property.
- To manage vegetation within road reserves for fire management to conserve native vegetation and fauna.

Guidelines:

Fuelbreaks

- Where a road reserve containing established native vegetation adjoins cleared farmland, any required fuelbreak should be established on the cleared land rather than through clearance of native vegetation. Clearance on the road reserve should be the minimum needed to provide reasonable protection for the fence (see Section 2.9).
- Existing fuelbreaks up to 5m wide may be maintained provided they are specified as necessary by local CFS authorities. A reduction in width may be required if the fuelbreak is not considered necessary.
- Clearance zones up to 20m long may be created at gateways and driveways across the road reserve in high bushfire risk areas to break the continuity of roadside fuels, as specified within *Guidelines for the Management of Roadside Vegetation*. These clearance zones will be permitted provided such areas are no less than one kilometre apart.

- The preferred methods of maintaining fuelbreaks include slashing, mowing and rolling. Soil disturbance should be minimised because of likely problems with weed invasion and erosion.
- New fuelbreaks that require the removal of native vegetation within road reserves requires clearance approval from the Native Vegetation Council and the District Council of Karoonda East Murray.
- Clearance of vegetation within a road reserve by, or on behalf of, a district bushfire prevention committee may be permitted under the *Country Fires Act 1989*, if local council approves and the person undertaking the clearance complies with a management plan approved by the council and the Native Vegetation Council.

Fuel Reduction Burning

- Any burning of native vegetation within road reserves is considered to be clearance under the *Native Vegetation Act, 1991*, and requires local council approval and approval from the Native Vegetation Council.
- The District Council of Karoonda East Murray does not encourage burning as a method for fuel reduction.
- If burning for fuel reduction is considered and approved, careful planning is required to ensure there will be no loss of conservation significant species through burning too frequently, or at the wrong time or intensity. Local CFS authorities must be consulted.
- A database is to be established so that burning for fuel reduction can be monitored and managed.

2.12 Grazing of roadsides

The practise of grazing stock in roadside vegetation is not common within the District Council of Karoonda East Murray. Grazing can significantly impact upon native vegetation by damaging mature native plants and may result in the removal of seedlings. Other impacts include the transfer of weed species to the roadside vegetation along with soil compaction and an altered soil nutrient profile.

The District Council of Karoonda East Murray considers grazing within roadside vegetation to be the holding of livestock within road reserves for the purpose of grazing.

The council does not want stock to be grazed within roadside vegetation and the guidelines outlined below reflect this and aim to prevent grazing from impacting upon native vegetation. This viewpoint is in line with that of the Native Vegetation Council which strongly discourages grazing of stock within roadside vegetation due to the recognition of the potential damage to native vegetation that stock grazing can inflict.

Policy:

Council does not allow stock to graze within road reserves.

Objective:

- To prevent any impact on roadside native vegetation from grazing of stock.

Guidelines:

- A formal application must be made to council for a permit to allow domestic stock to graze within road reserves.
- Permits will not be issued where the vegetation is of Category A, B or C.
- Following assessment of the road reserve from suitably qualified persons, council will only issue permits for grazing by domestic livestock within road reserves where;
 - The road reserve contains no native vegetation and grazing will aid in fuel reduction for fire prevention.
 - The road reserve contains only native trees over introduced pastures where natural regeneration of native species is not likely to occur (even in the absence of grazing) and grazing will aid if fuel reduction for fire prevention.
- Council Officers, together with LAP Officers and other natural resource management officers, will ensure that no unauthorised grazing of stock is taking place within roadside vegetation. Landholders will be reminded that this practise is not allowed within the council area and appropriate action will be taken if necessary.
- If Council Officers or others observe unauthorised stock grazing within roadside vegetation, the matter will be reported to the Accountant, District Council of Karoonda East Murray.

2.13 Movement of stock on roadsides

Movement of stock along roadsides is an infrequent event within the District Council of Karoonda East Murray. At present, stock movement within the council area is usually restricted to short distances between paddocks owned by a single landholder. It is uncommon for stock to be moved great distances along roadsides as stock are usually moved long distances using trucks.

The District Council of Karoonda East Murray currently permits movement of stock along roadsides without formal permission, however the practice is discouraged. In recognition of the potential for stock to graze and damage native vegetation within road reserves, the following procedures have been established to minimise the potential impact of stock movement to roadside vegetation.

Policy:

Council will discourage landholders from moving stock in roadside vegetation. If movement of stock in road reserves is necessary, stock movement is to be continuous, infrequent in occurrence and over distances as short as possible.

Objective:

- Movement of stock within roadside vegetation is to be managed such that grazing of roadside vegetation does not occur and areas of roadside containing high quality vegetation are not disturbed.

Guidelines:

- Council will educate landholders about the value of roadside vegetation and of the potential impact stock grazing has on roadside vegetation.
- Landholders will be encouraged to locate stock movement routes to avoid roadsides containing high quality vegetation where possible.
- Council will discourage the movement of stock along roadsides with Category A or B vegetation except where there is no suitable alternative route.
- Council will advise landholders that stock movement is to be continuous such that stock grazing will be minimal within road reserves.
- Council will monitor stock movement in road reserves, with current policy subject to review if stock movement within road reserves is found to be negatively impacting on roadside vegetation.

2.14 Recreational access to road reserves

Under the *Road Traffic Act, 1961* bicycles and horses are considered vehicles and are hence entitled to use the road corridor.

When occurring within road reserves, recreational activities have the potential to impact on areas containing native vegetation through physical damage to native vegetation, transferring of weed species and soil compaction.

It is important that recreational activities are managed to minimise impacts upon areas of high quality vegetation.

Policy:

Council will consider restricting access to sensitive areas where it is shown that recreational activities are having or may have a negative impact on road reserves.

Objective:

- To minimise the impacts of recreational activities on native roadside vegetation.

Guidelines:

- Recreational events planned to take place within road reserve areas require council permission (see Appendix 3).
- Roadsides with Category A, B or C vegetation are unsuitable for recreational use.
- Encourage community awareness of the value of native vegetation and highlight the need to avoid damage to native vegetation from recreational activities.
- Prepare a brochure for the community that identifies ways to enjoy recreational activities whilst helping to preserve native vegetation within road reserves.
- Discussions are to be held with community groups that make use of road reserve areas to help develop policies for each group to protect significant areas of roadside vegetation.
- No vehicles are allowed to travel outside of the carriageway, except for authorised service vehicles (eg NRM, Emergency Services).
- Discussions are to be initiated with relevant stakeholders (including local community groups, Rural Watch, Transport SA, Police and Neighbourhood Watch) to help discourage use of off-road vehicles (motorised) within road reserve areas.
- Any existing or new incursions within road reserve areas by unregistered and/or unauthorised motorised vehicles should be determined and reported.

2.15 Cropping of roadsides

Cropping of roadsides is an activity which will destroy any remaining native vegetation within the area being cropped. The practise of cropping may also pose issues of run-off from fertilisers and chemicals into adjacent areas of road reserve and weed invasion into road reserve areas being cropped when the soil is bare for a period of time. Weed invasion may also spread into adjacent road reserve areas. Cropping may also cause occasional dust problems for passing vehicles.

Within the District Council of Karoonda East Murray there are some areas of road reserve that are currently being used for cropping purposes. These areas of road reserve have been leased to adjacent landholders for this activity and usually occur within undeveloped road reserves. These leased road reserve areas have usually had no native vegetation present prior to the lease for cropping being granted. In these cases, leasing will continue to be an acceptable option. However, the council is aware that areas of road reserves contain native vegetation of high conservation significance and that these areas need to be protected.

Policy:

Council will manage cropping of roadsides to protect the biodiversity values of road reserve areas.

Objective:

- To review all current leasing arrangements for the purpose of cropping.
- To ensure no new cropping occurs within road reserves areas.

Guidelines:

- Landholders currently cropping in road reserve areas require ongoing permission from the council.
- All lease arrangements for the purpose of cropping are to be reviewed. Where cropping is occurring in an area containing significant native vegetation (as assessed by a suitable qualified person), the lease arrangements will be modified to ensure that the native vegetation is protected.
- New applications to crop areas of land within road reserve areas will not be permitted.
- Council will notify landholders with current leasing arrangements for the purpose of cropping if the land will be required in the future for revegetation purposes.

2.16 Removal of plant material

Removal of plant material from road reserves within the District Council of Karoonda East Murray refers to removal of seed, flowers, living timber, branches, cuttings and dead timber and branches. The collection and removal of any plant material from roadsides requires approval from council under the *Local Government Act* 1999 and from DEH under the *National Parks and Wildlife Act* 1972. Additional approval from the Native Vegetation Council is required if proposed activities include live timber harvesting or brush cutting and flower harvesting, and may be required if seed and fruit are to be harvested for commercial purposes. The District Council of Karoonda East Murray views native vegetation within road reserves as an important seed source of locally occurring native species which is suitable for revegetation projects within the council area. Furthermore, fallen timber is considered an important component of the habitat value of roadside vegetation and does not permit removal of this material.

Policy:

Council will ensure that the removal of any plant material is conducted according to the guidelines within this RVMP and that the appropriate permits have been issued.

Objective:

- To manage the removal of plant material to conserve and sustain local native species and habitat values within roadsides.
- To promote revegetation of low conservation areas with locally adapted species.

Guidelines:

- Collection of plant material within road reserve areas requires council approval with applications (see Appendix 3) to include;
 - Council application form
 - Copy of the *National Parks and Wildlife Act* permit
 - Copy of permit issued by NVC (if required)
- The issue of permits for collecting plant material for commercial purposes will be managed by council such that endangered, vulnerable and rare species are conserved. To ensure council is fully informed about species of conservation significance within the area, consultation with the local Bush Management Adviser is recommended.
- Collection of plant material must be undertaken in accordance with the conditions of the permit issued by DEH, NVC (if required), and additional conditions stipulated by council.
- When sourcing material for revegetation works, material must be collected from the nearest suitable location.

- Tree trimming programs (for verge maintenance) will be undertaken in consultation with local revegetation groups to facilitate the collection of seed and fruit from trimmed vegetation.
- Applications to remove fallen timber (eg. for firewood collection) will not be approved, except if necessary for fuel reduction.

