



Whyalla City Council

Roadside Vegetation Management Plan

Adopted by Council on 13 December 2010

Adopted by Native Vegetation Council on 25 October 2010

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FOREWORD

The purpose of this Roadside Vegetation Management Plan is to provide a basis for Council and the community more generally to manage native vegetation on roadsides within the Council's district. The Plan sets out criteria and guidelines relating to the clearance of roadside vegetation, and also includes sections dealing with enhancement of roadsides, through protection and management of significant sites and through revegetation programs.

Roadsides are now highly valued for their remnant vegetation and the role this vegetation plays in the conservation of natural resources. This includes the conservation of water, soil, indigenous flora and fauna and the contribution this vegetation makes to landscape values across an area. Local Governments are bound by federal and state legislation and policies to conserve native vegetation and the contribution it makes to Australia's biodiversity and sustainability

Historically the main uses of roadsides were seen as flanking established transport routes, but they have evolved into encompassing a diverse range of activities that can often be perceived to have competing values and uses.

If the user of this Plan is unsure, it may be wise to seek the advice of suitably qualified staff at Whyalla City Council, the Native Vegetation Council or a suitably qualified consultant. This Plan is intended to be the beginning of a learning process involving Council, the community and interested individuals.

The Plan cannot hope to deal with all issues or possible circumstances which may arise and is intended as a guide.

Essentially the Plan seeks to balance the needs of the community to clear or destroy vegetation for a particular purpose, against the benefits or advantages which accrue to the community by retaining Healthy Native Vegetation.

Roadsides represent one of the few remaining opportunities to retain native vegetation.

Council has committed itself to "protect the biodiversity of the region by promoting and implementing sustainable land management practices".

BACKGROUND

The management of roadside vegetation presents a challenge to the City of Whyalla and the management of roadside vegetation has caused concern in the past.

The reasons for the challenge lay with the need to balance the competing interests and needs which utilise and compete for the road reserves within the city boundaries.

The uses which compete for space with road reserves include the following:

- Vehicles for parking, access and circulation.
- People walking, riding bikes, riding horses or using motorised vehicles.
- Services such as electricity supply both above and below ground, water, sewerage, gas, telephone pipelines and telecommunications and drainage channels or drains.
- Signage which may be for road traffic control, for tourist or information purposes or for advertising.
- Footpaths or other defined pathways.
- Street trees or vegetation planted for specific purposes by main fences or other structures.
- Introduced weeds or unwanted vegetation species.

The needs of users need to be balanced against the benefits of retaining natural vegetation and wildlife including:

- Retaining rare, significant or endangered vegetation.
- Retaining biodiversity.
- Maintaining an attractive roadside.
- For shade and shelter particularly in summer.
- For erosion and dust control.
- For wildlife corridors, for the movement of fauna.
- To promote a better, more pleasant environment.
- Keeping remnant vegetation intact.

Council as Manager of the road reserve is vested with the responsibility of maintaining these resources in an efficient, cost effective and appropriate manner.

It must be recognised that Road Reserves are often dynamic in nature, particularly those close to human habitation however, those reserves in 'out of the way' locations may not be subject to dynamic change or impact, but still require careful management.

Roadside vegetation is protected by both the *Local Government Act 1934* and the *Local Government Act 1999*. It is also protected by the *Native Vegetation Act 1991*.

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.

Local Government Act 1999

Under the *Local Government Act 1999* any works on road reserves requires the permission of the local council. The Corporation of the City of Whyalla is responsible for all roads within the Council area (with the exemption of the main arterial roads under the care and control of the Department for Transport, Energy and Infrastructure, 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 Corporation of the City of Whyalla.

Native Vegetation Act 1991

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.

The guidelines issued by the Native Vegetation Council involve three levels:

- Works to be undertaken without consultation with the Native Vegetation Council.
- Works requiring endorsement of the Native Vegetation Council Secretariat.
- Works of a sensitive or significant nature requiring approval of the Native Vegetation Council.

This is further explained in Appendix I.

The Procedure for Clearance is contained in Appendix II.

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 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.

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 of Water, Land and Biodiversity Conservation, the removal of native plant species from road reserves requires a permit. Permits are issued by the Department of Water, Land and Biodiversity Conservation 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.

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 Resource Management Act 2004*, it is the responsibility of the landholder to control declared pest plants and pest animals within road reserves immediately adjacent to their land, to half way across the road reserve.

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

LIST OF ACRONYMS & GLOSSARY OF TERMS

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.

Endemic: Present within the localised area since before European settlement.

Fauna: All animals within a given area or environment

Flora: Plants of a given area or environment, or a list of such plants

Indigenous: Native to the area

Introduced plants: All plant species that are not indigenous to the area (not present prior to European settlement).

Low impact: Selective and non intrusive removal of vegetation whilst retaining top soils

Native vegetation: Means a plant or plants of a species indigenous to South Australia including a plant or plants growing in or under waters of the sea.

Natural regeneration: New growth of indigenous plants from seed and sucker growth; often refers to regrowth after disturbances (especially fire).

Non-indigenous: Not native to the area; includes native species introduced from other parts of Australia

Pest plants / weeds: Introduced plants that adversely affect native vegetation and / or agricultural crops.

Remnant vegetation: Native vegetation that remains in much the same form and composition in the same location since European settlement.

Road reserve: A corridor of land bordered by property boundaries.

Road shoulder: The area on a sealed road between the edge of seal and the road verge.

Roadside vegetation: Any vegetation growing on roadsides. This includes native vegetation of conservation value, and vegetation dominated by introduced species.

Road Verge: The area between the edge of the carriageway, or the edge of the shoulder, and the vegetation.

One chain roads: Road reserve 20m wide

Two chain roads: road reserve 40m wide

Three chain roads: road reserve 60m wide

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.

Very Minor Clearance: Defined as localized clearance, such as pruning of branches or removal of one or two tree saplings or shrubs which are known to be common in the area. (from the "Guidelines for the Management of Roadside Vegetation, Native Vegetation Council, July 1997")

Weed: A plant of a species that is not indigenous and invades endemic native vegetation

AREA AFFECTED BY THE PLAN

This Plan applies to all roadside reserves situated within the Municipality of the City of Whyalla with the following exceptions:

- Road reserves situated within the Urban Area.
- Road reserves controlled by the Minister of Transport, Energy and Infrastructure, or some other agency or authority. However, roadside vegetation still comes under Council's control beyond the vegetation that is immediately alongside the road surface.
- Roads which are not legally created or exist under the Roads Opening and Closing Act which may comprise tracks, pathways, access ways or trails.

In addition numerous tracks or unmade roads exist within the coastal parts of the City. Whilst technically not "roads", they are for practical purposes considered to be roads for the purposes of this Plan.

1. INTRODUCTION

Councils are responsible for most road reserves within their municipality, and must make decisions in consultation with other authorities, on appropriate management for each road and adjoining roadside.

Road reserves were initially established to provide legal access, and a route from one place to another. Since that time, road reserves have evolved to cover a wide range of activities. For example, service corridors for gas, electricity, drainage, sewage and communications are usually located on roadsides.

Maintaining remnant vegetation within road reserves is important for many reasons. Roadside vegetation provides many functional benefits including the prevention of weed establishment, 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 provide an

important source of seed for local revegetation projects. Furthermore, road reserves containing native vegetation add to the visual amenity of areas where there has been broad-scale clearance.

Any significant disturbance to native vegetation within road reserves has the potential to cause long-term damage which will have long-term negative impacts. Good roadside management practices are required to ensure road reserves containing remnant native vegetation are protected and preserved to help prevent future management problems.

Roadsides are now highly regarded for their vegetation value as well as their contributions towards flora and fauna conservation. This value is especially crucial where native vegetation has been cleared from adjacent privately owned land. Roadside vegetation has thus become an important environmental asset, although protecting and enhancing this asset while maintaining the other functions of roadsides can be difficult.

The Whyalla City Council Roadside Vegetation Management Plan was originally adopted by Council on 10 July 2000 in consultation with relevant state authorities and community groups. A revision of the Plan occurred in January 2008. The plan has since been revised again in May 2010 with the addition of a Roadside Vegetation Survey. The plan addresses issues involved in roadside management throughout the Council area.

The Roadside Vegetation Management Plan covers rural roads and main roads throughout the Whyalla Council's local government area. Roads within the city of Whyalla, the built up urban area, which are covered by Councils Street Tree Planting and Removal Policies, are not included within this plan, nor are roads governed by the Department for Transport, Energy and Infrastructure, (eg. Lincoln Highway).

Location for Management Plan

The City of Whyalla is situated on the Western coastline of the Upper Spencer Gulf, 396 kilometres North-West of Adelaide. The city occupies an area of 41.5 square kilometres (which is excluded from this plan) while the total Local Government Area is approximately 1000 square kilometres. The boundary of the Local Government Area extends along the coastline, 35 kilometres north and south of the urban area and approximately 18 kilometres inland.

Local Natural Environment

The area covered by the Whyalla City Council encompasses three land systems. Namely the Pandurra land system, the Middleback land system, and the Tent Hill land system. These land systems were identified by the PIRSA Gawler Ranges Soil Conservation Board.

Pandurra land system – the most agriculturally productive land system. The main components of this system are plains, watercourses, sand ridges and sandstone ridges. Dominant vegetation includes Black Oak (*Casuarina pauper*) and Western Myall (*Acacia papyrocarpa*) on the sand hills with Bladder Saltbush (*Atriplex vesicaria*), Black Bluebush (*Maireana pyramidata*) and Pearl Bluebush (*Maireana sedifolia*) dominating elsewhere.

Middleback land system – the majority of the area is an easterly sloping plain, with outcropping hills of conglomerate, sandstone and metamorphics. The vegetation varies throughout the system and consists of Western Myall and Black Oak overstory with Bladder Saltbush and Pearl Bluebush understory on the plains. Hopbush (*Dodonaea spp.*), Pinbush wattle (*Acacia burkittii*) and Needle Wattle (*Acacia rigens*) over Bladder Saltbush and Blackbush (*M. pyramidata*) dominate in the water courses. While the hills and rises have an overstory of Cassia (*Senna spp.*), Northern Cypress Pine (*Callitris glaucophylla*), Mallee (*Eucalyptus socialis, brachycalyx, gracilis and oleosa*), Black Oak and Western Myall with an understory of Bladder Saltbush and Porcupine Grass (*Triodia irritans*).

Tent Hill land system – is composed of dissected quartzite hills and plateaus, with foot slopes of alluvial material from the hills. Dominant vegetation includes an overstory of Low Bluebush (*Maireana astrotricha*), Bladder Saltbush and Bush Minuria (*Minuria cunninghamii*) over an understory of Plover Daisy (*Ixiolaena spp.*), and Wallaby Grass (*Austrodanthonia caespitosa*) in the hills, with the foot slopes having an overstory of Western Myall and Black Oak with an understory of Bladder Saltbush and Pearl Bluebush.

The predominant flora communities are Bluebush shrub land, Myall-Bluebush woodland with areas of Black Oak woodland and Saltbush shrub land. These communities are widespread through the region.

The Whyalla Local Government Area has an extensive road network. Within this area a large proportion of the roads are both unsealed and sealed.

Department for Transport, Energy and Infrastructure is responsible for the maintenance of major roads (Lincoln Highway) within the Whyalla local government area.

The Whyalla City Council Roadside Vegetation Management Plan provides clear policies and programs for roadside vegetation management in the area based on local issues. The Plan will also raise Council and community awareness of the importance of roadside vegetation.

2. **POLICY**

Strategic Environment

The Whyalla City Council is committed to protecting the bio-diversity of the region (*Strategic Plan, Objective 1.1*). A key objective is to manage the environment so as to minimise native plant and animal species decline. This is to be achieved in part by protecting vegetation buffer zones and open space areas (*Local Environment Plan, Objective5, Strategy 1.5*).

Council recognises the environmental value of native roadside vegetation and is committed to its conservation wherever practicable. Clearance of roadside vegetation may be required in some cases. Two key issues commonly affecting roadside clearances are firstly, for Council to ensure the safety of road users within the Council district, and secondly, to allow landholders to fence their properties.

3. **ROLE OF THE ROADSIDE VEGETATION MANAGEMENT PLAN**

The purpose of this Plan is to provide Council with a management plan for roadside vegetation. It also outlines the role of other bodies involved in roadside vegetation management, and identifies consultation processes required when roadside clearances are planned. It should be noted that these processes not only apply to Council, but to the community and private landholders.

This plan is the responsibility of the Group Manager Infrastructure Services, and has been developed to assist Council staff and other roadside users in the management of road reserves. It is intended that the Plan be a useful tool in managing roadside vegetation for both the public and private sector. Interested persons are encouraged to contact Council for more information.

The procedure for vegetation removal is set out in Appendix II. The statutory controls which apply to clearance of vegetation is summarised in Appendix I.