2.17 Maintenance of vegetation diversity

The condition of roadside vegetation within the District Council of Karoonda East Murray varies from Category A through to Category F (summarised in Section 1.6). In order to maintain sections of roadside vegetation of high conservation value (Category A and B) active management by community groups is seen as a potential means of preserving biological diversity and promoting regeneration of native species (“bushcare”).

Management of native vegetation within road reserves may include activities such as low-impact weeding, controlled burning, fencing and rubbish collection. Bushcare programs of this nature are organised by Trees For Life, however this organisation does not currently operate within the council area. It is therefore necessary to develop a similar approach within the council area and this may be facilitated by the involvement of Murray Mallee Local Action Planning (LAP) group.

Policy:

Council will encourage the maintenance of vegetation diversity within road reserves through the establishment of local community groups to undertake restoration activities.

Objective:

- To initiate the establishment of local community groups to conduct bushcare work within roadside vegetation of high conservation value to aid in maintenance of vegetation diversity.

Guidelines:

- Council is to consult with Murray Mallee LAP group to initiate the establishment of local bushcare groups and projects.
- Any community groups established are to liaise with Murray Mallee LAP Officers to develop minimal impact techniques for conducting bushcare.
- Community groups conducting bushcare should obtain council approval and consult with Regional Authorised Officers regarding the control of pest plant and animal species from within roadside reserves.
- Formal approval from the NVC will be required if proposed work involves the lopping, burning or other disturbance of native vegetation.
- Community groups and individuals interested in conducting bushcare within road reserves will be encouraged to participate in any relevant workshops or training courses. For information on suitable training courses contact organisations including Murray Mallee LAP, Trees For Life and Greening Australia.

2.18 Management of vegetation of conservation significance

Some sections of road reserve within the District Council of Karoonda East Murray contain native vegetation (individual plant species or vegetation communities) that is considered to be of very high ecological and conservation value (Category A and B). Furthermore, some sections are considered to be representative of a vegetation community that may be close to its pre-European condition (Category A). In a council area that has been extensively cleared for agricultural purposes, the importance of high quality native vegetation remaining within roadsides is recognised and valued. A recent Roadside Vegetation Survey has been conducted which identifies segments of roadside vegetation that are of high conservation and ecological value, not only for vegetation but as habitat for important local indigenous fauna species. This survey covered a total of 600.20km of road within the District Council of Karoonda East Murray. It is considered important that all areas of high conservation and ecological value are identified and managed appropriately.

Policy:

Council will ensure roadside vegetation of conservation significance is identified and managed for its protection.

Objective:

- To identify and manage roadside vegetation of high conservation and ecological significance.

Guidelines:

- A further Roadside Vegetation Survey is to be conducted on the remaining roads as yet unsurveyed to establish all sections of high quality native vegetation, dependant upon available funding (ie NVC Grant).
- Roadside Significant Sites (Category A and B) proposed within the Roadside Vegetation Survey are to have appropriate signage erected (Roadside Marker Scheme), especially for the benefit of council staff and contractors, dependant upon available funding (ie NVC Grant). Segments of roadside vegetation that have been identified as Category A are of first priority, followed by Category B.
- A database of all Roadside Significant Sites is to be established and maintained.
- Council staff and contractors who undertake work within road reserves are to undertake training programs to develop work procedures that ensure the protection of Roadside Significant Sites.
- Roadside Significant Sites are to be highlighted as possible and desirable sites for local community groups to conduct bushcare work within.
- Community groups and individuals interested in conducting bushcare within road reserves will be encouraged to participate in any relevant workshops or training courses. For information on suitable training courses contact organisations including Murray Mallee LAP, Trees For Life and Greening Australia.

2.19 Rehabilitation

Some sections of roadside vegetation containing native vegetation have become degraded such that some form of intervention is required to restore the area to its original condition. These areas have been disturbed by a variety of factors including vegetation clearance, pest animal and plant invasion, recreational activities, and road widening and maintenance activities. The District Council of Karoonda East Murray is committed to ensuring that activities conducted within roadsides are conducted in a manner consistent with the procedures within this RVMP to minimise degradation of native vegetation. Furthermore, areas disturbed in the past are to be rehabilitated where possible. Council currently allows areas to rehabilitate through natural regeneration.

Policy:

Council will encourage the rehabilitation of suitable, degraded areas of road reserve through natural regeneration of native plant species.

Objective:

- To re-establish native vegetation within degraded areas through natural regeneration.
- To prevent further degradation within road reserves, and protect those suitable areas where natural regeneration occurs.

Guidelines:

- Ensure all activities to be conducted within road reserves are conducted according to the policies and guidelines contained within this RVMP.
- In order to facilitate natural regeneration of native plant species control of factors including pest plant and animal species and illegal recreational activities are to be undertaken where possible. These actions are to be conducted according to the policies and guidelines contained within this RVMP.

2.20 Revegetation

The road reserve areas within the District Council of Karoonda East Murray, which have been extensively cleared in the past, could be revegetated. Council views revegetation as an activity which can increase the amount of native vegetation within the area. Revegetation of suitable areas will create additional habitat for wildlife and may initiate the linkage of existing remnants of native vegetation. Other benefits include buffering existing remnants of native vegetation, improving the visual amenity of an area, reducing the risk of soil erosion and soil salinity and possibly to reduce fire risk. The District Council of Karoonda East Murray encourages revegetation within the area, with consideration to council's responsibilities in relation to road safety and bushfire prevention requirements. Revegetation with native plant species is encouraged. Guidelines for revegetation programs have been outlined within *Guidelines for the Management of Roadside Vegetation* and council policy incorporates these guidelines within this RVMP. Under the *Local Government Act 1999*, it is a requirement for others intending to conduct revegetation programmes within road reserves to obtain permission from local council.

Policy:

Council will encourage the revegetation of suitable, degraded areas of road reserve utilising local native species with seed collected as close as possible to the revegetation site with the intent to mimic pre-European vegetation communities previously present in that area.

Objective:

- To revegetate suitable areas within roadside reserves to increase the native vegetation present within roadsides.
- To enhance biodiversity values within road reserve areas.
- To only utilise local native species with seed collected as close as possible to the revegetation site.

Guidelines:

- It is a legal requirement that permission be sought from council, through written application, for non-council revegetation projects to be undertaken. Council is to provide written permission for suitable revegetation projects.
- Revegetation projects should be undertaken within priority areas. These include the widest possible sections of roadside (>10m wide) which maximise the habitat value gain, and reduce potential edge effects from exotic species. Other priority areas may include areas devoid of native vegetation which are directly adjacent areas of high conservation value. Revegetation in this case will provide a buffer to existing good quality native vegetation. Revegetation projects are usually unnecessary within roadside vegetation of Category A, B and C.
- A site assessment conducted by a qualified consultant, LAP Officer or the council's Environment Officer should be undertaken prior to any revegetation work to ensure the proposed site is suitable for such work.

- Use of local seed and local species is encouraged for use in revegetation projects. Collection of seeds should be undertaken according to the guidelines within this RVMP. All seed or plants used for revegetation projects should be from seed collected from naturally occurring areas of native vegetation of similar soil type, slope and aspect as close as practicable to the area to be revegetated (preferable within 10km).
- Care is required to avoid damaging areas containing native grass species, which may be difficult for non-experts to identify. It may also be inappropriate to plant trees or shrubs within native grassland areas. Consultation with an expert may be required.
- Revegetation projects must not interfere with council's responsibility to provide for road safety. The line of sight of vehicles must not be restricted, nor greatly reduce road visibility and should not pose any other hazards to road users.
- Replanting near powerlines must comply with the legislation and guidelines of the ETSA Corporation.
- For larger scale projects, direct seeding using locally collected native seeds may prove more cost effective and efficient for covering large areas. This method is more suited to areas devoid of native vegetation.
- Tubestock planting is more suited to revegetating smaller areas for immediate results, where the site is difficult to reach with a direct seeding machine or in areas which contain existing native vegetation.
- Council may work together with the Murray Mallee Local Action Planning group when planning and conducting revegetation programmes.
- Community groups and individuals interested in conducting revegetation within road reserves will be encouraged to participate in any relevant workshops or training courses. For information on suitable training courses contact organisations including Murray Mallee LAP and Greening Australia.

2.21 Sand Drift

Sand drifting into road reserves from adjacent agricultural land is a significant environmental issue for the District Council of Karoonda East Murray. The sand is generally drifting into road reserves from privately owned paddocks which are predominantly used for cropping purposes. Issues for native vegetation within road reserves as a result of sand drift include the smothering of understorey plants which may subsequently die and severe sand drift may cause mature overstorey plants to degrade in the long term. Sand drift can also prevent regeneration of plant species and can cause a reduction in the available habitat for fauna. Other issues include sand blasting of plants which can cause physical damage during strong winds.

Policy:

Council will encourage land holders to utilise best land management practices to minimise the potential for future sand drift into road reserves.

Objective:

- To minimise the impact of sand drift on native vegetation within road reserves.
- To maintain biodiversity values within road reserve areas.

Guidelines:

- Landholders are to be encouraged to change their land management practices to reduce sand from drifting into road reserve areas.
- Revegetation of areas where the sand is coming from, either with fast growing native species or some form of permanent pasture or fodder crop will help to hold soil together. Liaison with relevant land holders will be required.
- Where sand drift into road reserves is recent, physical removal taking care to avoid further damage to native plants may be an option, dependant upon resources. Large earth moving equipment should not be used in areas containing native vegetation, but may be utilised in areas containing no native understorey plants and widely spaced overstorey trees (avoiding damage to root systems) or areas with no native vegetation. Note that machinery may also impact on reptile burrow habitat. In areas containing native vegetation manual removal using shovels is the preferred method. This is timely and may not be a feasible option.
- Areas of past sand drift showing signs of plant regeneration should be left to regenerate.
- Any sand removed from road reserves or road carriageways should be moved to a site and revegetated to prevent it from being blown away. It should not be moved into areas containing native vegetation.

3. Risk Assessment and Management

Table 1. Risk assessment of threats to native roadside vegetation.