4. MANAGEMENT ISSUES

4.1 Road Construction / Widening / Maintenance

4.1.1 Council Guidelines

Road widening, realignments, road constructions and road works will be designed, where possible, to minimise native vegetation clearance. For new road works, unless the clearance is very minor and localised (such as pruning of branches, or removal of one or two tree saplings or shrubs, which are known to be common in the area), Council will consult with the Native Vegetation Council Secretariat, Department of Water Land and Biodiversity Conservation.

In order to achieve maximum conservation of vegetation during road construction or road widening activities, it is essential to plan carefully before any works are undertaken.

Whenever possible new roads should be constructed on land free of remnant native vegetation, or on regrowth vegetation. When existing roads are widened and vegetation threatened, careful planning is required for rehabilitation while taking into account the need to provide adequate road safety, and to comply with design and engineering standards.

Road works particularly involving unsealed roads in shack, waterfront or 'out of the way' locations should seek to retain native roadside vegetation as an aid to control dust and drift generated by vehicles using the roadway.

Keep removal and disturbance of native vegetation and the disturbance of top soil to a minimum, to prevent the spread of weed species and diseases.

Whenever possible, fell trees away from native vegetation and into the construction zone. Cleared native vegetation should be reused as mulch, and for seed collection. Mulched material becomes a seed source and should be utilized in revegetation programs, particularly those being undertaken as part of the construction project.

4.1.2 Standards of Clearance for Construction of Roads

The standard for roads within the Council area shall vary according to the type and level of traffic, the nature of the roadside vegetation, and the need for roadside drainage works, and will generally be as follows:

- Width of carriageway – up to 10 metres
- Width of shoulder – generally 1 metre
- Width of clearance outside of shoulder – up to 1.5 metres

4.1.3 Consultation

4.1.3.1 Road construction of undeveloped roads

Where a new road is to be constructed on a previously undeveloped road reserve which will affect the native vegetation, consultation with the Native Vegetation Council Secretariat, Department of Environment and Natural Resources will be undertaken. This would particularly apply in coastal and shack areas.

4.1.3.2 Major Realignment Widening

Council will consult with the Native Vegetation Council Secretariat, Department of Environment and Natural Resources regarding major road realigning or widening programs that will require clearance of native vegetation.

4.1.3.3 The design and construction of roads and tracks through bushland shall:

- be located such that there is no practicable alternative that would involve less clearance of vegetation, or clearance of vegetation that has been degraded to a greater extent, or clearance of vegetation which is less significant.
- eliminate steep inclines which are vulnerable to erosion
- eliminate steep shoulders or include protection against erosion

- incorporate use of surface sealants or other appropriate surface materials that do not allow traffic to generate high dust loads on adjacent vegetation.
- Allow for the collection of surface runoff into the scrubland where it will assist with the ongoing viability of the natural vegetation

4.2 Verge Maintenance for Road Safety

4.2.1 Council Guidelines

Council believes there is a need to create and maintain an adequate road safety clearance on the road verge. The lateral clearances to be up to 1.5 metres from the shoulder edge and up to 5 metres vertical above the shoulder. A slightly larger area may be needed to provide adequate sight distance around curves and at road intersections.

Regrowth may be removed without clearance approval provided low impact methods are used. However, regrowth that is several years old and established, must be treated as if it were existing endemic vegetation, where Council clearance is required.

4.2.2 Road Curves

For road curves, the amount of clearance will be determined on a case-by-case basis and, where practicable, only those plants impeding visibility will be removed. These clearance zones will be maintained by trimming, slashing and rolling according to the following guidelines:

- Large Eucalypts and other large and smaller trees will be trimmed back, usually by chainsaw or similar cutting equipment ensuring best practice methods are used to minimise the impact on the tree in the long term.
- Where small trees or other similar vegetation intrude into the clearance zone more commonly or continuously, clearance will normally be

undertaken by a grader subject to the following conditions:

- amount of clearance to be minimised as far as is practicable and in accordance with Appendix 1;
- debris to be removed from site and either composted or chipped;
- at particular sites where threatened plants occur in the clearance zone outside of the 1 metre road shoulder, alternative clearance methods such as 'low impact', will be used where practicable to retain and protect those species; or steps will be taken to ensure that the removal of these plants is offset by planting of the species at other more suitable locations.

4.2.3 Clearance at Intersections

Native vegetation will be cleared at intersections to provide adequate sight distance for approaching traffic. The amount of clearance will vary according to specific site requirements and will be based upon assessment of such factors as road design, speed, local topography and type of vegetation. Clearance for sight triangles at intersections should be undertaken in accordance with Austroads Standards. In addition, only those larger plant species that actually impede visibility will be removed following assessment by Council's Engineer. Lower shrubs and groundcovers, which are not a problem in this respect, will generally be retained.

Where threatened plants have been identified within these clearance zones, and where these plants impede visibility, the management of these will be discussed with suitably qualified people.

As part of Council's maintenance program it is proposed that the Infrastructure Department develop a program depicting roadside vegetation assessment and trimming schedules. The program should include information showing in which year, and time of year, all roads will be assessed (and trimmed if required). This program should be incorporated into Council's GIS (or similar) program and a summary of the program included in all subsequent reviews of the Management Plan.

The following factors will be taken into consideration when determining clearance at roadsides:

- Department for Transport, Energy and Infrastructure guidelines concerning widths, lengths, setbacks and overhang (usually 5m)
- Visual amenity values
- Safety
- Signage
- Drainage
- Rare or Threatened vegetation under the *Environment Protection and Biodiversity Conservation Act 1999 and the Native Vegetation Act 1991 (amended 2003)*, such as *Acacia papyrocarpa* Western Myall and *Myoporum platycarpum* Sugarwood, which are listed under the above Acts.
- Purpose of roadside vegetation ie:
 - city entrance avenue planting;
 - wildlife corridor;
 - backdrop to scenery;
 - other purposes.

4.2.4 General Practices

Care should be taken to ensure that vegetation is removed only where necessary and vegetation is to be retained where possible. Machinery should be parked, manoeuvred or stored at a limited number of sites to minimise disturbance.

Materials stockpiled should be kept to a minimum number of sites to minimise disturbance. Stockpiling should only occur where there is no alternative due to damage to the surrounding vegetation. The vegetation removed should be chipped immediately and used as mulch to aid in the revegetation of the off road work area.

Equipment should be cleaned prior to removal from the worksite, where the site is within a weed infested area, to prevent the spread of weeds. Any plants removed that are considered to be weed species, should be loaded on a truck, and covered for the trip to the land fill site, where they will be composted.

Any significant or special vegetation will be documented in Council's GIS and mapping system to ensure its

retention. Where staff are unsure of the quality, value or significance of native vegetation, it is recommended the advice of a qualified expert in native vegetation management be sought and regard had for this advice in decision making.

4.2.5 Community Volunteer Groups

From time to time community volunteer groups may assist in the management of roadside areas.

Such volunteers may require:

- Induction
- Training
- Council Supervision
- Occupational Health and Safety considerations
- Appropriate clothing, footwear and PPE.
- Signage

Such groups are encouraged to monitor roadside vegetation and report anomalies or new species to Council staff.

4.3 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 temporarily 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 within road reserves, physical damage to native vegetation, soil disturbance, and the introduction of pest weed species.

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. Council will consult with the Native Vegetation Council Secretariat before clearance regarding new proposed quarry and stockpile sites.

4.4 Control of Plant and Animal Pests

4.4.1 Council Guidelines

Weed control methods that have minimal off-target effects will be encouraged. The removal of exotic weeds from road reserves is a key component to this management plan.

Council may seek assistance on a case by case basis, such as work for the dole groups, to assist with weed control.

A weed or pest plant is any plant that is growing in the wrong place and competing with other plants for water, nutrients, and light. Pest plants are a major threat to the continued protection and enhancement of remnant vegetation remaining on roadsides. All weeds and pest plants are not endemic to the area, and could include plants native to Australia, but not the region.

The spread of pest plants along roadsides is enhanced by their linear nature and are aided by machinery and vehicles, the movement of water in drains, the movement and dumping of soil, and grading shoulders. Continual disturbance of roadsides by the indiscriminate burning, clearing, grazing, ploughing of fire breaks, or pest plant and animal control, creates conditions for invasion by pest plants and exotic grasses.

Council will therefore discourage unnecessary disturbance on roadsides both by its own works staff and by adjoining landholders.

4.5 Clearance along fence-lines powerlines, and other services

4.5.1 Clearance for Fence Construction / Maintenance

A landholder that wishes to clear native vegetation on a road reserve, to enable construction or maintenance of a boundary fence, requires Council consent.

In granting consent, Council will apply the following criteria:

- where the roadside vegetation consists largely of trees, only branches protruding through or overhanging the fence, or trees growing on the actual fence alignment, should be removed, provided it is not a rare or threatened type;
- where shrubs or bushes are growing through the fence line, those plants growing within one metre of the fence alignment can be removed.

Subject to written application to Council, permission may be granted to landowners to clear and maintain native vegetation:

- support / encourage landholders to relocate new fence lines 3 – 5 metres into their property so as to conserve roadside vegetation.
- tracks (up to 5 metres in width) for vehicular access to the fence, should be cleared on the landholder's property.
- on road reserves wider than 20m. Clearance of shrubs and bushes up to 2m from the fence line may be permitted where there is a high bushfire risk, or there are fence maintenance problems associated with vigorously growing shrubs.
- according to its assessment of individual cases, Council may vary the above criteria.

Council may seek the advice of the Native Vegetation Council Secretariat as to whether additional consents are required. If they are required, Council will coordinate these applications for consent.

4.5.2 Ploughing and Grading of Roadsides

Ploughing or grading of the fence-line roadside clearance zone will not be considered an acceptable maintenance practice. Slashing may be an appropriate alternative.

Where clearance exceeds the standards, consultation with the Native Vegetation Council Secretariat should occur either directly or through Council.

4.5.3 Powerlines and Other Services

Traditionally, services such as powerlines, water supplies and telecommunications have often been established along road reserves. Construction of these services can involve clearance of native vegetation, as can ongoing maintenance of those services.

The following policies generally apply:

- new or replacement services are to be established on cleared land wherever possible;
- where services occur on roadsides the clearance of native vegetation must be kept to a minimum;
- existing clearance standards can be maintained without consultation with the Native Vegetation Council Secretariat of Department of Environment and Natural Resources;
- the disturbance of understorey vegetation and spoils (eg by vehicles and machinery) must be kept to a minimum.

Consultation should occur with the Native Vegetation Council Secretariat of the Department of Environment and Natural Resources where:

- new services are planned to be established along roadsides containing native vegetation;
- maintenance clearance in excess of existing standards is proposed.

4.6 Property access

Clearance of native vegetation may be required by landowners to provide for access, or improved access to private properties / adjoining allotments. 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, Department for Transport, Energy and Infrastructure.

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.

Where some clearance of native vegetation is unavoidable, this should not exceed the following standards:

- For normal vehicle access: five metres wide plus minimum clearance along the road reserve needed to provide adequate site distance;
- For wider farm vehicles: ten metres wide plus minimum clearance along the road reserve needed to provide adequate site distance.

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. This will enable landholders to gain appropriate access to private properties, while minimising the impact on native vegetation within both road reserves and private property.

New property access points should be limited to two per property. Additional access points should only be approved where there is a legitimate reason. Where additional access points are approved, and native vegetation clearance is required, compensatory revegetation should be undertaken.

Property access points (taking into account clearance required for safe sight distance) should be located such that there is no practicable alternative that would involve

less clearance of vegetation, or clearance of vegetation that has been degraded to a greater extent, or clearance of vegetation which is less significant.

4.7 Bushfire Hazard Reduction

4.7.1 Council Guidelines

Review of this Section should occur before the 2011-2012 bushfire season, and be consistent with the District Council of Whyalla Bushfire Prevention Plan under the Fire and Emergency Services Act 2005, (Bushfire Prevention Plans will be reviewed once Bushfire Management Committees for each region are established).

Section 105G, of the Fire and Emergency Services Act 2005 requires that:

- (1) A Council that has the care, control or management of land –
 - (a) in the country; or
 - (b) in a designated urban bushfire risk area, must take reasonable steps –
 - (c) to prevent or inhibit the outbreak of fire on the land; and
 - (d) to prevent or inhibit the spread of fire through the land; and
 - (e) to protect property on the land from fire; and
 - (f) to minimise the threat to human life from a fire on the land.

The Whyalla City Council does not currently undertake vegetation clearance for bushfire hazard reduction as the risk of bushfire in the region is considered to be low.

The following points outline the approval requirements for the clearance of native vegetation associated with bushfire hazard reduction:

No approval is required for clearing a five metre wide fire break on a roadside if it was legally established and cleared in the previous year, or if no native vegetation is present.

Internal approval (by Local Council District Bushfire Prevention Officer in liaison with Regional Prevention Officer of the CFS) is required for clearing a legally

established fire break if it was cleared prior to the previous year but before five years, and natural regeneration may have occurred since. Such firebreaks are to be reviewed prior to clearance to see if they are in the appropriate location and ensure the appropriate methodology (rolling, slashing), or whether the fuel break should be located on adjacent cleared land, or whether the clearance width can be reduced.

New breaks across the width of a road reserve and extending up to 20 metres along the roadside, and not less than 500 metres apart, on previously cleared areas, without native vegetation, such as gateways, may also be approved internally, without the need to seek formal NVC approval.

Note:- Slashing, trimming, mowing or rolling are the preferred methods of maintaining fuel breaks. Soil disturbance should be minimised because of the likely problems with weed invasion and erosion.

Formal NVC approval for vegetation clearance will be required when any new fuel reduction works involve clearance of roadside native vegetation, unless in accordance with a District Bushfire Management Plan under the Fire and Emergency Services Act 2005, or through an application to the CFS Regional Prevention Officer under Native Vegetation Regulation 5A (see http://www.cfs.sa.gov.au/site/community_information/prep_are_act_survive/native_vegetation_management.jsp?str=management+native+new+on+rules+vegetation).

Where necessary, the reduction of possible bushfire fuels along roadsides will be achieved through the least invasive means ie. low impact.

The main bushfire hazard along the Council's roadsides is associated with exotic grasses & plants. Accordingly, where roadside fuel reduction is needed it will be almost always achieved through reduction and appropriate removal of exotic vegetation.

4.8 Grazing of Roadsides

4.8.1 Council Guidelines

The Whyalla City Council will not generally allow the grazing of stock in areas of native vegetation. Grazing in travelling stock routes is to be encouraged in preference to road reserves.

However, any such grazing must comply with the requirements of the *Native Vegetation Act 1991*. Details on the limitations placed on grazing of native vegetation can be obtained from the Native Vegetation Council Secretariat.

4.8.2 Grazing Guidelines

Grazing of stock in areas of native vegetation can have severe impact such as damaging plants, assisting weed invasion, preventing natural regeneration, and compacting and polluting the soil.

Grazing of roadsides of native vegetation requires the written consent of Council. It is also noted that grazing may be an acceptable form of roadside management in some situations (eg through grazing of exotic grasses). However, many weed seeds are not easily broken down by digestion in animals such as horses, and therefore these animals may spread the weeds, rather than help to control them.

The droving of stock between properties is recognised as a necessary activity. However, roads with significant roadside vegetation should be avoided.

Clearance approval from the Native Vegetation Council Secretariat of the Department of Environment and Natural Resources is required for any grazing likely to cause damage to native roadside vegetation.

This includes roadsides where:

Native shrub and understorey species are present;

There is evidence of recent or periodic regeneration of native plant species.

When applications for grazing are made, and Council grants consent, it should be entered onto Council's mapping system.

4.9 Removal of Plant Material

4.9.1 Council Guidelines

The removal of plant material from roadsides includes:

- collection of dead timber ;
- cutting of live timber;
- brush-cutting;
- seed collection;
- flower harvesting.

Within the district governed by the Whyalla City Council, all such activities related to the removal of plant material are prohibited without prior approval.

Requests to conduct collection of plant matter must be put in writing to Council. Consultation with the Native Vegetation Council Secretariat should also occur.

4.9.2 Issues Affecting the Removal of Plant Material

Dead timber provides habitats for native fauna and is also important in the recycling of nutrients. Collection will only be permitted when it is proven necessary for fuel reduction, to assist rabbit control, or to remove timber that is hazardous to traffic or fencing. Larger trees with hollows, including dead trees, will be retained where practicable. Removal of dead trees may require approval under the Native Vegetation Act if they are of a certain size and are suitable as habitat for animals listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*). If trees with hollows are to be removed, hollow sections will be transferred to remaining nearby trees.

Cutting of live timber

Any cutting of live timber outside the scope of these guidelines requires consent of Council, and also clearance consent from the Native Vegetation Council under the *Native Vegetation Act 1991*.

The protection of low under-story plants, including native grasses, will be given priority.

Seed collection

Revegetation programs using local native species are strongly supported by Council and the Native Vegetation Council. Roadsides are often ideal sites for seed collection. However, care is needed to minimise damage to the parent plant and to avoid depleting the seed supply to such an extent that natural regeneration of plants on the roadside is affected.

Seed collection from roadsides requires consent of Council. Preference will be given to collection for local revegetation projects or rehabilitation works.

A permit to collect seed is also required under the *National Parks and Wildlife Act 1972*. Permits can be requested from the Wildlife Management Section of the Department of Environment and Natural Resources. This section can also provide guidance as to how the seed should be collected.

Flower harvesting

The harvesting of flowers from roadsides requires consent of Council, and a clearance consent from the Native Vegetation Council. Harvesting of roadside flowers, particularly for commercial purposes, is not favoured because of its impact on the vegetation and the landscape or amenity of the area.

4.10 Maintenance of Vegetation Diversity

4.10.1 Council Guidelines

Council recognises that roadside vegetation plays an important role as a native fauna habitat and wildlife corridor. By adopting the range of programs and policies set out in this management plan, Council will promote the conservation of habitat where possible, as well as the creation of new habitat by means of revegetation programs.

4.11 Management of Vegetation of Particular Conservation Significance

4.11.1 Council Guidelines

Council will endeavour to preserve vegetation or other sites of significance situated within road reserves. When such a site is identified it will be included within Council's GIS database. This is occurring now as Council's Roadside Vegetation Survey data has become available.

Where there are sites along roads which are significant, they will be treated with special care when road construction, maintenance, or work by service authorities, is undertaken.

These areas may be special because they have:

- scientific, historic or conservation value;
- remnant vegetation with conservation significance;
- regenerating native plants necessary for the conservation of roadside vegetation;
- native grasslands and wild flower areas that might be overlooked because there are no shrubs or trees;
- native vegetation of significance to the Aboriginal community;
- rare, threatened or endangered plants and animal species;

4.11.2 Management of Rare or Endangered Species

4.9.2.1 Council Guidelines

- Ensure Whyalla's Roadside Vegetation Survey data is entered into Council's GIS program to record occurrences of significant species and / or communities, and of roadsides that are important because of their diversity of native species, and / or good condition.
- Install an on-ground marking system to identify flora and fauna, and potential habitat of significance, particularly for Council workers.

- Establishment of work practices to ensure protection of significant sites.
- A complete or thorough understanding of Council's road reserves over time.

4.12 Revegetation

4.12.1 Council Guidelines

Any revegetation on roadsides requires Council's written approval.

Council encourages, upon application, the revegetation of roadsides with local endemic native species by adjoining landowners and community groups.

For planting around the City of Whyalla, a broader range of plant species may be used (keeping in mind the nature of the local environment, climatic conditions, and existing vegetation). However, care must be taken to avoid plants that are potentially invasive and have the capacity to spread into native bushland, in an uncontrolled manner.

Care must also be taken when revegetating narrow roads (eg one chain / 20m wide) so as not to create future road safety concerns through inappropriate planting. The use of local endemic native plants is preferred, using cuttings and seed collected locally. These are more suited to local conditions and require minimal maintenance.

Revegetation for roadsides must also consider the following:

- replanting near powerlines must comply with the relevant guidelines of the power supply companies;
- replanting on roadsides where exposure to the elements such as coastlines is an issue should be carefully planned. In general, lower shrub species should be planted in the windward side, grading to taller vegetation on the leeward side;
- on roadsides containing some remnant native vegetation, it may be possible to encourage natural regeneration through the control of exotic weeds and grasses;

- direct seeding of native species, using seed collected locally, can be a very effective and economical approach;
- particular care is needed in dealing with native grassland areas as it may be inappropriate to plant trees or shrubs in those areas;
- revegetation should allow for such items as access to fences and properties, future service requirements and maintenance of revegetation.

4.13 Drainage and Erosion Control

4.13.1 Council Guidelines

Clearance will not be undertaken in a manner which creates undesirable drainage situations.

When clearance of vegetation is being undertaken, consideration will be given to:

- undertaking such works prior to the summer or dry season to allow revegetation to commence;
- seeding or revegetation techniques to encourage suitable regrowth;
- introduction of soil stabilisation measures such as mulching which also aids in dust control.

4.14 Other Management Issues

4.14.1 Removal of Other Roadside Material

4.14.1.1 Council Guidelines

The accumulation of litter, unwanted build up of soils or other wastes can be found in road reserves. Such unwanted materials should be removed quickly and conveniently. Material should be removed in a manner that minimises clearance and damage to adjacent native vegetation. If these wastes are allowed to remain over a period of time it may encourage the build-up of household litter and domestic wastes. Such maintenance can be time and resource consuming.

5. CONSULTATION, ENVIRONMENTAL ASSESSMENT & REVIEW

Consultation

Council has consulted with the Native Vegetation Council Secretariat on the preparation and updating of this Plan.

Operator Training and Supervision

Council will, where possible, ensure that its employees and contractors are appropriately trained / supervised in the requirements of this Plan.

Review of Plan

Council will review the effectiveness of the Plan every five years. This review will be conducted in conjunction with the Native Vegetation Council and the community generally. Annual reports to the Native Vegetation Council will commence once an approved template has been finalised. The NVC will advise when this is available.

Counter Staff

In implementing this Plan, Council will ensure front counter staff are sufficiently aware of this Plan to give basic advice and to refer enquires to relevant officers for more detailed advice.

Community Awareness

The Whyalla City Council believes it has, over the years, made considerable progress in raising the level of community awareness regarding the values of roadside vegetation and the rules and regulations that apply to it. These efforts will continue, as this policy document will be put up on Council's website.

Promotion

Council will continue to promote community awareness regarding roadside vegetation through the various means at its disposal.

6. REFERENCES

- Bebbington L. A., (2010) Whyalla's Roadside Vegetation Survey.
- Bourne. S., Whyalla City Council Roadside Vegetation Management Plan – Whyalla City Council's Environment Unit July 2008
- City of Greater Bendigo (1995) Roadside Management Guidelines
- City of Greater Bendigo (1995) Roadside Management Plan
- Department for Environment, Heritage & Aboriginal Affairs (1998) Whyalla Conservation Park Management Plan, DEHAA, Adelaide.
- District Council of Karoonda East Murray Roadside Vegetation Management Plan 2006
- District Council of Onkaparinga (nd) Roadside Vegetation Management
- District Council of Tumby Bay (nd) Roadside Vegetation Management Plan
- Gawler Ranges Soil Conservation Board (1996) Gawler Ranges Soil Conservation District Plan
- Kangaroo Island Council (1997) Roadside Vegetation Management Plan
- Native Vegetation Council (1997) Guidelines for the Management of Roadside Vegetation, Native Vegetation Council, Adelaide.
- Native Vegetation Council (2004) Preparing Roadside Vegetation Management Plans, Guidelines for Local Government
- Tioxide Australia (1991) Titanium Dioxide Manufacturing Plant - Draft Environmental Impact Statement, Dames & Moore, Adelaide.
- Tioxide Australia (1992) Titanium Dioxide Manufacturing Plant Whyalla – Supplement to the Draft Environmental Impact Statement, Dames & Moore, Adelaide.

Appendix I

Summary – Legal Requirements under the *Native Vegetation Act 1991*

Native Vegetation Council Clearance approval categories

Note *Minor clearance* refers to very minor and localised clearance, such as pruning branches or removal of one or two tree saplings or shrubs which are known to be common in the area. However, even in these cases it is recommended that the Native Vegetation and Biodiversity Management Unit be advised prior to the work, and the area to be checked by a suitably qualified person. It is just possible that the site may contain a small, visually insignificant plant species (eg. orchid or native grass) which is of particular conservation significance.

Activity	Assessment / Approval Requirement		
	None	Internal	External
Maintenance	Maintenance of existing clearance with low impact methods		Increased clearance or high impact methods to be used
New roadworks	See definition for Very minor clearance		All but very minor clearance
Animal & Plant Control	Very minor clearance eg pruning for access		All but very minor clearance
Fire Hazard reduction Note – Slashing, trimming, mowing, or rolling are preferred methods of maintaining fuelbreaks. Soil disturbance should be minimised because of likely problems with weed invasion and erosion.	<p>If a 5m firebreak has been legally established and cleared in the previous year.</p> <p>If no native vegetation is present,</p>	<p>a) If a 5m firebreak has been legally established and cleared prior to previous year but before 5 years, and natural regeneration may have since occurred, and there is no adjacent cleared land, or</p> <p>b) If adjacent land is cleared of native vegetation, review an appropriate location and method (rolling, slashing etc) for fire break by local council</p>	Any other proposed clearance for fire prevention needs approval from NVC, unless in accordance with a District Bushfire Management Plan, or through an application to the CFS Fire Prevention Officer.