See Table 2 for an explanation of Severity ratings and Table 3 for an explanation of Likelihood ratings. The level of Risk combines both the Severity and Likelihood ratings with the matrix used presented in Table 4.

Activity / Issues	Hazard	Consequence	Severity	Likelihood	Risk
Road Construction	excessive movement of equipment through native vegetation	removal/ destruction/ damage of native vegetation	Disastrous	Likely	High
		soil disturbance and removal of soil seed bank	Severe	Likely	High
		removal of habitat including hollows	Severe	Likely	High
Road Maintenance	placing grading rill outside formation	destruction or damage to native plants (smothering)	Major	Likely	Medium
	turning grader in roadside	soil disturbance and removal of soil seedbank	Major	Likely	Medium
	movement of grader along roads	spread of or introduction of pest plant species or soil-borne pests and diseases	Major	Likely	Medium
Verge Maintenance	pruning in excess of standards	damage to native vegetation	Minor	Unlikely	Medium
	plant removal in excess of standards	removal of native vegetation	Major	Unlikely	Medium
Borrow pits/ Stockpile sites	creation of new sites in areas of high conservation significance	removal / damage / smothering of native plants	Disastrous	Rare	Medium
		removal of soil and soil seed bank	Severe	Rare	Medium
Utilities	equipment operating within road reserves containing native vegetation	clearance / damage of native vegetation	Major	Unlikely	Medium
		spread of or introduction of pest plant species or soil-borne pests and diseases	Severe	Likely	High
	insensitive methods used to maintain services	soil disturbance / removal	Major	Likely	Medium
Rabbits	Grazing	damage to mature native vegetation	Minor	Likely	Medium
		destruction of seedlings	Major	Likely	Medium

Activity / Issues	Hazard	Consequence	Severity	Likelihood	Risk
Pest animal control	ripping of rabbit warrens	clearance / disturbance of native vegetation	Major	Unlikely	Medium
		soil disturbance	Major	Rare	Medium
		establishment of pest plant species	Major	Rare	Medium
Weed invasion	competition with native plant species	native plant species replaced by pest plant species	Severe	Virtually Certain	High
Pest plant control	overspray				
	herbicide spillage	destruction or damage to native plants	Major	Unlikely	Medium
	slashing of native vegetation				
Spread of plant pathogens (eg Phytophthora or Mundulla Yellows)	infection of native plant species with disease	death of native plant species	Severe	Virtually impossible	Medium
Fence line clearance	pruning of native vegetation	damage to native vegetation	Minor	Likely	Medium
		smothering of native understorey vegetation	Minor	Unlikely	Medium
	excessive clearance of native vegetation	removal of native vegetation	Major	Unlikely	Medium
		soil disturbance	Severe	Unlikely	Medium
Property access	pruning of native vegetation	damage to native vegetation	Minor	Likely	Medium
		smothering of native understorey vegetation	Minor	Unlikely	Medium
	excessive clearance of native vegetation	removal of native vegetation	Major	Unlikely	Medium
		soil disturbance	Severe	Unlikely	Medium
Bushfire hazard reduction	excessive clearance / slashing/ mowing for fire breaks	removal / damage of native vegetation	Major	Rare	Medium
	inappropriate burn regime for fuel reduction	loss of threatened plant species	Disastrous	Virtually impossible	Medium
	excessive firewood collection for fuel reduction	loss of habitat for fauna	Minor	Rare	Low
Stock grazing	grazing of stock within roadside vegetation	damage / removal of native plant species	Minor	Unlikely	Medium
		soil disturbance	Minor	Rare	Low
		spread of pest plant species	Major	Rare	Medium
		altered soil nutrient profile	Minor	Rare	Low

Activity / Issues	Hazard	Consequence	Severity	Likelihood	Risk
Stock movement	movement of stock within roadside vegetation	damage / removal of native plant species	Minor	Unlikely	Medium
		soil disturbance	Minor	Rare	Low
		spread of pest plant species	Major	Rare	Medium
		altered soil nutrient profile	Minor	Rare	Low
Recreation	walking	damage / removal of native plant species	Minor	Unlikely	Medium
	bike riding				
	horse riding	soil disturbance	Minor	Unlikely	Medium
	trail bikes and other off-road vehicles	spread of pest plant species or soil-borne pests and diseases	Minor	Unlikely	Medium
Cropping	cultivation of crops	increased dust	Negligible	Unlikely	Low
		run-off of fertiliser and chemicals to non-target areas	Minor	Virtually impossible	Low
		weed invasion	Minor	Likely	Medium
Removal of plant material	over-collection	local extinction of threatened plant species	Severe	Virtually impossible	Medium
Revegetation	Inappropriate planting (eg trees planted within native grasslands)	loss of intact vegetation associations	Major	Rare	Medium
Sand drift	drifting of sand into road reserves	smothering / death of native plants	Severe	Virtually Certain	High

Table 2. Severity of consequences (as used in Table 1).

Severity	Description of Environmental Consequences¹
Negligible	No demonstrable or measurable effect.
Minor	Few plants affected. No damage to threatened species or vegetation of conservation significance. No long-term damage to vegetation.
Major	Significant numbers of plants killed. Limited damage to threatened species or vegetation of high conservation significance or moderate damage to vegetation of lower conservation significance. Damage reversible in less than five years.
Severe	Substantial damage to vegetation. Moderate damage to threatened species or vegetation of high conservation significance or severe damage to vegetation of lower conservation significance. Eventual recovery possible, but not necessarily to the same pre-incident conditions.
Disastrous	Irreversible and irrecoverable changes to areas of vegetation, with little prospect of recovery to pre-incident conditions. Extensive damage to and loss of vegetation of high conservation significance, possibly loss of threatened species.

¹Based on impacts to good quality native vegetation.

Table 3. Likelihood of occurrence of damage (as used in Table 1).

Likelihood	Qualitative description of exposure
Virtually Impossible	Has almost never occurred, but conceivably could
Rare	Has occurred but only a few times
Unlikely	Occurs, but not likely
Likely	Likely to occur
Virtually Certain	Can be expected to occur more than once and includes continuous impact

Table 4. Risk matrix (as used in Table 1).

		LIKELIHOOD OF CONSEQUENCE				
		Virtually Impossible	Rare	Unlikely	Likely	Virtually Certain
SEVERITY OF CONSEQUENCE	Negligible Effect	LOW	LOW	LOW	LOW	LOW
	Minor Effect	LOW	LOW	MEDIUM	MEDIUM	MEDIUM
	Major Effect	MEDIUM	MEDIUM	MEDIUM	MEDIUM	HIGH
	Severe Effect	MEDIUM	MEDIUM	MEDIUM	HIGH	HIGH
	Disastrous Effect	MEDIUM	MEDIUM	HIGH	HIGH	HIGH

Table 5. Roadside management matrix.

Definition	Overall Significance / Management Category					
	A	B	C	D	E	F
1. Value	Very high value	High value	High value	Moderate value	Low value	Unknown value
2. Restrictions	Many restrictions apply	Restrictions apply	Restrictions apply	Some restrictions apply	Few restrictions apply	Restrictions may apply subject to an assessment of the site
Activity	Roadside Management Restrictions					
Road construction	Avoid Native Vegetation Council to be consulted	Avoid Native Vegetation Council to be consulted	Limit Native Vegetation Council to be consulted	Native Vegetation Council to be consulted	Native Vegetation Council to be consulted	Native Vegetation Council to be consulted
Road maintenance	Avoid if possible Minimal disturbance methods only	Avoid if possible Minimal disturbance methods only	Minimal disturbance methods only	Minimal disturbance methods only	Minimal disturbance methods only	Minimal disturbance methods only
Verge maintenance	Minimal disturbance methods only	Minimal disturbance methods only	Minimal disturbance methods only	Minimal disturbance methods only	Minimal disturbance methods only	Minimal disturbance methods only
Borrow pits / Stockpiling	Not permitted	Not permitted	Avoid	Select site with care. Native Vegetation Council Secretariat to be consulted if removal of native vegetation is required.	Select site with care. Native Vegetation Council Secretariat to be consulted if removal of native vegetation is required.	Assessment required
Service installation	Avoid Native Vegetation Council Secretariat to be consulted if	Avoid Native Vegetation Council Secretariat to be consulted if	Avoid Native Vegetation Council Secretariat to be consulted if	Select site with care Native Vegetation Council Secretariat to be consulted if	Select site with care. Native Vegetation Council Secretariat to be consulted if	Assessment required

	removal of native vegetation is required.	removal of native vegetation is required.	removal of native vegetation is required.	removal of native vegetation is required.	removal of native vegetation is required.	
Service maintenance	Minimal disturbance methods only Native Vegetation Conservation Section to be consulted if maintenance clearance is in excess of standards No vehicle access	Minimal disturbance methods only Native Vegetation Conservation Section to be consulted if maintenance clearance is in excess of standards No vehicle access	Minimal disturbance methods only Native Vegetation Conservation Section to be consulted if maintenance clearance is in excess of standards No vehicle access	Rehabilitation plan required Native Vegetation Conservation Section to be consulted if maintenance clearance is in excess of standards No vehicle access	No restrictions Work within approved standard operating procedures or guidelines of RVMP	Assessment required
Pest animal control	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group
Pest plant control	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group	Regulated Liaise with Mallee and Coorong NRM Group
Clearing along fence lines	Avoid Regulated Clearance beyond guidelines requires Native Vegetation Council approval	Avoid Regulated Clearance beyond guidelines requires Native Vegetation Council approval	Avoid Regulated Clearance beyond guidelines requires Native Vegetation Council approval	Regulated Clearance beyond guidelines requires Native Vegetation Council approval	Regulated	Regulated
Clearing for property access	Avoid Regulated Clearance beyond guidelines requires Native Vegetation Council approval, and if along arterial roads, Transport SA	Avoid Regulated Clearance beyond guidelines requires Native Vegetation Council approval, and if along arterial roads, Transport SA	Avoid Regulated Clearance beyond guidelines requires Native Vegetation Council approval, and if along arterial roads, Transport SA	Regulated Clearance beyond guidelines requires Native Vegetation Council approval	Regulated	Regulated