		Bushfire Prevention Officer in liaison with Regional Prevention Officer SA CFS), or c) In high bushfire areas, new breaks maximum 20 m long across roadside, not < 500m apart, on previously cleared or areas without native vegetation such as gateways.	
Fence lines	Branches over/through fences; bushes within 1m		Any clearance exceeding standards
Access to adjoining land	5m wide – normal access 10 m wide – machinery (careful site selection)		Any clearance exceeding standards
Grazing	No native vegetation or only trees and exotic grasses present		Where understorey or regenerating vegetation present
Grazing (leased roads)	Longstanding grazing practices		Any direct clearance, or increased pressure on native vegetation
Removal of plant material	Vegetation dead or removed under other guidelines		Live timber, flowers or other vegetation
Maintaining diversity			Any measures involving burning, lopping, or other disturbances of native vegetation
Quarries and Stockpile sites	Existing quarries and stockpiling in already cleared sites		New quarries and stockpile sites where native vegetation present
	Refs to various		

	sections...		
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Note: As well as above requirements under Native Vegetation Act, **any removal** of roadside native vegetation requires local Council approval.

Source: Guidelines for the Management of Roadside Vegetation (1997) P4.

Appendix II

Procedure for all Vegetation Removal on Roadsides Within Council Area Excluding Urban Area

		Completed	N/A
1	Have the necessary approvals been obtained? (ie. Native Vegetation Council, Department for Transport, Energy and Infrastructure, Department of Environment and Natural Resources, Council staff)		
2	Vegetation to be removed is clearly identified on the construction plans?		
3	Is community consultation necessary? If so, has it been undertaken?		
4	Has the vegetation to be removed been identified with yellow or orange supervisors tape (no paint is to be used to identify the vegetation)		
5	Has the contractor or staff member who is to remove the vegetation been given a copy of the construction plans, and an onsite meeting held to ensure that there is an understanding of what vegetation is to be removed?		
6	Has the contractor or staff member who is to remove the vegetation been given clear direction in regards to stockpiling removed vegetation, weed removal and treatment, seed collection, and what vegetation is to be salvaged (based on Native Vegetation Council guidelines).		

NOTE:

Approved plans are to be endorsed accordingly by the supervising Council staff member and the contractor engaged to remove the vegetation (if required) and kept on file for future reference.

Appendix 3

Maintenance Envelope Definition (Extract from Instructions for Local Government: Preparing Roadside Vegetation Management Plans 2004).

Clearance envelopes – operations able to be undertaken without Native Vegetation Council approval

Any clearance proposed here is not meant to imply or establish safety standards.

The main clearance envelope allows for the passage of legal height vehicles (4.6 m) across the full width of the traffic lanes. To allow for regrowth between pruning and sagging of branches caused by wet or windy conditions, a minimum clearance height of 5.0 m will be maintained.

Rural or non-built up areas

It is desirable to maintain a vertical clearance of 5.0m between the guideposts along a road.

Council may seek to maintain a minimum clearance envelope that is 5.0 m high, extending the width of the road (usually taken as the edge of carriageway) as shown in the following Figure 1.

On unsealed roads, every effort must be made to limit grading to the pre-existing width, and where possible this width should be documented for future maintenance works.

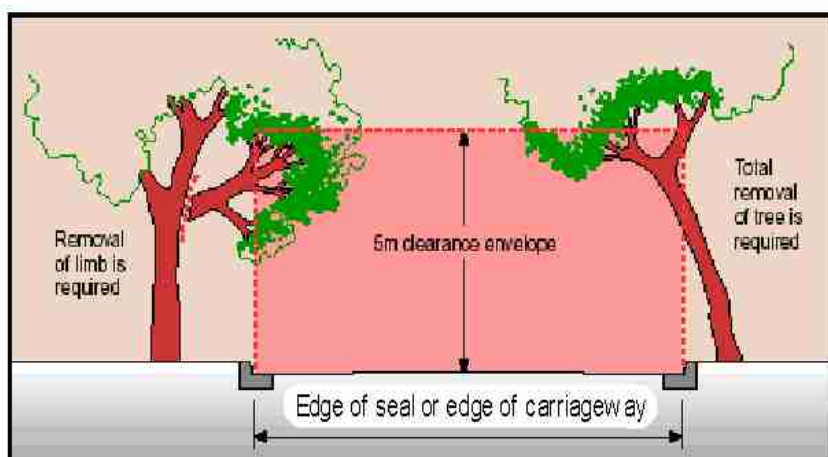


Figure 1: Rural Clearance Envelope (Minimum)

This clearance envelope may vary depending on the highway characteristics and location. Refer relevant maintenance specification and schedules.

Urban or built up areas

It is desirable to maintain a vertical clearance of 5.0m from kerb face to kerb face.

The district council may seek to maintain a minimum clearance envelope that is 5.0 m high, extending over the width of the travel lanes that are available for the passage of all legal road vehicles as shown in the following figure.

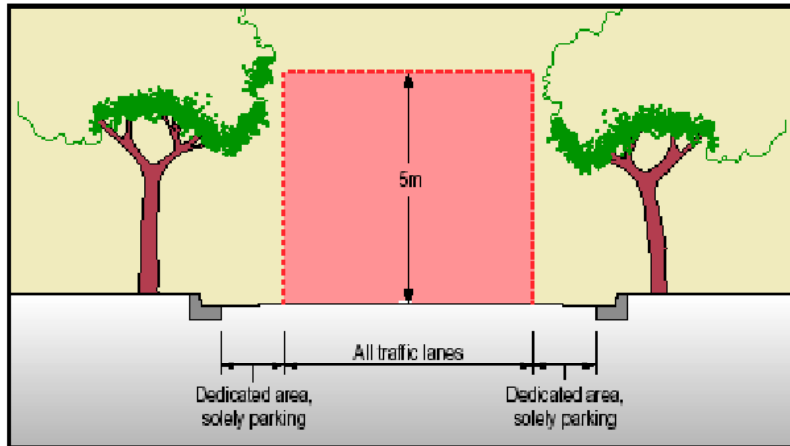


Figure 2: Urban Clearance Envelope (Minimum)

The clearance envelope is further modified on highway medians. A clear height of 2.1 m will be maintained at the kerb and extend 1.0m from the carriageway or to the nearest edge of the trunk, whichever is lesser (Figure 3).

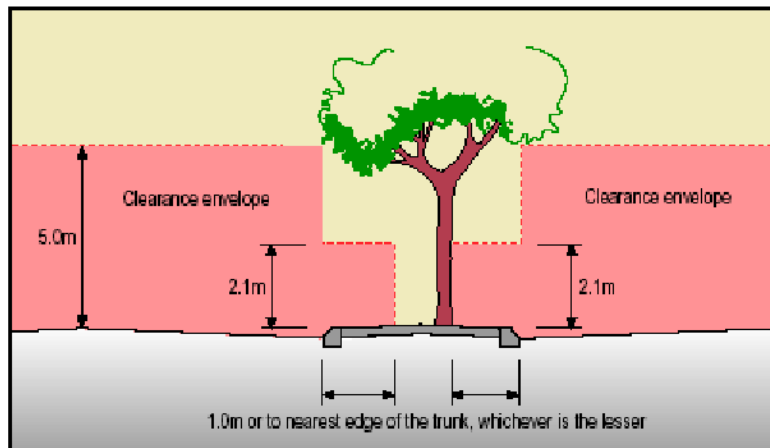


Figure 3. Change to clearance envelope at medians

A secondary clearance envelope extending up to 500 mm around roadside furniture may also be sought (Figure 4). Additional vegetation control may be undertaken on the approach side of signs and delineation devices to ensure that the sign is clearly visible from a distance equivalent to the stopping sight distance for the speed environment of the road (Figure 5).

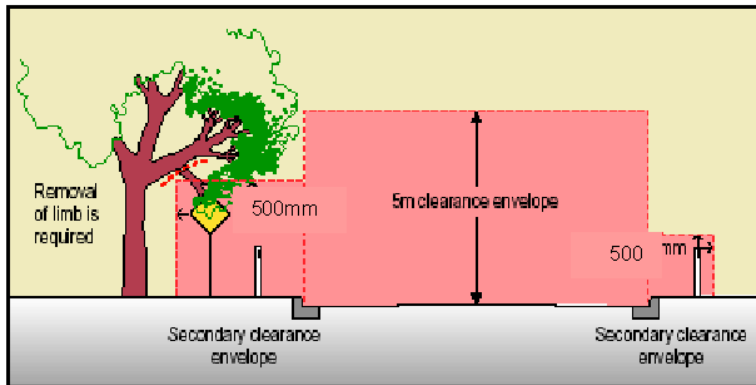


Figure 4: Secondary Clearance Envelope

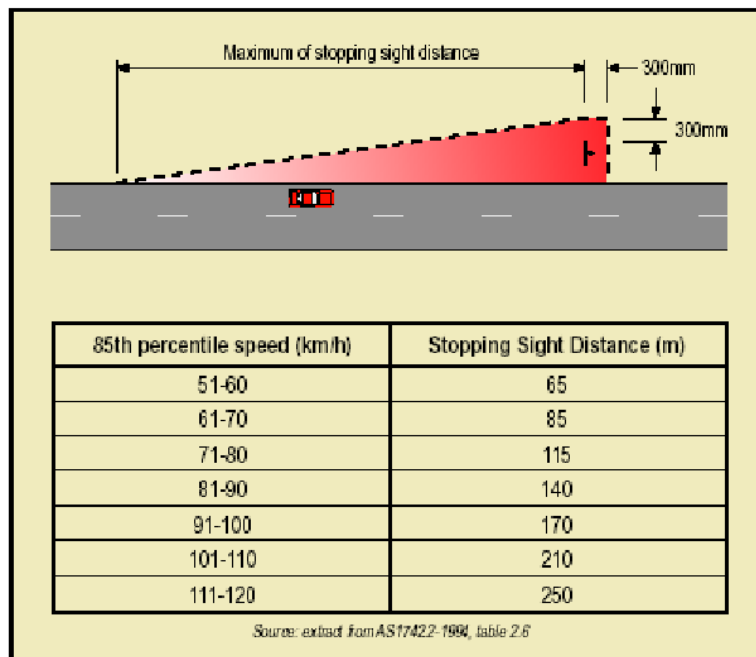


Figure 5

Appendix 4 Definition of Terms that may be useful

Clearance (from *Native Vegetation Act 1991*)

- killing, destruction or removal of native vegetation
- severing of branches, limbs, stems or trunks of native vegetation
- burning of native vegetation
- any other substantial damage to native vegetation, and includes the draining or flooding of land

Native Vegetation (from *Native Vegetation Act 1991*)

Any plant species indigenous to South Australia, including plants growing in or under waters of the sea, but does **not** include:

- a) a plant or part of a plant that is dead unless the plant, or part of the plant, is of a class declared by regulation to be included in this definition, or
- b) plants intentionally sown or planted by a person, **except** where the planting was undertaken in compliance with a condition imposed by the Native Vegetation Council (or the Native vegetation Authority under the 1985 vegetation clearance legislation), or in accordance with an order of the court under the Native Vegetation Act (or the 1985 clearance legislation)

In this context native vegetation does include **dead** trees of a species indigenous to South Australia if:

- a) the diameter of the trunk at 300mm from the base is 600mm or more, and
- b) the tree provides or has the potential to provide, or is a 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*.

NVC

Native Vegetation Council as established by the *Native Vegetation Act, 1991*.

Roadside vegetation

Any vegetation growing on roadsides. This includes native vegetation of conservation value and vegetation dominated by introduced species.

Maintenance Envelope

Area necessary for the safe passage of legal height vehicles across the full width of the traffic lanes (see *Appendix A*)

Road Formation

Sealed roads – the sealed travelling surface and shoulder

Unsealed roads – the formed travelling surface, shoulder and table drain

Extract from Preparing Roadside Vegetation Management Plans, Guidelines for Local Government prepared by the Native Vegetation Council (page iv).

Appendix 5 - Overview of Whyalla's Roadside Vegetation

Whyalla City Council
Overview of Roadside Vegetation
Within Council Boundaries

March 2010

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Habitat & Land Management Consultant
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Document Information

Job/Project Title:

**Overview of Roadside Vegetation linked to City of Whyalla Roadside
Vegetation Management Plan**

Title:

Overview of Roadside Vegetation within Council Boundaries

Client Organisation:

Whyalla City Council

Document ID:

VA2098/210

Date:

March 2010

Revision Status:

Final

Assessor:

Larry Bebbington

Current Document Approval:

Samuel Bourne – Environment Unit

In preparing this report, Larry Bebbington Habitat & Land Management Consultant has relied upon certain data (or the absence thereof) relative to the site, provided by government Agencies, the Client and others identified herein. Except as otherwise stated in the report, Larry Bebbington has not attempted to verify the accuracy or completeness of any such information.

No warranty or guarantee whether express or implied, is made with respect to the data reported or to the findings, observations and conclusions expressed in this report. Further, such data, findings, observations and conclusions are based solely upon site conditions and information in existence at the time of the investigation.

This report has been prepared on behalf of and for the exclusive use of the Client and is subject to and issued in connection with the provisions of the agreement between Larry Bebbington and the Client. Larry Bebbington accepts no liability or responsibility whatsoever for or in respect of any use of, or reliance upon, this report by a third party.