Fuelbreaks for bushfire hazard reduction	Avoid Subject to guidelines and approved management plans	Avoid Subject to guidelines and approved management plans	Avoid Subject to guidelines and approved management plans	Only if absolutely necessary Subject to guidelines and approved management plans	No restrictions in areas void of native vegetation. Subject to guidelines and approved management plans	Only if absolutely necessary Subject to guidelines and approved management plans
Fuel reduction burning	Avoid	Avoid	Avoid	Only if absolutely necessary	Regulated Liaise with CFS	Only if absolutely necessary Liaise with CFS
Firewood collection	Avoid Regulated	Avoid Regulated	Avoid Regulated	Regulated	Regulated	Regulated
Stock grazing	Not permitted	Not permitted	Not permitted	Not permitted	Not permitted	Not permitted
Stock movement	Avoid if possible	Avoid if possible	Avoid if possible	Avoid if possible	Avoid if possible	Avoid if possible
Recreation	Use of off-road vehicles not permitted	Use of off-road vehicles not permitted	Use of off-road vehicles not permitted	Use of off-road vehicles not permitted Work within guidelines of RVMP for other recreational activities	Use of off-road vehicles not permitted Work within guidelines of RVMP for other recreational activities	Use of off-road vehicles not permitted
Cropping	Regulated New applications not permitted	Regulated New applications not permitted	Regulated New applications not permitted	Regulated New applications not permitted	Regulated Work within guidelines of RVMP	Assessment required
Removal of plant material	Regulated <i>National Parks and Wildlife Act</i> permit required May require NVC consent	Regulated <i>National Parks and Wildlife Act</i> permit required May require NVC consent	Regulated <i>National Parks and Wildlife Act</i> permit required May require NVC consent	Regulated <i>National Parks and Wildlife Act</i> permit required May require NVC consent	Regulated <i>National Parks and Wildlife Act</i> permit required	Regulated <i>National Parks and Wildlife Act</i> permit required May require NVC consent
Maintenance of vegetation diversity	NVC approval required if any disturbance to native	NVC approval required if any disturbance to native	Not undertaken	Not undertaken	Not undertaken	Assessment required

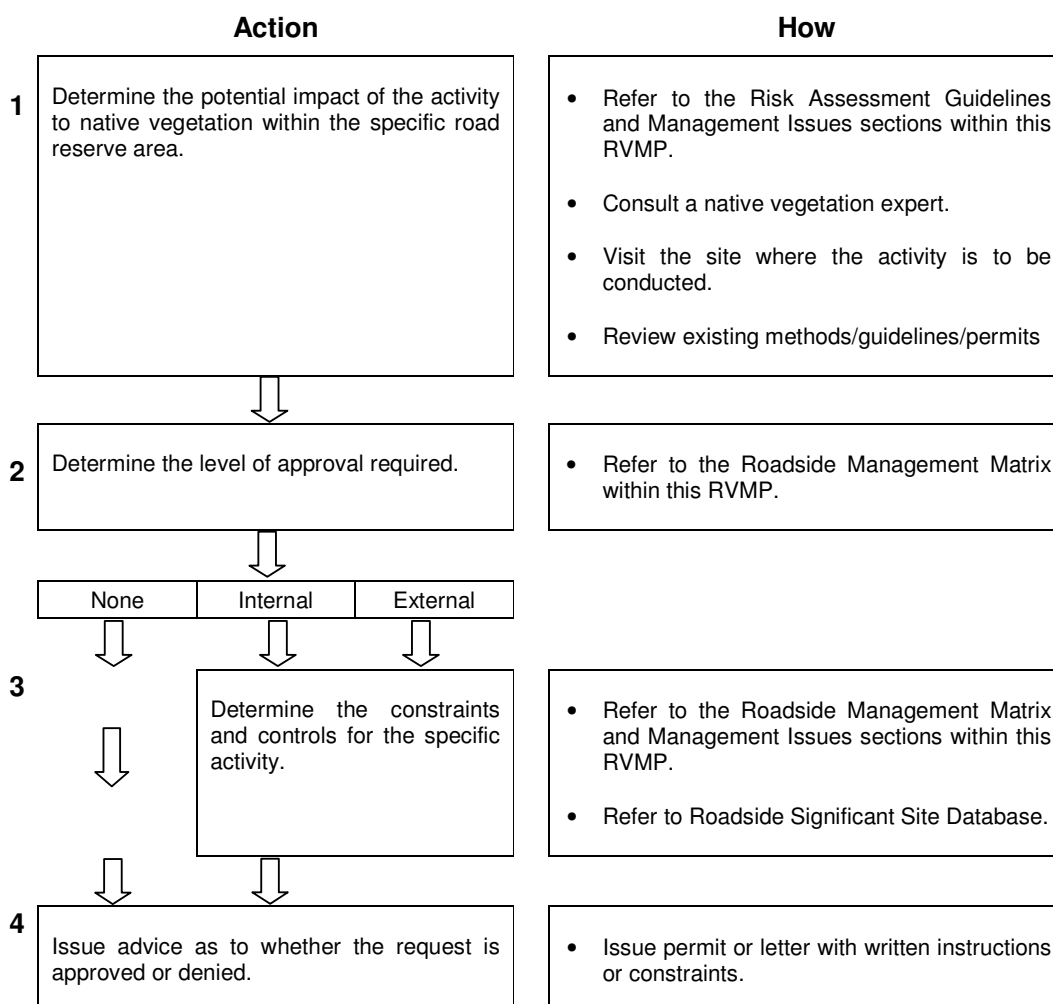
	vegetation is required	vegetation is required				
Revegetation	Avoid	Avoid	Avoid	Regulated Open areas only – avoid native grass areas	Regulated Revegetation with local native species suitable	Regulated Assessment required
Site marking	Mark and add to database of roadside significant sites	Mark and add to database of roadside significant sites	Not marked unless threatened species present	Not marked unless threatened species present	Not marked	Assessment required

4. Implementation of RVMP

To ensure that all proposed activities to be conducted within road reserves comply with the *Native Vegetation Act 1991* it is imperative that there is an internal assessment and approval process. This RVMP outlines the process for internal assessment and approval to be followed. In cases where a routine activity is occurring in a consistent manner and is explicitly defined within the RVMP, ongoing compliance may be achieved through the endorsement of a standard set of guidelines. However, some activities conducted within road reserves may vary in their potential impact on roadside vegetation. In these cases, each application must be assessed with specific approval required.

The following flow table illustrates the process council should follow for an assessment and approval process for activities that may impact upon roadside vegetation.

Table 6. Roadside activity approval procedure.



Job Environmental Analysis Checklist

Completion of a Job Environmental Analysis (JEA) checklist for road works (high impact or high risk projects) will be useful for ensuring that the appropriate steps for assessing the risk of damage to roadside vegetation are undertaken. Identifying potential risks prior to undertaking the task will enable specific actions to be implemented that will eliminate or reduce the risk of damaging native vegetation. The checklist presented below incorporates three stages involved in undertaking projects; planning, undertaking the task and project completion.

Table 7. Job environmental analysis.

Job Type		Job Description
Road Construction		
Road Maintenance		
Verge Maintenance		
Service Install/Maintenance		
Animal & Plant Control		
Revegetation		
Other		
Location		
Road Name:		Section:
Road Number:		Length (km):
From:		To:
Project Manager/Supervisor:		
Department/Contractor undertaking work:		
Start Date:		Finish Date:

		Action / Quantity
PLANNING		
Will there be any deviation from the existing alignment?		
Will the road formation be widened? ▪ Will the new alignment and cross-section alter the existing safety Clearance Envelope for vegetation?		
Will the new alignment and cross-section alter the existing safety Clearance Envelope for vegetation?		
Will services need relocation?		
Does the site have any roadside vegetation?		
Does adjacent land have any native vegetation?		
Is any native vegetation clearance required?		
What is its conservation value / management category?		
Is vegetation clearance consistent with RVMP?		

		Action / Quantity
Are there any rare or threatened species present?		
What native vegetation protection is required?		
What approval for vegetation clearance is required?		
Are there any special restrictions or requirements for undertaking work in this area?		
Has the area of vegetation disturbance been identified and marked on site?		
Are there any proclaimed weed species present? ▪ What control is required?		
Are weed or disease control measures required in this area (ie. vehicle hygiene requirements)		
Are there any proclaimed animal species present? ▪ What control is required?		
Are vehicle turnouts required? ▪ Have suitable vehicle turnouts sites been identified?		
Is any stripping of vegetation and topsoil required?		
Are stockpile or staging areas required? ▪ Have suitable stockpile or staging areas been identified?		
Is there a natural watercourse in the vicinity? ▪ What protection is required?		
Will this activity result in the alteration to drainage? ▪ Have alterations to drainage been considered? ▪ Have the appropriate steps been taken to minimise the impact of drainage alterations on roadside vegetation? ▪ Have appropriate spoil management practices been chosen to minimise vegetation disturbance?		
Will this activity result in the generation of sediment? ▪ Have the appropriate steps been taken to minimise the impact of sedimentation on roadside vegetation?		
Are traffic management measures required? ▪ Will they impact roadside vegetation? ▪ Have the appropriate steps been taken to minimise the impact on roadside vegetation?		
Is any extraction of raw material (eg. fill, gravel, water) required?		
Have all project personnel (including contractors) received the appropriate environmental training for the task?		
Are rehabilitation or revegetation measures required?		

		Action / Quantity
UNDERTAKING TASK		
Has the task footprint or activity zone been identified or marked on site?		
Have significant vegetation sites with a buffer area (25m) been flagged off to prevent disturbance?		
Are adequate vehicle hygiene practices being followed?		
Are weather conditions being taken into account when undertaking specific activities (eg. spraying, grading)?		
TASK COMPLETION AND ASSESSMENT		
Were any areas outside the activity zone cleared?		
Were the designated vehicle turnouts/stockpile sites used?		
Were appropriate vehicle hygiene practices followed?		
Was the impact of drainage alterations on roadside vegetation kept to a minimum?		
Was the impact of sedimentation on roadside vegetation kept to a minimum?		
Have appropriate site clean-up or rehabilitation activities been carried out?		
Checklist completed by:		
Position/Title:		
Date:		

4.1 Roles and Responsibilities

In order for policies and guidelines within this RVMP to be followed and implemented it is necessary to identify those staff responsible for specific aspects of this plan.