Summary

The following overview of roadside vegetation found along council roads within the Whyalla City Council boundaries will be used in conjunction with Survey Data and Maintenance Data sheets which are “working components” of the *Whyalla City Council Roadside Vegetation Management Plan* – Bourne Samuel Environment Unit July 2008. The Roadside Vegetation management plan adopted by the Native Vegetation Council (24th July 2008) will ensure that vegetation within council roadside verges is maintained in accordance with the *Native Vegetation Act 1991* and the *Local Government Act 1999*.

Furthermore vegetation communities, species and habitat of significance protected under the *National Parks and Wildlife Act 1972* within the council roadside system will be managed in accordance to legislation.

The Whyalla City Council manages all council road reserves and is vested with the responsibility of maintaining these resources in an efficient, cost effective and appropriate manner. Roadside vegetation management is a complex issue due to the increasing number of entities competing for space within Council roadside verges. In addition the promotion of the unique landscapes and associated plant communities from a tourism viewpoint within the Council boundaries increases pressures on both the roadside vegetation and the City of Whyalla. The councils are required to provide and maintain infrastructure associated with increased tourism such as roads, wayside stops and rubbish, as well as ensuring that the vegetation is managed in such a manner that it retains an aesthetic and visual appeal to locals and tourists alike.

The adoption and implementation of a council Roadside Vegetation Management Plan under delegated authority to the Native Vegetation Council will ensure that roadside vegetation is managed in the most cost effective manner with benefits to all users of roadside easements and the community.

1.0 – Port Bonython – Fitzgerald Bay Road

Reference: Map 1 / Road No 1

Road Category: A

Type: Sealed

Length: 5.5 km (surveyed)

Width: 6-15m

Vegetation of Significance: *Myoporum Platycarpum* (False Sandalwood) Low Open Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

E. gracilis (Yorrel), *Eucalyptus socialis* (Beaked Red Mallee), Open Scrub +/- sclerophyllous shrubs such as – *Melaleuca lanceolata* (Dryland Ti-tree), *Eremophila* ssp. (Emu bush), *Geijera linearifolia* (Sheep Bush), *Senna artemisioides* (Silver Senna), *Scaevola spinescens* (Spiny Fan Flower), *Ptilotus obovatus*, (Pussy Tails), *Austrostipa nitida*. (Spear grass).

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Maireana sedifolia* (Blue bush), *Enchylaena tomentosa* (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Solanum ellipticum* (Velvet Potato Bush), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Myoporum platycarpum (False Sandalwood) Low Open Woodland STATUS Threatened +/- semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata*. (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Fair as disturbances within the easement have impacted on vegetation. Upper canopy species are now considered Fragmented or Scattered with a Condition Class of M^{Neagle 1995} – Moderate weed invasion and/or moderately disturbed resulting in some loss of plant species richness and with significant competition from exotic species in places.

Infrastructure within Easements

No other infrastructure is found within the road easements – gas and water mains pipelines are located outside of the road easement as is Telstra cabling. 2 access driveways to Telstra and gas pipeline valves are located on the southern side of the road.

Disturbances

Disturbances are restricted to scalping by grader during road maintenance and scattered infestations of Wards Weed, Salvation Jane and Wild Onion in highly disturbed verges.

2.0 – Douglas Point / Backy Point Road

Reference: Map 2 / Road No 2

Road Category: A

Type: Unsealed

Length: 15.76 km (surveyed)

Width: 0-5m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Casuarina Pauper (Black Oak) Low Open Woodland, Status Regionally Rare vegetation Community

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Maireana sedifolia* (Blue bush), *Enchylaena tomentosa* (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Solanum ellipticum* (Velvet Potato Bush), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Myoporum platycarpum (False Sandalwood) Low Open Woodland STATUS Threatened +/- semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Eremophila scoparia* (Emu bush), *Geijera linearifolia* (Sheep Bush), *Senna artemisioides* (Silver Senna), *Scaevola spinescens* (Spiny Fan Flower) *Austrostipa nitida* (Spear grass), *Ptilotus obovata* (Pussy Tails).

Casuarina pauper (Black Oak) Low Open Woodland STATUS Rare with semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush) and sparse emergent *Myoporum platycarpum* (False Sandalwood), *Alectryon oleifolius* (Bullock Bush)

Maireana sedifolia (Blue bush), *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland with *Enchylaena tomentosa* (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Carpobrotus rossii* (Native Pigface), *Sclerolaena diacantha* (Grey bindii), *Solanum ellipticum* (Velvet Potato Bush), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Good as routine maintenance disturbances within the easement have had minimal impact on vegetation. Overall the vegetation is considered to have a Condition Class of S2^{Neagle 1995} – Weed invasion and / or disturbances slight with no resultant loss of plant species richness.

Road number 2 has been flagged as a Roadside Significance Site and for potential Bushcare sites due to the overall condition and values of vegetation.

Infrastructure within Easements

Gas and water mains pipelines are located inside the council road easements, as is Telstra cabling. Multiple property frontages and driveways exist at Fitzgerald Bay, Douglas Point and Backy Point.

Disturbances

Disturbances include scalping by grader during road maintenance and scattered infestations of Wards Weed, Salvation Jane and Wild Onion in highly disturbed verges.

Other disturbances along road No 2 include: unauthorised access tracks to beaches, unauthorised camp areas, 4WD access to Shingle Mounds and rubbish dumping. During the 2010 survey these disturbances were relatively minor in nature but increased visitation will result in an increase in negative impacts.

3.0 Fitzgerald Bay Shacks to Point Lowly Road (Pt Lowly fire access)

Reference: Map 1 / Road No 3

Road Category: A

Type: Unsealed

Length: 5.4 km (surveyed)

Width: 0-5m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Open Woodland, Status – Regionally Threatened Vegetation Community

Casuarina Pauper (Black Oak) Low Open Woodland, Status Regionally Rare vegetation Community

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Maireana sedifolia* (Blue bush), *Enchylaena tomentosa* (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Solanum ellipticum* (Velvet Potato Bush), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Myoporum platycarpum (False Sandalwood) Low Open Woodland STATUS Threatened +/- semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata*. (Pussy Tails).

Casuarina pauper (Black Oak) Low Open Woodland STATUS Rare with semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush) and sparse emergent *Myoporum platycarpum* (False Sandalwood), *Alectryon oleifolius* (Bullock Bush)

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Good - disturbances within the easement having minimal impact on vegetation. Low Woodland within this road verge is fragmented (but links to hillslope communities) with a Condition Class of S2^{Neagle 1995} – Weed invasion and / or disturbances slight with no resultant loss of plant species richness.

Recommend that the Fitzgerald Bay shack to Pt Lowly fire access road is considered for Bushcare work and communities of significance listed as RSS.

Infrastructure within Easements

No other infrastructure is found within the road easements. The Freycinet Walking Trail is linked to the road verge for the full length of the road to Pt

Lowly. Wayside stops and seating have been constructed for users of the trail at points of interest along the coastal reserve.

Disturbances

Disturbances include: scalping by grader during road maintenance and construction of turn out drains which trigger scattered infestations of Wards Weed, Salvation Jane and Wild Onion.

Other disturbances include: unauthorised beach access by 4WD, unauthorised camping and access to Shingle Mounds and rubbish dumping associated with camping. These negative impacts are increasing in severity as visitation increases within the coastal region.

Preliminary work at the proposed Kingfish Harbour area has impacted on off target vegetation adjoining the site. Recent road widening works by the Whyalla Council at the midway point of the fire access road have impacted on numerous *Casuarina pauper*^R trees, which could have been avoided if proper advice had been sought.

4.0 Point Lowly township roads (inclusive)

Reference: Map 1 / Road No 4

Road Category: B

Type: sealed

Length: 2.45 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Open Woodland, Status – Regionally Threatened Vegetation Community (Degraded)

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Maireana sedifolia* (Blue bush), *Enchylaena tomentosa* (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Myoporum platycarpum (False Sandalwood) Low Open Woodland STATUS Threatened +/- semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Ptilotus obovata* (Pussy Tails).

Nitraria billardieri (Nitre Bush) Low Shrubland +/- *Myoporum insulare* (Boobialla), *Tetragonia implexicoma* (Native Spinach), *Rhagodia candolleana* (Sea-berry Saltbush), *Carpobrotus rossii* (Native Pig-face), *Frankenia pauciflora* (Southern Sea Heath), *Austrodanthonia caespitosa* (Wallaby Grass).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Good with disturbances limited to unauthorised vehicle access in areas of high visitation. Coastal heath on the east side of Point Lowly between the lighthouse and the new boat ramp is an excellent example of this vegetation type and is considered to have a Condition Class of S2^{Neagle 1995} – Weed invasion and / or disturbances slight with no resultant loss of plant species richness. The remaining coastal vegetation is in Fair to Good condition with a Condition Class of M^{Neagle 1995} with disturbances predominately restricted to vehicle access tracks and road maintenance.

Infrastructure within Easements

As with all residential areas the easements contain Telstra and power cabling within the easement.

Disturbances

Disturbances include: scalping by grader during road maintenance and construction of the new boat ramp car park which trigger scattered infestations of Wards Weed and Wild Onion.

Other disturbances include typical human impact on vegetation by trampling, unrestricted vehicle access and access egress to shacks.

5.0 False Bay Road

Reference: Map 1 / Road No 5

Road Category: A

Type: Unsealed

Length: 8.79 km (surveyed)

Width: 0-5m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Open Woodland, Status – Regionally Threatened Vegetation Community.

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Maireana sedifolia* (Blue bush), *Enchylaena tomentosa* (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Solanum ellipticum* (Velvet Potato Bush), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Myoporum platycarpum (False Sandalwood) Low Open Woodland STATUS Threatened +/- semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata*. (Pussy Tails).

Nitraria billardieri (Nitrate Bush) Low Shrubland with *Myoporum insulare* (Boobialla), *Tetragonia implexicoma* (Native Spinach), *Rhagodia candolleana* (Sea-berry Saltbush), *Carpobrotus rossii* (Native Pig-face), *Frankenia pauciflora* (Southern Sea Heath), *Austrodanthonia caespitosa* (Wallaby Grass).

Acacia ligulata (Umbrella Wattle) Low Shrubland +/- *Myoporum insulare* (Boobialla), *Melaleuca lanceolata* (Dryland Ti-tree), *Eremophila scoparia* (Emu bush), *Geijera linearifolia* (Sheep Bush), *Senna artemisioides* (Silver Senna) *Tetragonia implexicoma* (Native Spinach), *Rhagodia candolleana* (Sea-berry Saltbush), *Carpobrotus rossii* (Native Pig-face), *Frankenia pauciflora* (Southern Sea Heath),

E. gracilis (Yorrel), *Eucalyptus socialis* (Beaked Red Mallee), Open Scrub +/- sclerophyllous shrubs such as – *Melaleuca lanceolata* (Dryland Ti-tree), *Eremophila ssp.* (Emu bush), *Geijera linearifolia* (Sheep Bush), *Senna artemisioides* (Silver Senna), *Acacia ligulata* (Umbrella Wattle), *Scaevola spinescens* (Spiny Fan Flower), *Ptilotus obovatus*, (Pussy Tails), *Austrostipa nitida*. (Spear grass). Mallee and Melaleuca communities along False Bay road are predominately wind and salt planed.

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Good with disturbances limited to unauthorised vehicle access in areas of high visitation. The overall Condition Class of all vegetation types along False Bay road are considered to be S2^{Neagle 1995} – Weed invasion and / or disturbances slight with no resultant loss of plant species richness.

Infrastructure within Easements

No shared service easements exist along the False Bay Road except at the shacks at the north western end. Wayside stops and seating have been installed by the Whyalla Council along the coastal verge.

Disturbances

Disturbances include: scalping by grader during road maintenance and construction of turn out drains.

Unauthorised vehicle tracks tend to be restricted to the north western section of the road surrounding the shack community.

Other disturbances predominately in the shack area include typical impacts on vegetation by rubbish dumping, trampling, unrestricted vehicle access and access egress to shacks.

6.0 Horseshoe Road

Reference: Map 3 / Road No 6

Road Category: C

Type: sealed / unsealed

Length: 1.7 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Nil recorded.

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/-
Enchylaena tomentosa (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Halosarcia indica (Brown Head Samphire) Low Shrubland (Samphire) +/-
Halosarcia halocnemoides (Grey Samphire), *Sarcocornia quinqueflora* (Beaded Samphire), *Sclerostegia arbuscula* (Shrubby Samphire), *Carpobrotus rossii* (Native Pigface), *Frankenia pauciflora* (Southern Sea Heath)

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Poor with high levels of disturbance and weed infestations. The overall Condition Class is considered to be H^{Neagle 1995} – heavy weed invasion and / or highly disturbed resulting in complete or almost complete destruction of the native understorey.

Horseshoe road is recommended as a revegetation / bushcare site.

Infrastructure within Easements

As with all residential areas the easements contain Telstra, power cabling and water pipelines within the easement.

Disturbances

Disturbances include: scalping by grader during road maintenance and construction of drains which encourage and spread infestations of Wards Weed, Wild Onion, Kikuyu, Gazania and Salvation Jane.

Other disturbances include typical human impacts on vegetation by trampling, unrestricted vehicle access through shrublands and access / egress to property frontages.

7.0 Eight Mile Creek Road

Reference: Map 3 / Road No 7

Road Category: A

Type: sealed / unsealed

Length: 17.4 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Acacia papyrocarpa (Western Myall) Low Woodland Status – Regionally Rare

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Enchylaena tomentosa* (Ruby Saltbush), *Sclerolaena diacantha* (Grey bindii), *Scaevola spinescens* (Spiny Fan Flower), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Myoporum platycarpum (False Sandalwood) Low Open Woodland STATUS Threatened +/- semi-succulent shrubs - *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata*. (Pussy Tails).

Acacia papyrocarpa (Western Myall) Low Open Woodland STATUS Rare +/- *Myoporum platycarpum* (False Sandalwood), *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata*. (Pussy Tails).

Halosarcia indica (Brown Head Samphire) Low Shrubland (Samphire) +/- *Halosarcia halocnemoides* (Grey Samphire), *Sarcocornia quinqueflora* (Beaded Samphire), *Sclerostegia arbuscula* (Shrubby Samphire), *Carpobrotus rossii* (Native Pigface), *Frankenia pauciflora* (Southern Sea Heath)

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Fair to Good with moderate levels of disturbance and weed infestations within the sealed section. Scattered *M. platycarpum* and *A. papyrocarpa* communities exist on the sealed road verges. The overall Condition Class is considered to be M^{Neagle 1995} – Moderate weed invasion and/or moderately disturbed resulting in some loss of plant species richness and with significant competition from exotic species in places.

Unsealed sections of the Eight Mile Creek road are in Good condition with moderate levels of disturbance and contain scattered *M. platycarpum* and *A. papyrocarpa* communities within the verge.

Eight Mile Creek road is recommended as a revegetation / bushcare site.

Infrastructure within Easements

As with all residential areas the easements contain Telstra, power cabling and water pipelines within the easement within the residential areas.

Disturbances

Disturbances include: scalping by grader during road maintenance and construction of numerous turn out drains which encourage and spread infestations of Wards Weed, Wild Onion, Kikuyu, Gazania and Salvation Jane within the residential area. The unsealed section currently has minor infestations of Wild Onion and Wards Weed.

Other disturbances include impacts on vegetation by trampling, unrestricted vehicle access through shrublands and access / egress to property frontages.

8.0 Eight Mile Creek Beach Road

Reference: Map 3 / Road No 8

Road Category: A

Type: unsealed

Length: 1.96 km (surveyed)

Width: 0-5m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardi* (Nitrate Bush) *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Scaevola spinescens* (Spiny Fan Flower), *Austrostipa nitida*. (Spear Grass), *Sida intricata* (Twiggy Sida)

Myoporum platycarpum (False Sandalwood) Low Open Woodland STATUS Threatened +/- semi-succulent shrubs – *Geijera linearifolia* (Sheep Bush), *Acacia ligulata* (Umbrella Wattle), *Atriplex vesicaria* (Bladder Salt Bush), *Maireana sedifolia* (blue bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata* (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Good with low levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* communities occur on both sides of the road. The overall Condition Class is considered to be S2^{Neagle 1995} – Weed invasion and / or disturbances slight with no resultant loss of plant species richness.

Infrastructure within Easements

Infrastructure is restricted to turn out drains as no services are located within the road easement.

Disturbances

Disturbances are restricted to minor unauthorised vehicular tracks, construction of turn out drains and minor infestations of Wards Weed and Wild Onion.

9.0 Saddleback Road

Reference: Map 3 / Road No 9

Road Category: C

Type: unsealed

Length: .5 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Very Sparse degraded - *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardierei* (Nitrate Bush), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass)

Scattered emergent - *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata* (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Poor with high levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* trees occur within the left hand road verge. The overall Condition Class is considered to be H^{Neagle 1995} – heavy weed invasion and / or highly disturbed resulting in complete or almost complete destruction of the native understorey.

Saddleback road is recommended as a revegetation site.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: verge slashing, property frontages with parking in verge and infestations of Wards Weed and Wild Onion.

10.0 Berkshire Road

Reference: Map 3 / Road No 10

Road Category: B

Type: sealed

Length: .9 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Very Sparse degraded - *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardierei* (Nitrate Bush), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass)

Scattered emergent - *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata* (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Poor with high levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* trees occur within the left and right hand road verge. The overall Condition Class is considered to be H^{Neagle 1995} – heavy weed invasion and / or highly disturbed resulting in complete or almost complete destruction of the native understorey.

Berkshire road is recommended as a revegetation site.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: verge slashing, property frontages with parking in verge and infestations of Wards Weed and Wild Onion.

11.0 Landrace Road

Reference: Map 3 / Road No 11

Road Category: A

Type: sealed

Length: .9 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Sparse - *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardierei* (Nitre Bush), *Exocarpos aphyllus* (Wild Cherry), *Lycium australe* (Native Boxthorn), *Eremophila scoparia* (Emu Bush), *Acacia oswaldii* (Oswalds Wattle), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass)

Scattered emergent - *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Alectryon oleifolius* (Bullock Bush), *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata* (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Fair to Good with moderate levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* trees occur within the left and right hand road verge. The overall Condition Class is considered to be M^{Neagle 1995} – Moderate weed invasion and/or moderately disturbed resulting in some loss of plant species richness and with significant competition from exotic species in places.

Landrace road is recommended as a Bushcare site.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: minor verge slashing, property frontages with parking in verge and low infestations of Wild Onion and Gazanias.

12.0 Garret Road

Reference: Map 3 / Road No 12

Road Category: A

Type: sealed

Length: .565 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Atriplex vesicaria (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardierei* (Nitrate Bush), *Exocarpos aphyllus* (Wild Cherry), *Lycium australe* (Native Boxthorn), *Eremophila scoparia* (Emu Bush), *Acacia oswaldii* (Oswalds Wattle), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass), *Ptilotus obovatus* (pussytails), *Austrodanthonia caespitosa* (wallaby grass)

Scattered *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Alectryon oleifolius* (Bullock Bush), *Acacia ancistrophylla* v *lissophylla* (hook leaf wattle), *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens*, *Austrostipa nitida*. (Spear grass), *Ptilotus obovata* (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Excellent with low levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* trees occur within the left and right hand road verge. The overall Condition Class is considered to be S2^{Neagle 1995} – Weed invasion and / or disturbances slight with no resultant loss of plant species richness.

Garret road is recommended as a Bushcare site due to its high value as a representation of historical plant communities within the area.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: minor verge slashing, property frontages and low infestations of Wild Onion and Gazanias.

13.0 Hancock Road

Reference: Map 3 / Road No 13

Road Category: B - C

Type: sealed

Length: .6 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Very Sparse degraded - *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardierei* (Nitre Bush), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass)

Scattered emergent - *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens* (*Spiny Fan Flower*), *Austrostipa nitida*. (Spear grass), *Ptilotus obovata* (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Poor with high levels of disturbance and weed infestations throughout. Hancock Road is slashed to ground level along half its length on both sides of the road. Scattered *M. platycarpum* trees occur within the left and right hand road verge. The overall Condition Class is considered to be H^{Neagle 1995} – heavy weed invasion and / or highly disturbed resulting in complete or almost complete destruction of the native understorey.

Hancock road is recommended as a revegetation site.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: verge slashing for >250m, property frontages with parking in verge and infestations of Wards Weed and Salvation Jane.

14.0 Tamworth Road

Reference: Map 3 / Road No 14

Road Category: B - C

Type: sealed

Length: .6 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Very Sparse degraded - *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardierei* (Nitre Bush), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass)

Scattered emergent - *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens* (*Spiny Fan Flower*), *Austrostipa nitida*. (Spear grass), *Ptilotus obovata* (Pussy Tails).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Poor with high levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* trees occur within the left and right hand road verge but currently do not comprise an intact community. The overall Condition Class is considered to be H^{Neagle 1995} – heavy weed invasion and / or highly disturbed resulting in complete or almost complete destruction of the native understorey.

Tamworth road is recommended as a revegetation site.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: verge slashing, property frontages with parking in verge and infestations of Wards Weed and Salvation Jane.

15.0 Covino Road

Reference: Map 3 / Road No 15

Road Category: B - C

Type: unsealed

Length: .325 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Very Sparse degraded - *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardiarei* (Nitrate Bush), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass)

Very Sparse scattered emergent - *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens* (*Spiny Fan Flower*).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Poor with high levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* trees occur within the left and right hand road verge but currently do not comprise an intact community. The overall Condition Class is considered to be H^{Neagle 1995} – heavy weed invasion and / or highly disturbed resulting in complete or almost complete destruction of the native understorey.

Covino road is recommended as a revegetation site.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: verge slashing, property frontages with parking in verge and infestations of Wards Weed and Salvation Jane.

16.0 Saltbush Road

Reference: Map 3 / Road No 16

Road Category: B- C

Type: sealed

Length: .6 km (surveyed)

Width: 6-15m

Vegetation of Significance:

Myoporum Platycarpum (False Sandalwood) Low Woodland, Status – Regionally Threatened Vegetation Community

Current Vegetation Communities within Council road reserve:

Very Sparse degraded - *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland +/- *Nitraria billardierei* (Nitrate Bush), *Sclerolaena diacantha* (Grey bindii), *Enchylaena tomentosa* (Ruby Saltbush), *Austrostipa nitida*. (Spear Grass)

Scattered emergent - *Myoporum platycarpum* (False Sandalwood) Low Open Woodland STATUS Threatened +/- *Atriplex vesicaria* (Bladder Salt Bush), *Scaevola spinescens* (*Spiny Fan Flower*).

Current Condition of Roadside Vegetation

The overall condition of roadside vegetation is considered Poor with high levels of disturbance and weed infestations throughout. Scattered *M. platycarpum* trees occur within the left hand road verge but currently do not comprise an intact community. The overall Condition Class is considered to be H^{Neagle 1995} – heavy weed invasion and / or highly disturbed resulting in complete or almost complete destruction of the native understorey.

Saltbush Road is recommended as a revegetation site.

Infrastructure within Easements

Typical residential services such as Telstra, power and water pipelines are found within the easements.

Disturbances

Disturbances consist of: verge slashing, property frontages with parking in verge and infestations of Wards Weed and Salvation Jane.

Vegetation Structural Formations: Vegetation Structural Formations- from Heard & Channon (1997) - adapted from Forward and Robinson (1996) (table originally derived from Specht (1972) and Muir (1997).

Neagle (1995) "*An update of the Conservation Status of the Major plant Associations of South Australia*".

Vegetation Canopy Cover:

Based on Specht (1972) - Vegetation Classification.

Very Sparse = (**VS**) <10% cover, Sparse = (**S**) 10-30%, Mid-dense = (**MD**)30-70%, Dense = (**D**)70-100%

Condition Class Neagle (1995)

S = 1) virgin, or
2) slight weed invasion and/or only light grazing in the past with no resultant loss of plant species richness

M = moderate weed invasion and/or moderately grazed in the past resulting in some loss of plant species richness and with significant competition from exotic species in places.