The Accountant, District Council of Karoonda East Murray is to be responsible for maintaining the RVMP, including any updates which reflect any relevant organisational or legislative changes that may occur. Completion of any reporting and review of the RVMP is also the responsibility of the Accountant, District Council of Karoonda East Murray.

When the works crew is working in the field the Work Foreman will be responsible for ensuring all projects are being conducted in accordance with the guidelines within this plan and any updates. The Work Foreman must also ensure prior approval has been given by the Accountant, District Council of Karoonda East Murray, where required.

The Murray Mallee Local Action Planning Group will be responsible for ensuring all community groups known to be working within areas of roadside vegetation are compliant with the relevant RVMP guidelines and any updates.

Assistance regarding the implementation of this plan may be sought from the local Bush Management Advisor, DEH, Regional Investigator, DEH and the NVC Secretariat.

4.2 Training and Education

It is recognised that for council's policy regarding native vegetation within road reserves to be upheld, anyone conducting work or activities within road reserves must be familiar with the relevant guidelines. As such, all council staff who work on roads and within road reserves must be up to date on relevant policies and procedures, as well as local land holders, local community groups, contractors, local service providers and anyone else accessing road reserves.

With such a wide variety of works / activities that are conducted within road reserves there is a requirement for a combined approach in regards to education and training. The council will work in conjunction with several groups including the Murray Mallee Local Action Planning group, the Mallee and Coorong NRM Group, local CFS, Department for Environment and Heritage (Berri) and local community groups. Combined, the council aims to work with each group to promote an understanding of the policy and guidelines within the RVMP. Each group can then, in turn, contribute to the education of landholders with regard to the council guidelines for activities conducted within road reserves.

Within council, all staff that work on roads and within road reserves will be required to become familiar with all aspects of the RVMP. It is intended that a series of workshops will be conducted for council staff to become familiar with the RVMP. These workshops will be held following formal approval of this plan by the Native Vegetation Council. It is the responsibility of the Accountant, District Council of Karoonda East Murray, to ensure any new staff become familiar with the plan and that all staff are made aware of any updates incorporated into the plan. Once council staff are familiar with the RVMP they will be able to liaise with and educate the general public regarding specific issues as appropriate whilst working within the council area.

Further to workshops held for council staff there are a number of organisations that provide environmental training suitable for council works staff. These include the following native vegetation information and training packages and may be suitable for some staff members:

Environmental Management for Roadside Maintenance Activities
Environmental Training Program for Road Maintenance Workers
Civil Construction Skills and Technology Centre

Contact: Peter Kirvan

Ph: 8262 8066

Fax: 8262 7991

Email: kirvanp@civilskills.com.au

Where external contractors / groups / individuals intend to conduct work / activities within road reserves, council will provide copies of the relevant council policy and guidelines when an application to undertake work within road reserves is approved. A further approach will be to produce a series of brochures or fact sheets that will be readily available to promote adherence to the council guidelines relating to specific issues which will be released at relevant times throughout the year for distribution.

4.3 Vegetation Assessment and Approval

Table 8. Vegetation assessment and approval guidelines.

Note: Any activity requiring external assessment / approval also requires internal assessment / approval.

Activity	Section	Assessment / approval requirement		
		None	Internal	External (NVC / DEH / APCB / CFS)
Road construction (construction, major widening and realignments)	Section 2.1, page 8	If all work occurs in an area devoid of native vegetation.	Very minor and localised clearance, including pruning of branches or removal of one or two tree saplings or shrubs which are listed as common in the area.	Construction of new roads that will require the removal of native vegetation (NVC).
Road maintenance (patrol grading, vegetation trimming, pavement re-sheeting)	Section 2.2, page 12	If work occurs within NVC approved 'maintenance envelope'.	Minor clearance as defined in the endorsed RVMP.	Any clearance of vegetation outside of the NVC approved 'maintenance envelope' (NVC).
Verge maintenance	Section 2.3, page 14	If work occurs within NVC approved 'maintenance envelope'.		Any clearance of vegetation outside of the NVC approved 'maintenance envelope' (NVC).
Borrow pits / Stockpile sites	Section 2.4, page 16	If old borrow pits / stockpile sites are to be reused and which contain no native vegetation, and are surrounded by vegetation of Category D or E.	If old borrow pits / stockpile sites are to be reused and are within vegetation of Category A – C. If new borrow pits / stockpile sites are to be created within vegetation of Category D or E.	Any clearance of native vegetation within roadsides of Category A – C vegetation for the construction of new borrow pits / stockpile sites (NVC).
Installation and maintenance of utilities	Section 2.5, page 18	If no native vegetation is to be disturbed	If native vegetation is to be disturbed within vegetation of Category D or E.	Any clearance of native vegetation within roadsides of Category A – C vegetation is required (NVC).

Activity	Section	Assessment / approval requirement		
		None	Internal	External (NVC / DEH / APCB / CFS)
Pest animal control	Section 2.6, page 20	If no native vegetation is present based on previous assessment.	Minor clearance based on low off-target damage risk (eg selective control using low impact methods) within vegetation of Category D or E. Rabbit baiting programmes where native vegetation is present.	All pest animal control work (APCB – consultation only). All but minor clearance as defined in the endorsed RVMP (NVC). Large control programs involving high off-target damage risk (NVC).
Pest plant (weed) control	Section 2.7, page 22	If no native vegetation is present based on previous assessment.	Minor clearance based on low off-target damage risk (eg selective control using low impact methods) within vegetation of Category D or E.	All pest plant control work (APCB – consultation only). All but minor clearance as defined in the endorsed RVMP (NVC). Large control programs involving high off-target damage risk (NVC).
Fence-line clearance	Section 2.9, page 31	If no vegetation is to be removed from the road reserve side of the fence.	If vegetation is to be removed from the road reserve within 1m of existing fence-line and no plants of conservation significance are likely to be affected based on previous assessment.	Any clearance exceeding approved standard as defined in the endorsed RVMP (NVC).
Property access	Section 2.10, page 33	If no native vegetation is present bases on previous assessment.	Maximum 5m wide (normal vehicle access), 10m wide (machinery) if native vegetation is present of Category D and E.	Any clearance exceeding approved standard as defined in the endorsed RVMP (NVC).

Activity	Section	Assessment / approval requirement		
		None	Internal	External (NVC / DEH / APCB / CFS)
Bushfire hazard reduction (fuelbreaks, fuel reduction burning, firewood collection)	Section 2.11, page 35	If maintaining existing fuelbreaks up to five metres in width if previously assessed by local CFS as necessary.	New fuelbreaks that require the removal of vegetation from roadsides of Category D and E. Firewood collection.	Any new fuelbreaks that require the removal of native vegetation and any other proposed clearance for fire prevention, including burning (NVC, CFS).
Grazing of roadsides	Section 2.12, page 37	If no native vegetation is present based on previous assessment.	Approval required where the proposed location contains native vegetation. Applications to be rejected.	
Movement of stock on roadsides	Section 2.13, page 38	If moving along roadsides with no native vegetation.	As defined in the endorsed RVMP.	
Recreation	Section 2.14, page 39	If walking.	If horse-riding.	
Cropping of roadsides	Section 2.15, page 40		As defined in the endorsed RVMP.	
Removal of plant material	Section 2.16, page 41		As defined in the endorsed RVMP.	Removal of live timber other than for roadside management, and flower harvesting (NVC). Removal of any living plant material (including seeds) (DEH).
Maintenance of vegetation diversity	Section 2.17, page 43		Any maintenance projects – as defined in the endorsed RVMP.	Any measures involving burning, lopping or other disturbance of native vegetation (NVC).
Maintenance of vegetation of conservation significance	Section 2.18, page 44			

Activity	Section	Assessment / approval requirement		
		None	Internal	External (NVC / DEH / APCB / CFS)
Revegetation	Section 2.20, page 46		Any revegetation work – as defined in the endorsed RVMP.	

4.4 Monitoring of Roadside Vegetation

Table 9. Incident report form.

1. REPORT OF INCIDENT			
Date Reported:		Time Reported:	
Date of Incident:		Time of Incident:	
Location of Incident/Hazard:			
Details of Incident/Hazard (causes, effects, personnel involved, factual information only):			
Witness Name:		Signature:	
Was anyone injured?			
Has the Health and Safety Person been notified?			
2. REMEDIAL ACTION			
Remedial action required: YES / NO			
Details of proposed rectification work:			
<i>(Attach additional comments if necessary)</i>			
Name:		Title:	Signature:
Date:			
Approved by:		Signature:	Date:
3. CLOSE OUT REPORT			
Outcome of remedial work:			
Name:		Title:	
Signature:		Date:	

5. Reporting and Review

It is a requirement of the Native Vegetation Council that an annual report on the RVMP is undertaken to determine council performance regarding the implementation of and compliance with the RVMP. The District Council of Karoonda East Murray will submit an annual report on their RVMP to the Native Vegetation Council for the period ending 30th June following the adoption of this plan.

A standard template for the annual reporting process is included in Appendix 4.

It is intended that the RVMP annual reporting process will also form an internal basis for reporting on the RVMP in the council's Annual Report.

The Native Vegetation Council requires that RVMPs are reviewed initially after three years from the commencement of the plan and then at five-year intervals. The Accountant, District Council of Karoonda East Murray will be responsible for the review of and any revision of the District Council of Karoonda East Murray RVMP.

6. Associated Programs and Documentation

6.1 Roadside Vegetation Surveys

A Roadside Vegetation Survey (RVS) was conducted within the District Council of Karoonda East Murray (EBS 2004) and is Department for Environment and Heritage Survey Number 065. This survey was conducted according to the guidelines within *Guide to the Roadside Vegetation Survey Methodology for South Australia*. A total of 600.20 km of road was surveyed, with surveyed roads distributed throughout the council area. This RVS identified and documented the vegetation associations, both native and exotic, that were present within the road reserves. Such information is particularly useful for identifying areas of roadside that contain native vegetation of high conservation value, which will aid council to manage and conserve these areas. A map from the District Council of Karoonda East Murray Roadside Vegetation Survey highlighting vegetation of Category A to E is included in this RVMP as Appendix 6. Please refer to the RVS report (EBS 2004) for further details on roadside vegetation when planning any activity within roadside vegetation.