H = heavy weed invasion and/or heavily grazed in the past resulting in complete or almost complete destruction of the native understorey

Road Categories:

Category A - Threatened species known to exist

Category B – Native Vegetation relatively intact, moderate weed invasion, plant communities of significance may be present but scattered throughout

Category C – Native Vegetation invaded by invasive weed species moderate disturbances

Category D – No native vegetation evident, high levels of disturbance

Appendix A – Road Category Table

Road No.	Name	KM	Category
1	Fitzgerald Bay	5.5	A
2	Douglas point Road	15.76	A
3	Pt Lowly Fire Access	5.4	A
4	Point Lowly township	2.45	B
5	False Bay	8.79	A
6	Horseshoe Road	1.7	C
7	Eight Mile Creek Road	17.4	A
8	Eight Mile Creek Beach Road	1.96	A
9	Saddleback Road	.5	C
10	Berkshire Road	.9	B
11	Landrace Road	.9	A
12	Garrett Road	.56	A
13	Hancock Road	.6	B-C
14	Tamworth Road	.6	B-C
15	Covino Road	.325	B-C
16	Saltbush Road	.6	B-C

Appendix 6 – Codes and Definitions

CODES & DEFINITION SHEET FOR THE ROADSIDE VEGETATION SURVEY



Roadtype	
AVE	Avenue
CRES	Crescent
CT	Court
DR	Drive
HWY	Highway
LANE	Lane
PDE	Parade
RD	Road
ST	Street
TCE	Terrace
TRAC	Track

Width	
A	0-6m
B	6-15m
C	>15m

Structural type	
F	Forest
W	Woodland
K	Mallee
S	Shrubland
P	Mat plants
H	Hummock grassland
G	Grassland
V	Sedgeland
J	Herbland
X	Fermland
PL	Plantation
BU	Built up
BG	Bare ground

Density/Distribution		
C	Continuous	
F	Fragmented	
S	Scattered	

Understorey type	
LT	Low Trees
SC	Shrubs - chenopod / semi succulent
SH	Shrubs - heath
SO	Shrubs - other native
SE	Shrubs - exotic (alien)
PN	Mat plants - native
PE	Mat plants - exotic (alien)
H	Hummock grasses
GN	Grasses - native (tussock)
GE	Grasses - exotic (alien)
VN	Sedges - native
VE	Sedges - exotic (alien)
JE	Herbs - exotic (alien)
JN	Herbs - native
X	Ferns
CN	Vines/Climbers/creepers - native
CE	Vines/Climbers/creepers - exotic (alien)
LL	Leaf Litter (plant litter)
B	Bare ground/litter (not valid from Sept 2003)
BS	Bare ground (sand)
BG	Bare ground
XX	Other

Condition of understorey		
1	Excellent	Very little or no sign of alien vegetation in the understorey*; resembles probable pre-European condition.
2	Good	High proportion of native species and native cover in the understorey*; reasonable representation of probable pre-European vegetation.
3	Moderate	Substantial invasion of aliens, but native understorey* persists; for example, may be a low proportion of native species and a high native cover, or high proportion of native species and low native cover.
4	Poor	The understorey* consists predominantly of alien species, although a small number of natives persist.
5	Very Poor	The understorey* consists only of alien species.
6	Soil deposition (Sand drift)	Soil/sand smothering the understorey plants resulting in condition being unable to be assessed, alien species not yet apparent.

*Or all strata if upper and lower strata difficult to distinguish

Disturbances			
AT	Access track through vegetation	GR	Grazing
ATB	Access tracks (bike trails)	LP	Lopping
ATH	Access tracks (horses)	PF	Property frontage
ATM	Access tracks (motor cycles)	PI	Pipeline
ATW	Access tracks (walking)	PL	Plantings
BH	Bee Hives	PW	Power line
BN	Burning of vegetation	RA	Active rabbit warren
BQ	Borrow / Quarry Pit	RD	Rubbish Dumping
CA	Campsite	SDR	Sand drift, recent (<24 months)
CL	Clearing (human influence)	SDP	Sand drift, previous (>24 months)
CR	Coppice regrowth	SL	Slashing
DR	Drains	SP	Stockpile
EA	Earthmoving / earthworks	SR	Spraying
EAS	Earthworks - scalping	TE	Telecommunications easement
FP	Firebreak-ploughed	WP	Water pipeline
FS	Firebreak-slashed	WS	Wayside stop

Potential Site			
BUS	Bushcare Site	REV	Revegetation Site
REF	Reference Site	RSS	Roadside Significant site
REH	Rehabilitation Area		

Comment type	
ADJ	Adjacent land use
ADM	Administration road issues
ALI	Dominant alien species
BUS	Bushcare site (potential)
CON	Condition of understorey
DIE	Presence of dieback
DIS	Disturbances to roadside corridor
DOM	Dominant species
EME	Emergent species
MIS	Mistletoe infestation
NSP	Noteworthy native plant species
REF	Reference site
REH	Rehabilitation area (potential)
REG	Regenerating native plant species
REV	Revegetation site (potential)
RSD	Roadside and road conditions
RSS	Roadside Significant site (potential)
SED	Seed source
SIG	Plants of conservation significance
STR	Structural type
UND	Understorey structure or species
WID	Roadside width

Code	Plant Species	Code	Plant Species
AA	<i>Acacia ancistrophylla</i>	PO	<i>Ptilotus obovatus</i>
AL	<i>Acacia ligulata</i>	RC	<i>Rhagodia candolleana</i>
AN	<i>Austrostipa nitida</i>	SA	<i>Sida Calyxhymenia</i>
AO	<i>Acacia oswaldii</i>	SC	<i>Sclerostegia spp</i>
AP	<i>Acacia papyrocarpa</i>	SL	<i>Solanum ellipticum</i>
AV	<i>Atriplex vesicaria</i>	SN	<i>Senna complex</i>
AY	<i>Acacia nysophylla</i>	SO	<i>Senecio pinnatifolius</i>
BB	<i>Alectryon oleifolius</i>	SP	<i>Samphire (Halosarcia spp)</i>
CP	<i>Casuarina pauper</i>	SS	<i>Scaevola spinescens</i>
CR	<i>Carpobrotus rossii</i>		
DR	<i>Dianella revoluta</i>		EXOTICS
DV	<i>Dodonaea viscosa</i>	GZ	<i>Gazania sp</i>
EG	<i>Eucalyptus gracilis</i>	HH	<i>Horehound</i>
ES	<i>Eremophila scoparia</i>	KY	<i>Kikuyu</i>
ET	<i>Enchylaena tomentosa</i>	SJ	<i>Salvation Jane</i>
GL	<i>Geijera linearifolia</i>	SV	<i>Salvia (sage)</i>
LA	<i>Lycium australe</i>	WO	<i>Wild Onion</i>
MI	<i>Myoporum insulare</i>	WT	<i>Wild Oat</i>
ML	<i>Melaleuca lanceolata</i>	WW	<i>Wards Weed</i>
MP	<i>Myoporum platycarpum</i>		
MS	<i>Maireana sedifolia</i>		
NB	<i>Nitraria billardiarei</i>		
PA	<i>Pittosporum angustifolium</i>		

Appendix 7 – Roadside Vegetation Survey Sheets

Date: 13/ 09/ 09

Observer: L. Bebbington

Survey No: 1

ROADSIDE VEGETATION SURVEY

Road Name: Fitzgerald Bay Road (*Map 1A*)

Rd. Type Sealed

Sheet 1 of 1

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description						Understorey species					Condition of understorey			Major alien species					BUS REF REV RSS	*EME	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet					
					*DOM			*STR	*UND		*UND					*CON			*ALI								*DIS	Potential site			
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4				Species 5	Disturbance 1	Disturbance 2	Disturbance 3	Potential site
1	0	S	L	B				SC	C	CS	JE	AV	SA			3	2	4	WW	WO				EAS	PL						
			R	B				SC	C	CS	JE	AV	SA	SN	DV		3	2	4	WW	WO				EAS					EG	MP
2	1.162	S	L	B				SC	F	CS	JE	AV	SA			3	3	5	WW	WO				EAS	PL						
			R	B				SC	F	CS	JE	AV	SA			3	3	5	WW	WO				EAS							
3	2.00	S	L	B				SC	C	CS	JE	AV	SA	PO		3	2	2	WW	WO	HH			EAS	PL					MP	
			R	B				SC	C	CS	JE	AV	SA	PO		3	2	2	WW	WO				EAS					MP	SIG	
4	4.39	S	L	B	MP			W	S	CS	JE	AV	SA	AS	SL	2	2	3	WW	WO				EAS	PL				MS	SIG	
			R	B	MP			W	S	CS	JE	MS	SA	AS			2	2	3	WW	WO				EAS				MS	SIG	
5	4.73	S	L	B	MS			SC	F	CS	JE	AV	SA	AN	SL	2	3	4	WW	WO	HH	SJ		EAS	PL					SIG	
			R	B	MS			SC	F	CS	JE	AV	SA	AN	SL		3	3	4	WW	WO	HH									
6			L	B																											
			R	B																											
7	5.5 END		L	B																									Jnct Rd	Fitz Bay east	

Date: 13/ 09/ 09

Observer: L. Bebbington

Survey No: 2

ROADSIDE VEGETATION SURVEY

Road Name: Douglas Point Road (Map 2)

Rd. Type Dirt Road

Sheet 1 of 2

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description							Understorey species					Condition of understorey			Major alien species					BUS REF REH REV RSS	*EM E	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet					
					*DOM			*STR	*UND			*UND					*CON			*ALI								*DIS			Potential site	Emergent species
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4	Species 5				Disturbance 1	Disturbance 2	Disturbance 3	Potential site	
1	0 Nth	US	L	A	AV			S	C	SC		SA	PO	AN			2	1	3	WW	WO				EA S	DR	AT	RSS	BB			
				R		AV			S	C	SC		SA	PO	AN			2	1	3	WW	WO				EA S	DR	AT	RSS	BB		
2	1.20	US	L	A	BB	ES		W	C	SC	JE	AV	SA	PO			2	2	4	WW					AT	CA		RSS		1.96K WM		
				R		BB	ES	AN	W	C	SC	JE	AV	SA	PO			2	2	4	WW					AT		PL		MP	2.29 SIG	
3	2.75	US	L	A	ES	BB		W	C	SC	JE	SA	PO	AN			1	2	3	WW	WO	SJ			AT	CA						
				R		AV		W	C	SC	JE	SA	PO	AN			1	2	3	WW	WO	SJ			AT		PL	RSS				
4	Sth	US	L	A	ES	BB	AN	W	F	SC	JE	SA	PO	SL			1	2	3	WW	WO				AT	CA		RSS		Start D Point South		
				R		AV	MS	SA	W	F	SC	JE	SA	PO	SL			1	2		WW	WO				AT	CA	PL				
5	3.2	US	L	A	AV			S	F	JE		SA	PO	AN			3	2	4	WW	WO	SJ			AT	CA	PL		MP			
				R		AV			S	F	JE		SA	PO	AN			3	2	4	WW	WO	SJ			AT		PL		MP		
6	4.3	US	L	A	BB	ES	AN	W	C	SC	JE	SA	PO				2	1	3	WW	WO	SJ			AT	CA			MP			
				R		BB	ES	AN	W	C	SC	JE	SA	PO				2	1	3	WW	WO	SJ			AT	CA	PL	RSS	BO	SIG	
7	5.05		L	A	BO	SC	SC	S	F	SC	JE	SA	PO				2	1	3	WW	WO				AT			RSS	BO	4.35-5.05 BO		
				R		BO	SC	SC	S	F	SC	JE	SA	PO				2	1	3	WW					AT						

Date: 13/ 09/ 09

Observer: L. Bebbington

Survey No: 2

ROADSIDE VEGETATION SURVEY

Road Name: Douglas Point Road (Map 2)

Rd. Type Dirt Road

Sheet 2 of 2

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description							Understorey species					Condition of understorey			Major alien species					BUS REF REH REV RSS	*EM E	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet				
					*DOM			*STR	*UND			*UND					*CON			*ALI								*DIS			Potential site
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4	Species 5				Disturbance 1	Disturbance 2	Disturbance 3	Potential site
8	5.1	US	L	5	SC	SC		S	C	JE	BG	SA	PO				2	1	3	WW	WO				AT	PL	PF	RSS			
		US	R	5	SC	SC		S	C	JE	BG	SA	PO				2	1	3	WW	WO				AT	PL	PF	RSS		5.4K SIG	
9	9.15	US	L	5	SC	SC		S	S	JE	BG	AV	PO				2	1	3	WW	WO				AT	PL	PF	RSS			
		US	R	5	SC	SC		S	S	JE	BG	AV	PO				2	1	3	WW	WO				AT	PL	PF	RSS	BB		
10	10.3	US	L	5	MP	BB	AV	W	S	SC	JE	AV	PO	SA			2	1	3	WW	WO	SJ			AT	PL	PF	RSS		10.1 SIG	
		US	R	5	MP	BB	AV	W	S	SC	JE	AV	PO	SA			2	1	3	WW	WO	SJ			AT	PL	PF	RSS		10.8 SIG	
11	12.3	US	L	5	MP	BB	AV	W	S	SC	JE	AV	SA	PO			2	1	3	WW					AT	PL	PF	RSS		11.3 SIG	
		US	R	5	MP	AV		W	S	SC	JE	AV	PO				2	1	2	WW					AT	PL	PF	RSS	BO	12.3 SIG	
12	12.8	US	L	5	SP	SC		S	C	SC	SH	SP	SC				1	1	2						AT	DR		RSS			
		US	R	5	SP	SC		S	C	SC	SH	SP	SC				1	1	2						AT	DR		RSS			
13	13.7	US	L	5	MP	BB	ES	W	S	SC	SH	AV	PO	SA			2	1	2	WW					AT	DR	W S	RSS		13.4 SIG	
		US	R	5	MP	BB	ES	W	S	SC	SH	AV	PO	SA			2	1	2	WW					AT	DR	W S	RSS		13.7 SIG	
14	14.0	US	L	5	MP	AV	MS	W	S	SC	SH	AV	MS	PO	SA		2	1	2	WW	WO				AT	DR	W S	RSS		14.0 SIG 15.5 SIG	
		US	R	5	MP	AV	MS	W	S	SC	SH	AV	MS	PO	SA		2	1	2	WW	WO				AT	DR	W S	RSS		14.0 SIG 15.5 SIG	
15	15.7	Sth End																											End Rd	Fitz Bay junction	