The RVS conducted during 2004 is considered to be Stage 1 in the overall goal of surveying all roadside vegetation within the District Council of Karoonda East Murray. Planning to conduct further RVS work within the council area is subject to funding and will focus on including those roads identified within planned work programs as a priority. The District Council of Karoonda East Murray will investigate possible funding opportunities to initiate further RVS work. The Bush Management Adviser, DEH, Berri and Project Officers from the Murray Mallee LAP group may be contacted for information relating to available funding opportunities and can provide assistance with grant applications. Useful information may be gained from a publication called *Bush Tracks: Shortcuts to Vegetation Information for Natural Resource Management*, which has been produced by Greening Australia and lists research organisations and NRM resources.

6.2 Roadside Marker Schemes

The implementation of a Roadside Marker Scheme (RMS) is considered to be an important component in the management of areas of high conservation significance. The RVS conducted during 2004 identified sections of roadside that contain vegetation associations of high conservation value (Category A and B). These sections of roadside have been proposed for inclusion in a RMS. Any further RVS work conducted within the council area will also identify further section of roadside containing native vegetation of high conservation value that may be included within a RMS.

The District Council of Karoonda East Murray will investigate possible funding opportunities to initiate a RMS through the contacts mentioned in Section 6.1. This funding will be required to:

- establish an initial site register or database,
- extract relevant information for the RVS,
- collate any other relevant information (eg known rare plant sites)
- fabricate marker plates,
- site validate potential sites,
- install and maintain markers, and
- establish and maintain a significant sites database.

7. References and Further Reading

- DEH (2005). *Dieback in Native Vegetation in the South Australian Murray-Darling Basin: a Guide to Symptoms and Causes*. Department for Environment and Heritage, South Australia.
- EBS (2004). *Roadside Vegetation Survey*. District Council of Karoonda East Murray.
- Local Government Association (1994). *Managing Unsealed Roads in South Australia*.
- Native Vegetation Council (1997). *Guidelines for the Management of Roadside Vegetation*. The Government of South Australia.
- Native Vegetation Council (2002). Clearance of Native Vegetation Associated with the Control of Plant and Animal Pests.
- Native Vegetation Council (2003). Dead trees included as native vegetation under the *Native Vegetation Act 1991* (as in force 25 August 2003).
- Native Vegetation Council (2004). *Preparing Roadside Vegetation Management Plans*. Guidelines for Local Government prepared by the Native Vegetation Council.
- Stokes, A. L., Heard, L.M.B., Carruthers, S., and Reynolds, T. (1998). *Guide to the Roadside Vegetation Survey Methodology in South Australia – Draft Working Document*. SAR Unit, Planning SA and Environmental Unit, Transport SA.
- Transport SA (1997). *Environmental Code of Practice for Construction; Road, Bridge and Marine Facilities*.

Appendix 1. Road categories assigned to the District Council of Karoonda East Murray road network.

SEG	NAME	CATEGORY*	LENGTH (km)
2	Netherliegh Rd	2	1.75
3	Bakara-Swan Rd	2	3.00
4	Nildottie Rd	2	2.20
6	Boundry Rd	3	3.00
7	Boundry Rd	3	5.85
8	Zadow Rd	2	4.50
11		4	0.00
10	Hundred Line Rd	3	1.75
12	Old School Rd	4	2.70
14	Old Loxton Rd	4	4.80
15	Bakara Well Rd	3	1.50
16	Bakara Well Rd	4	7.80
18	Bakara Rd	2	8.90
19	Walker Flat Rd	2	2.00
20	Walker Flat Rd	2	3.80
21	Walker Flat Rd	2	2.50
22	Jam Tin Rd Corner Rd	2	7.70
24	Claypans Rd	2	8.40
26	Goondooloo Rd	2	6.60
28	Old Loxton Rd	2	9.95
30	Bakara Rd	2	9.40
32	Kunlara Rd	2	6.90
34	Walker Flat Rd	2	6.50
36	Waikerie Rd	2	5.40
38	Tyler Rd	4	1.70
40	Walshs Bore Rd	2	11.20
42	Goondooloo Rd	2	6.10
44	Waikerie Rd	2	7.70
46	Old Loxton Rd	4	3.20
48	Old Loxton Rd	3	3.70
50	Waikerie Rd	2	8.60
51	Cemetery Rd	2	3.80
52	Cemetery Rd	2	5.60
54	Waikerie Rd	2	7.30
56	Johns Rd	2	4.70
58	Walker Flat Rd	2	13.70
60	Kunlara Rd	2	8.00
62	Nelson Rd	3	1.30
64	Kadlie Bore Rd	3	1.00
66	Goondooloo Rd	2	7.00
70	Waikerie Rd	2	4.30
72	Old Loxton Rd	3	3.40
74	Berger Rd	2	7.00
76	Jacka Rd	2	6.50
77	Jacka Rd	2	3.90
78	Kadlie Bore Rd	2	4.10
80	Church Rd	2	12.30

SEG	NAME	CATEGORY*	LENGTH (km)
82	Goondooloo Rd	2	8.60
84	Waikerie Rd	2	1.35
86	Railway Rd	3	1.40
88	Boundry Rd	2	1.55
90	Wunkar Rd	2	4.70
92	Boundry Rd	3	4.05
94	Waikerie Rd	2	2.10
96	Dowling Rd	2	8.80
98	Old Loxton Rd	2	12.40
99	Evans Rd	2	3.10
100	Evans Rd	2	4.40
102	Walker Flat Rd	2	6.60
104	Walker Flat Rd	2	7.60
105	Walker Flat Rd	2	3.40
106	EMAS Rd	2	13.40
108	Dixon Rd	2	12.20
110	Kadlie Bore Rd	2	8.90
112	Kadlie Bore Rd	2	8.10
116	Knowling Rd	2	6.60
118	Goondooloo Rd	2	10.00
119	Knights Well Rd	2	4.60
120	Knights Well Rd	2	4.00
121		4	0.00
122	Walker Flat Rd	2	7.70
123	Knights Well Rd	2	4.00
124	Bitter Corner Rd	2	5.90
126	McCabe Rd	2	13.90
128	Manuel Rd	2	5.90
130	Martin Rd	2	5.80
132	Francis Rd	3	2.80
134	Dart Rd	3	2.80
136	Dart Rd	3	3.70
138	Francis Rd	2	5.40
140	Frankel Rd	2	1.90
142		4	1.90
143		4	2.80
144	Charleston Rd	2	4.50
146	Jeffries rd	2	4.50
148	Jeffries rd	4	0.90
150	Charleston Rd	2	5.50
152	Vontehoff Rd	2	8.60
154	Morell Rd	2	4.05
156	Morell Rd	2	2.90
158	Green Rd	2	1.95
160	Goondooloo Rd	2	4.85
162	Cockshell Rd	2	10.80
164	Bowhill Rd	2	12.50
166	Hawkes Rd	3	6.20
167	Ackland Rd	3	
168	Greiger Lane	3	1.70
170	Gribble Bore Rd	2	9.50

SEG	NAME	CATEGORY*	LENGTH (km)
172	Rosenzweig Rd	2	4.00
174	Durdin Rd	2	9.70
176	Baumgurtel Rd	2	15.40
178	Hundred Line Rd	3	12.70
180	Hundred Line Rd	2	2.70
182	Hundred Line Rd	2	8.80
184	Loechel Rd	2	3.30
186	Leedham Rd	2	6.90
188	Schiller Rd	2	5.60
190	Ned's Well Rd	2	7.70
192	Waikerie Rd	2	3.60
193	Waikerie Rd	2	3.70
194	Waikerie Rd	2	6.30
195	Waikerie Rd	2	2.20
106	Waikerie Rd	2	4.80
198	Waikerie Rd	2	7.70
200	Tumers Well Rd	2	11.40
202	Kilpalie Rd	3	10.40
204	Lord Rd	4	6.20
206	Herman Rd	2	11.20
208		4	5.60
210	Radloff Rd	3	4.10
212	O'Malley Rd	2	10.40
214	Hobby Rd	2	7.20
216	Rads Lane	3	3.40
218	Garrick Bore Rd	2	8.10
220	Garrick Bore Rd	2	5.70
222	Garrick Bore Rd	2	2.50
223	Garrick Bore Rd	2	5.00
224	Lalirra Rd	2	2.40
226	Lalirra Rd	2	7.30
227	Manley Rd	3	5.80
228	Lush Rd	3	5.90
230	Kilpalie Rd	2	9.20
232	Kilpalie Rd	2	3.70
234	Drescher Rd	2	8.00
236	Lalirra Rd	2	6.70
237	Pilchera Bore Rd	2	6.40
238	Pilchera Bore Rd	2	6.50
240	Maycocks Hill Rd	3	5.70
242	Loller Rd	2	15.90
244	Stutly Rd	3	3.10
245	Hoffner Rd	3	2.60
246		4	2.00
248	Jim Jolly Rd	2	11.80
250	Charleston Rd	3	4.50
252	Boughens Track	3	3.50
254	Boughen Rd	2	6.00
256	Boughen Rd	2	5.40
258	Jim Jolly Rd	2	4.10
260	Sandalwood/Marama	2	4.90

SEG	NAME	CATEGORY*	LENGTH (km)
262	Sandalwood/Marama	2	5.80
264	Gowling Rd	3	6.60
266	Tori Hills Rd	3	17.00
268	Sandalwood/Marama	2	4.50
270	Lee Rd	3	11.60
271	Menadue Rd	2	6.55
272	Blacket Rd	2	11.65
274	Arbon Rd	2	7.80
276	Mann Rd	2	3.35
278	Tailem Bend Rd	1	5.20
280	Payne Rd	4	2.00
282	Moorlands Rd	2	12.55
284	Schultz Rd	2	2.40
286	Wienckes Lane	3	1.60
288	Whytes Well Rd	2	8.30
290	Petras Rd	2	8.60
291	Cavanagh Rd	2	1.20
292	Old Adelaide Rd	2	5.00
294	Andersons Lane	2	2.10
296	Wingamin Rd	2	9.00
298	Pope Rd	2	7.30
300	Whytes Well Rd	2	9.00
302	Maywald Rd	2	6.90
304	Roberts Rd	3	1.10
305	Roberts Rd	2	0.50
308	Roberts Rd	4	2.90
310	Sherlock Rd	1	10.90
312	Sherlock Rd	1	3.00
316	Andersons Rd	2	11.20
318	Peake Rd	2	15.90
324	Worden Rd	2	9.30
326	Stones Track	3	7.60
328	Lameroo Rd	1	11.00
330	Barr Rd	2	10.70
332	Wegner Rd	2	13.40
334	Lameroo Rd	1	6.80
336	Nunkeri Rd	2	8.70
337	"Enan Bore" Rd	3	3.70
338	Ginno Rd	3	8.70
340	Morris Rd	3	6.40
342	Yurgo North Rd	2	11.50
344	Sandalwood/Marama	3	5.60
346	Polkinghome Rd	3	6.70
348	Sandalwood/Marama	2	7.60
349		4	0.00
350	Porker Rd	3	2.40
352	Lameroo Rd	1	11.40
354	Prentice Rd	2	7.10
356	Humphries Rd	3	10.50
358	Docking Rd	2	10.90
360	Jabuk Rd	2	7.10

SEG	NAME	CATEGORY*	LENGTH (km)
362	Mayr Rd	3	2.20
364	Geranium Rd	2	14.50
366	Galbraith Rd	2	5.30
368	Lameroo Rd	1	7.70
370	Old Lameroo Rd	1	10.20
372	Old Lameroo Rd	1	3.05
501	Peak St	1	0.19
502	Peak St	1	0.20
503	Peak St	1	0.18
504	North Tce	1	0.20
505	North Tce	1	0.20
506	North Tce	1	0.18
507	Karoonda Tce	1	0.19
508	Bodey St	1	0.11
509	Bodey St	1	0.11
510	Angus St	1	0.11
511	Angus St	1	0.11
512	Angus St	1	0.12
513	East Tce	1	0.12
514	East Tce	1	0.12
515	East Tce	1	0.14
516	Strokes Rd	1	0.47
518	Strokes Rd	1	0.21
520	Coads Rd	1	0.15
522	Coads Rd	1	0.12
524	Mickan Court	1	0.04
525	No Name 1	2	0.18
532	West Tce	1	0.26
534	Waikerie Rd	1	1.05
536	Miell Ave	1	0.09
537	Hermann Cr	1	0.03
538	Miell Ave	1	0.05
539	Hermann Cr	1	0.03
540	H.S. Green Ave	2	0.26
542	Bodey St North	2	0.22
544	Bodey St North	3	0.88
546	Tower Dr	2	0.28
548	Tower Dr	2	0.16
552	Old Adelaide Rd	2	0.26
556	Audrey Ave	2	0.25
558	Audrey Ave	1	0.07
559	Hart St	1	0.13
560	Kelvin St	1	0.12
562	Cemetery Rd	2	0.70
564	K.R. Wilson Dr	2	0.89
566	Gulf View Dr	4	0.60
567	Chutney St	1	0.17
568	Chutney St	1	0.07
569	Aberle St	1	0.05
570	Aberle St	1	0.27
572	Farr St	1	0.08

SEG	NAME	CATEGORY*	LENGTH (km)
574	Sherlock Rd	1	0.33
576	Sherlock Rd	1	0.29
590	Adelaide Rd	9	0.00
592	Railway Tce	9	0.00
593	Railway Tce	9	0.00
595	Railway Tce	9	0.00
600	Railway Tce WYN	2	0.65
604	Wright St WYN	3	0.10
605	Klose St WYN	3	0.15
606	Chenoweth St WYN	3	0.10
620	Railway Tce SAN	2	0.73
621	Abel St SAN	3	0.34
623	John Tce SAN	3	0.26
624	Thomas St SAN	3	0.24
625	Cross St SAN	3	0.10
628	"Cemetery" Rd SAN	3	1.02
630	Hummel St WAN	3	0.35
631	Jacob St WAN	3	0.35
632	West Tce WAN	3	0.48
634	Amey St WAN	2	0.18
636	East Tce WAN	3	0.31
640	Lock St MAR	3	0.22
646	Pulleine St PER	3	0.25
647	Roberts Track PER	3	0.70
648	"Oval" Rd PER	2	0.20
649	"Oval" Rd PER	3	0.60
655	South Tce KAL	2	0.12
656	"Kaly" Rd KAL	2	0.50
660	North Tce COP	2	0.23
670	Ogilvie Tce GAL	2	0.16
672	Stewart St GAL	2	0.25
674	Munro Tce GAL	3	0.25
676	Elliott St GAL	3	0.12
678	Paul St GAL	3	0.30
680	Strachan Tce MER	3	0.13
684	Behind Rlwy Yd ME	2	0.25
685	Behind Rlwy Yd ME	3	0.50
690	Clark St MAN	3	0.23
692	Gordon St MAN	3	0.33
694	Smyth Tce MAN	3	0.21
696	Railway Tce MAN	3	0.50

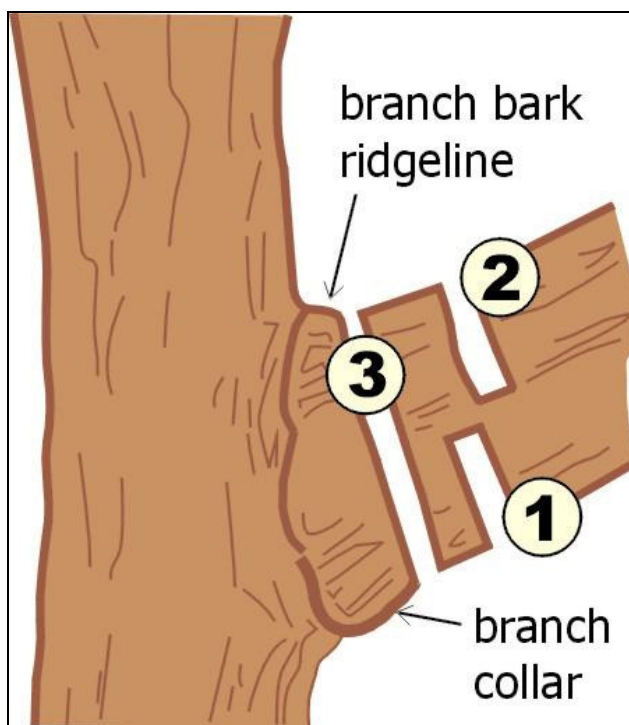
* Categories of road are: 1 – Sealed Road
2 – Formed and Sealed Road
3 – Natural Surface Formed Road
4 – Natural Surface Unformed Road

Appendix 2. Three-cut method for trimming branches.

The three-cut method for trimming or pruning of branches is a method that is designed to minimise the extent to which the tree is damaged. By using this method the formation of natural wound callus is also enhanced. The basic principles for performing the three-cut method for pruning of branches or limbs are described and illustrated below.

1. The first cut is an under cut into the branch to be removed. The distance of this cut from the parent branch or trunk will be dependant on the size of the limb being removed. Larger limbs will require this cut to be further away from the parent branch or trunk compared with smaller branches. If performed correctly, the under cut will ensure that the risk of branch peeling or tearing of bark when the limb is being removed is minimised.
2. The second cut is an upper cut that will result in the removal of the limb. This cut is to be made slightly further out along the limb compared with the under cut. This will ensure that the limb drops smoothly from the tree. For larger branches this cut may be as far as 30cm from the parent branch or trunk.
3. The third cut is performed to remove the remaining stump after the main weight of the branch is removed. The correct positioning of this cut will ensure the trees natural healing abilities are maximised. To perform this cut accurately the cut is to be made on the outer side of the branch collar and must not damage the branch bark ridge. The formation of evenly distributed wound growth over time around the cut surface is indicative of an effective cut.

Three-cut method for trimming branches.



Appendix 3. Council Application Forms



District Council of Karoonda East Murray

Application for permission to create new or use existing borrow pits and stockpile sites within road reserves

The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for creating new or using existing borrow pits and stockpile sites. The relevant section of the plan is attached for your information.

Applicant:

Company Name: _____ Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Proposed work:

Creation of new: borrow pit / stockpile site (Please circle)

Use of existing: borrow pit / stockpile site (Please circle)

Location details:

Road Name: _____

Location on the Road: _____

Does the proposed site contain Native Vegetation?

Please circle: Yes No

What is the duration of the project? _____

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

**Application for permission to install or conduct maintenance work on
utilities within road reserves**

The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for removal of native vegetation on road reserves when installing or conducting maintenance work on utilities. The relevant section of the plan is attached for your information.

Applicant:

Company Name: _____ Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Proposed work:

Installation of: _____ Maintenance of: _____

Location of proposed work:

Road Name: _____

Location on the Road: _____

Does the proposed work require the removal of Native Vegetation?

Please circle: Yes No

If yes, and the proposed work is for the installation of new services, has the Native Vegetation Council been consulted?

Please circle: Yes No

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to construct property access

Under the *Local Government Act 1999* landholders are required to obtain permission from council to construct a Property Access. The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for removal of native vegetation on road sides when constructing a Property Access. The relevant section of the plan is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Property location:

House No: _____ Lot No: _____ Section No: _____

Hundred of: _____ Road: _____

Township: _____

Attach a sketch of your entire property showing the following-

- Location of new Property Access
- All other property access points on your entire property

Does the construction of the Property Access require the removal of Native Vegetation?

Please circle: Yes No

If yes, please indicate the proposed length of clearance from the intersection along the road required for sight distance.

Please circle: <50m from intersection >50m from intersection

If yes, and the property access point is a third or subsequent access please indicate where you intend to undertake revegetation works and/or why an extra property access point is required.

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to install or conduct maintenance on a fence adjoining a road reserve

The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for removal or pruning of native vegetation within road reserves when installing or conducting maintenance on a boundary fence. The relevant section of the plan is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Property location:

House No: _____ Lot No: _____ Section No: _____

Hundred of: _____ Road: _____

Township: _____

Attach a sketch of your entire property showing the following-

- Location of the new fence
- Location of the fence requiring maintenance

If installing a new fence please indicate the distance of the new fence from the property boundary-

Please circle: 0m 1m 2m 3m >3m

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to remove plant material from Council property

The collection and removal of any plant material from roadsides requires approval from council under the *Local Government Act 1999* and from the Department for Environment and Heritage under the *National Parks and Wildlife Act 1972*. The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for removal of plant material within road reserves. The relevant section of the plan is attached for your information.

Applicant:

Name: _____ Company Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Collection location:

Road Name: _____

Location on the Road: _____

Species to be collected (please attach separately if necessary): _____

Type of plant material (please circle):

Seeds Flowers Vegetative Other (specify)

The purpose of the collection is for (please circle):

Sale of Product Private Use Other (specify) _____

Do you have \$10,000,000 Public Liability Insurance? Please circle: Yes No

Please attach-

- Copy of the *National Parks and Wildlife Act* Permit.
- Application for the *National Parks and Wildlife Act* Permit including the maps

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to remove firewood from Council property

The collection and removal of firewood from roadsides requires approval from council under the *Local Government Act 1999*. The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for removal of firewood within road reserves. The relevant section of the plan is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Collection location:

Road Name: _____

Location on the Road: _____

The purpose of the collection is for (please circle):

Sale of Product Private Use Other (specify) _____

Do you have \$10,000,000 Public Liability Insurance? Please circle: Yes No

You will comply with all aspects of the attached conditions? Please circle: Yes No

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to undertake weed management within Council road reserves

Under the *Local Government Act 1999* landholders are required to obtain permission from council to undertake weed management on road reserves. The relevant section of the *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Property location:

House No: _____ Lot No: _____ Section No: _____

Hundred of: _____ Road: _____

Township: _____

Please indicate below the weeds to be controlled and the method/s to be used.

Weed Species	Method	Chemical

Please attach a sketch of the location of where weed management is to occur.

Have you consulted the Murraylands Animal and Plant Control Board Officer?

Please circle: Yes No

Do you have \$10,000,000 Public Liability Insurance?

Please circle: Yes No

If not council will register you as a "volunteer" to undertake this activity only

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
 District Council of Karoonda East Murray
 PO Box 58
 KAROONDA SA 5037
 Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to undertake pest animal control within Council road reserves

Under the *Local Government Act 1999* landholders are required to obtain permission from council to undertake pest animal control on road reserves. The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for pest animal control within road reserves. The relevant section of the plan is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Property location:

House No: _____ Lot No: _____ Section No: _____

Hundred of: _____ Road: _____

Township: _____

Please indicate below the pest animal species to be controlled and the method/s to be used.

Pest Animal Species	Method	Chemical

Please attach a sketch of the location of where pest animal control is to occur.

Have you consulted the Regional Authorised Officer?

Please circle: Yes No

Do you have \$10,000,000 Public Liability Insurance?

Please circle: Yes No

If not council will register you as a "volunteer" to undertake this activity only

Signature of Applicant: _____ Date: _____

Return Form to:

Manager
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to undertake revegetation work within Council road reserves

Under the *Local Government Act 1999* landholders are required to obtain permission from council to undertake revegetation programmes on road reserves. The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for revegetation of road reserves. The relevant section of the plan is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Revegetation location:

Road Name: _____

Location (attach a sketch if required): _____

List the species to be planted/ direct seeded and the location the seed was collected (attached further list if required)-

Species	Location Collected

For what period do you wish to undertake the revegetation works?

Start Date:/...../..... End Date:/...../.....

Do you have \$10,000,000 Public Liability Insurance? Please circle: Yes No

If not council will register you as a "volunteer" to undertake this activity only

Signature of Applicant: _____ Date: _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to undertake recreational activities on Council road reserves

Individuals or groups interested in undertaking a recreational activity/event within road reserve areas are required to obtain permission from council. The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for undertaking recreational activities/events within road reserves. The relevant section of the plan is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Recreational activity:

Please provide details regarding the proposed activity/event.

Location of proposed activity:

Road Name/s: _____

Location (attach a sketch if required): _____

Do you have \$10,000,000 Public Liability Insurance?

Please circle: Yes No

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____



District Council of Karoonda East Murray

Application for permission to continue cropping on Council road reserves

Landholders are required to have permission from council to undertake cropping of road reserves through a leasing agreement. The *District Council of Karoonda East Murray Roadside Vegetation Management Plan 2005* details conditions for cropping of road reserves. The relevant section of the plan is attached for your information.

Applicant:

Name: _____

Telephone: _____ Fax: _____

Postal Address: _____

Property location:

House No: _____ Lot No: _____ Section No: _____

Hundred of: _____ Road: _____

Township: _____

Cropping location:

Road Name: _____

Location (attach a sketch if required): _____

List the species to be planted (attached further list if required)-

Species

Do you have \$10,000,000 Public Liability Insurance?

Please circle: Yes No

Signature of Applicant: _____ **Date:** _____

Return Form to:

Manager Corporate Services
District Council of Karoonda East Murray
PO Box 58
KAROONDA SA 5037
Fax- (08) 8578 1246

Date received: _____

Recommendation: _____

Officer: _____

Appendix 4. Roadside Vegetation Management Plan – Annual Report

Council: District Council of Karoonda East Murray

Reporting Period: _____

RVMP Title: _____ Publication Date: _____

Person completing this report: _____ Date Completed: _____

Contact details: _____

1. How much roadside native vegetation has been cleared in the reporting period?

– Length of roadside km

– Area of vegetation ha

2. Have there been any significant clearances of vegetation? Yes/No

Please provide details (include activities such as fuel reduction burning)

Works	Date	Vegetation type	Vegetation Management Category	Length/area cleared	Approval source*
<i>eg Widening Millers Road</i>	<i>May-June</i>	<i>Redgum woodland</i>	<i>3</i>	<i>50m (approx 8 trees)</i>	<i>NVC</i>

*Approval sources

- E - environmental staff
- C - approved consultant
- A - vegetation advisory group
- NVC - Native Vegetation Council
- NR – approval not required under the RVMP

3. How many permits have been issued for:

- vegetation clearance (eg. for property access) _____
- seed collection _____
- firewood collection _____
- plant material collection _____

4. What roadside vegetation management projects are being implemented or undertaken? Please provide details below.

Project	Required by RVMP? Y/N	New project? Y/N	Details of project(s) and progress
Roadside vegetation surveys*			
Roadside marker schemes*			
Rehabilitation			
Revegetation			
Weed control			
Pest animal control			
Applications for funding			
<i>Other</i>			

***Note** that if milestones for these schemes have been set in the RVMP, details of progress should be provided at question 7.

5. Please provide evidence of the use of vegetation procedures or checklists by council staff (eg. copies of job environmental checklists for any work undertaken by Works Department, copies of council permits to clear vegetation, etc).
6. Provide details of any Incident Reports involving the unauthorised clearance of roadside vegetation.
7. Have progress/milestones in the RVMP been achieved for the following programs:

Activity	Proposed output	Completed to date
Roadside vegetation surveys	<i>eg. survey 30% of roads in 2001</i>	<i>25% of roads surveyed in 2001</i>
Roadside marker scheme		
<i>Other</i>		

8. What relevant training sessions have been held? (Please provide details below).

Training Topic	Audience	Number attending	Trainer

9. Have roadside vegetation management issues been included for discussion in daily site works meetings and department meetings? Yes/No

– Please estimate how often:

10. Has the RVMP been integrated into a council strategic management plan? Yes/No

11. Has the RVMP been integrated into existing council management systems (eg. administration, quality or OH&S)? Yes/No

Please indicate which systems _____

Have any vegetation management procedures (additional to those in the RVMP) been developed or implemented. Yes/No

Please list procedures.

Procedure	Details
<i>eg. V03 – Vegetation assessment</i>	<i>Procedure for assessment of impacts to vegetation in planning phase</i>

12. Have environmental checklists been developed and used for project planning and “sign-off” on vegetation issues? Yes/No

Please attach examples.

13. When is this RVMP due to be reviewed? _____

Appendix 5. Contact details of relevant groups/ organisations

Native Vegetation Council
Native Vegetation Council Secretariat
GPO Box 2834
ADELAIDE SA 5001
Ph: 8124 4753
Fax: 8124 4745
Email: nvc@saugov.sa.gov.au

Bush Management Adviser
Department for Environment and Heritage, Murraylands
PO Box 231
BERRI SA 5343
Ph: 8595 2174

Mallee and Coorong NRM Group
PO Box 58
KAROONDA, SA 5307
Ph/Fax: 08 8578 1493
Email: mlapcb@lm.net.au

Murray Mallee Local Action Planning Association Inc
PO Box 2056
MURRAY BRIDGE, SA 5253
Ph: 08 8531 2066
Fax: 08 8532 5300
Email: mmlap@lm.net.au

Mallee CFS Group
PO Box 81
LAMEROO, SA 5302
Ph: 08 8576 3162

Branched Broomrape Eradication Program
The Department of Water, Land and Biodiversity Conservation
GPO Box 2834
ADELAIDE SA 5001
Ph: Broomrape Operational Centre hotline 1800 245 704

Biodiversity Assessment Services Section, DWLBC
1 Richmond Road
KESWICK, SA 5035
Ph: 8124 4753
Fax: 8124 4745

State Tree Centre
Brookway Drive
CAMBELLTOWN, SA 5074
Ph: 8207 8767

Transport SA
PO Box 1
WALKERVILLE, SA 5081
Ph: 1300 360 067

Greening Australia
PO Box 2056
MURRAY BRIDGE, SA 5253
Ph: 8531 3300
Fax: 8531 1843

Trees For Life Inc.
5 Fitzgerald Road
PASADENA, SA 5042
Ph: 8372 0150
Fax: 8372 0199

Appendix 6. Map from Roadside Vegetation Survey No. 065 showing vegetation of Category A – F along roads surveyed within the District Council of Karoonda East Murray