Date: 13/ 09/ 09

Observer: L. Bebbington

Survey No: 3

ROADSIDE VEGETATION SURVEY

Road Name: Fitzgerald Bay Shacks to Pt Lowly (Map 1B)

Rd. Type Un sealed

Sheet 1 of 1

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description						Understorey species					Condition of understorey			Major alien species					BUS REF REV RSS	*EME	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet							
					*DOM			*STR	*UND		*UND					*CON			*ALI								*DIS			Potential site	Emergent species		
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4				Species 5	Disturbance 1	Disturbance 2	Disturbance 3		Potential site	
1	0	S	L	B				SC	C	CS	JE	AV	SA			3	2	4	WW	WO				EAS	PL								
		R	B					SC	C	CS	JE	AV	SA	SN	DV				3	2	4	WW	WO									EG MP	EME SIG
2	1.162	S	L	B				SC	F	CS	JE	AV	SA			3	3	5	WW	WO				EAS	PL								
		R	B					SC	F	CS	JE	AV	SA			3	3	5	WW	WO				EAS									
3	2.00	S	L	B				SC	C	CS	JE	AV	SA	PO		3	2	2	WW	WO	HH			EAS	PL							MP	
		R	B					SC	C	CS	JE	AV	SA	PO		3	2	2	WW	WO				EAS								MP	SIG
4	4.39	S	L	B	MP			W	S	CS	JE	AV	SA	AS	SL	2	2	3	WW	WO				EAS	PL							MS	SIG
		R	B		MP			W	S	CS	JE	MS	SA	AS		2	2	3	WW	WO				EAS								MS	SIG
5	4.73	S	L	B	MS			SC	F	CS	JE	AV	SA	AN	SL	2	3	4	WW	WO	HH	SJ		EAS	PL								SIG
		R	B		MS			SC	F	CS	JE	AV	SA	AN	SL	3	3	4	WW	WO	HH												
6			L																														
			R																														
7	5.5 END		L																													Jnct Rd	Fitz Bay east
			R																														

Date: 13/09/09

Observer: L. Bebbington

Survey No: 4

ROADSIDE VEGETATION SURVEY

Road Name: Pt Lowly Fire Access – Port Bonython / harbour route (*Map 1C*)

Rd. Type Dirt Road

Sheet 1 of 1

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description							Understorey species					Condition of understorey			Major alien species					BUS REF REH REV RSS	*EME	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet				
					*DOM			*STR	*UND			*UND					*CON			*ALI								*DIS			Potential site
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4	Species 5				Disturbance 1	Disturbance 2	Disturbance 3	Potential site
1	0	US	L	B	MI	MP		SC	C	AV	JN	PO	SA	AN			2	1	2	WO					AT	DR			MP	SIG	
		US	R	B	MI	MP		SC	C	AV	JN	PO	SA	AN			2	1	2	WO					AT	DR			MP	SIG	
2	.300M	US	L	B	MS	AV		SC	C	AV	JN	PO	SA	AN			2	1	2	WO					AT	DR			MP	SIG	
		US	R	B	MS	AV		SC	C	AV	JN	PO	SA	AN			2	1	2	WO					AT	DR			MP	SIG	
3	855m	END																													
4																															
5																															

Date: 13/09/09

Observer: L. Bebbington

Survey No: 5

ROADSIDE VEGETATION SURVEY

Road Name: Pt Bonython – lighthouse – boat ramp (*Map ID*)

Rd. Type Sealed

Sheet 1 of 1

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description							Understorey species					Condition of understorey			Major alien species					BUS REF REV RSS	*EME	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet				
					*DOM			*STR	*UND			*UND					*CON			*ALI								*DIS			Potential site
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4	Species 5				Disturbance 1	Disturbance 2	Disturbance 3	Potential site
1	0	S	L	B	MI	MP		W	F	CS	JE	AV	DR	AN			3	2	4	WO	HH				EAS	PF	PL			SIG	
			R	B	MI	MP		W	F	CS	JE	AV	AN					3	2	4	WO	HH				EAS	PF	PL			SIG
2	1.5	S	L	B	AV	MI	NB	S	S	CS	JN	AV	DR		SL		3	2	3	WO					EAS	PF	PL				
			R	B	MI	NB	AL	S	C	CS	JN	AV	DR	AN	SL			2	2	3	WO					EAS	PF	PL			
3	1.8	S	L	B	AV	NB	AV	S	C	CS	JN	AV	DR	AN	SL	PO	2	2	2	WO					EAS	PF	PL				
			R	B	MI	NB	AV	S	C	CS	JN	AV	DR	AN	SL	PO		2	2	2	WO					EAS	PF	PL			
4	2.45	S	L	B	END																										
			R	B																											
5		S	L	B																											
			R	B																											
6			L																												
			R																												
7			L																												
			R																												

ROADSIDE VEGETATION SURVEY

Date: 14/ 09/ 09

Observer: L. Bebbington

Survey No: 6

Road Name: Pt Bonython – False Bay (*Map 1E*)

Rd. Type: Unsealed

Sheet 1 of 1

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description							Understorey species					Condition of understorey			Major alien species					BUS REF REV RSS	*EME	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet				
					*DOM			*STR	*UND			*UND					*CON			*ALI								*DIS			Potential site
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4	Species 5				Disturbance 1	Disturbance 2	Disturbance 3	Potential site
1	0	US	L	A	MS	AV		CS	C	JN	JN	PO	SA	AN			1	1	2	WO	SJ				AT	WS		RSS			
			R	A	MS	AV		CS	C	JN	JN	PO	SA				1	1	2		SJ				AT	WS					
2	950m	US	L	A	EG	AV		K	F	JN		GL	AV	PO			1	1	2						AT	WS		RSS			
			R	A	EG	AV		K	F	JN		GL	AV	PO			1	1	2						AT	WS					
3	1.15	US	L	A	AV	MS		CS	C	JN		PO	SA	SE			1	1	2	WO					AT	WS		RSS	MP	SIG	
			R	A	AV	MS		CS	C	JN		PO	SA	SE			1	1	2	WO					AT	WS		RSS	MP	SIG	
4	5.13	US	L	A	GL	AV	PA	S	S	JN		AV	MS	PO	DR		1	1	2						AT			RSS	MP	SIG,NSP	
			R	A	GL	AV	PA	S	S	JN		AV	MS	PO	DR		1	1	2						AT			RSS	MP	SIG,NSP	
5	6.18	US	L	A	MP	PA	GL	W	S	JN		AL	RC	PO			1	1	2						AT	WS		RSS		SIG	
			R	A	MP	PA		W	S	JN		AL	RC	PO			1	1	2						AT			RSS		SIG	
6	6.39	US	L	A	ML	GL	PA	W	S	JN		AV	PO	SA			1	1	2						AT	WS		RSS			
			R	A	ML	GL	PA	W	S	JN		AV	PO	SA			1	1	2						AT	WS		RSS			
7	6.49	US	L	A	GL	ML	NB	S	F	JN		CR	SP				2	1	2	WO					AT	WS					
			R	A	GL	ML	NB	S	F	JN		CR	SP				2	1	2	WO					AT	WS					
8	8.79	US	L	MP	EG	GL	ML	W	C	JN		MS	AV	RC			1	1	2	WO					AT	WS		RSS		SIG	
			R	MP	EG	GL	ML	W	C	JN		MS	AV	RC			1	1	2	WO					AT			RSS			
		END																													

Date: 15/09/09

Observer: L. Bebbington

Survey No: 7

ROADSIDE VEGETATION SURVEY

Road Name: Eight Mile Creek Road (Map 3)

Rd. Type: Sealed / Unsealed

Sheet 1 of 2

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description							Understory species					Condition of understorey			Major alien species					BUS REF REH REV RSS	*EME	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet					
					*DOM			*STR	*UND			*UND					*CON			*ALI								*DIS			Potential site	Emergent species
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4	Species 5				Disturbance 1	Disturbance 2	Disturbance 3	Potential site	
1	0	S	L	B	AV	SA		BU	S	JE		AV	SA			4	3	5	WO	GZ	SJ	SV		CL	EAS			MP	SIG,ALI,DIS			
			R	B	AV	SA		BU	S	JE		AV	SA			4	3	5	WO	GZ	SJ	SV		CL	EAS			MP	SIG,ALI,DIS			
2	1.7	S	L	B	AP	MP		W	S	JN	JE	AV	SA			3	3	4	WO	GZ	SJ	SV		CL	EAS			MP	SIG,ALI,DIS			
			R	B	AP	MP		W	S	JN	JE	AV	SA			3	3	4	WO	GZ	SV			CL	EAS			MP	SIG,ALI,DIS			
3	2.08	S	L	B	AV	SA		BU	S	JE		AV	SA			4	3	5	WO	GZ	SV			CL	EAS			AP	SIG,ALI,DIS			
			R	B	AV	SA		BU	S	JE		AV	SA			4	3	5	WO	GZ	SV			CL	EAS				ALI,DIS			
4	3.16	S	L	B	MP	AV		W	S	JN	JE	AV	SA			3	3	4	WO	SJ	SV			CL	EAS	PF		MP	SIG,ALI,DIS			
			R	B	MP	AV		W	S	JN	JE	AV	SS			3	3	4	WO	SV				CL	EAS	PF		MP	SIG,ALI,DIS			
5	3.5	S	L	B	AV	SA		CS	C	JE		AV	SA			3	3	5	WO	SJ	SV			CL	EAS	PF		MP	SIG,ALI,DIS			
			R	B	AV	SA		CS	C	JE		AV	SA			3	3	5	WO	SJ	SV			CL	EAS	PF		MP	SIG,ALI,DIS			
6	5.4	US	L	B	MP	AV		W	F	JN	JE	AV	SA			3	3	4	WO	SJ	SV			CL	EAS	PF		MP	SIG,ALI,DIS			
			R	B	MP	AV		W	F	JN	JE	AV	SS			3	3	4	WO					CL	EAS	PF		MP	SIG,ALI,DIS			
7	5.88	US	L	B	AV	SS	PA	CS	C	JN	JE	AV	SA			2	1	2	WO					AT	DR	EAS		AP	SIG,ALI,DIS			
			R	B	AV	SS	AL	CS	C	JN	JE	AV	SA			2	1	2	WO						DR	EAS		MP	SIG,ALI,DIS			
8	17.4	US	L	B	SP	SC		CS	C	JN		AV				2	1	2	WO					AT	DR			AL	ALI,DIS			
			R		SP	SC		CS	C	JN		AV				2	1	2	WO					AT	DR			NB				
	END																															

ROADSIDE VEGETATION SURVEY

Date: 15/ 09/ 09

Observer: L. Bebbington

Survey No: 7

Road Name: Eight Mile Creek **Beach** Road (Map 3)

Rd. Type: Unsealed

Sheet 2 of 2

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description							Understorey species					Condition of understorey			Major alien species					BUS REF REV RSS	*EME	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet					
					*DOM			*STR	*UND			*UND					*CON			*ALI								*DIS			Potential site	Emergent species
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4	Species 5				Disturbance 1	Disturbance 2	Disturbance 3	Potential site	
1	0	US	L	B	AV	SC	CR	CS	C	JN	BG	CR	ET				2	1	2	WO					AT	RD	ATM		MP	SIG,ALI,DIS		
			R	B	AV	SC	CR	CS	C	JN	BG	CR	ET				2	1	3	WO					AT	RD	STM					
2	1.7	US	L	B	MP	GL		W	S	JN	JE	AV	SS	CR			2	2	3	WW					AT	RD			NB	SIG,ALI,DIS		
			R	B	MP	GL		W	S	JN	JE	AV	SS	CR			2	2	3	WW					AT	RD			NB	SIG,ALI,DIS		
3	1.06	US	L	B	AV	SC	SP	CS	C	JN	BG	CR	ET				2	1	2	WO					AT	RD	ATM		MP	SIG,ALI,DIS		
			R	B	AV	SC	SP	CS	C	JN	BG	CR	ET				2	1	3	WO					AT	RD	STM					
4		END																														
5																																
6																																
7																																
8																																

Date: 15/ 09/ 09

Observer: L. Bebbington

Survey No: 8

ROADSIDE VEGETATION SURVEY

Road Name: Horseshoe – Saltbush Roads (Map 2)

Rd. Type sealed

Sheet 1 of 1

Segment	Trip meter	Surface	Side	Width	Vegetation Association Description						Understorey species					Condition of understorey			Major alien species					BUS REF REV RSS	*EM E	Comments Use appropriate code prefixes for data sheet terms for additional comments use codes on definition sheet					
					*DOM			*STR	*UND		*UND					*CON			*ALI								*DIS			Poten tial site	Emergent species
					Dominant species 1	Dominant species 2	Dominant species 3	Structural type	Density/distribution	Understorey type 1	Understorey type 2	Species 1	Species 2	Species 3	Species 4	Species 5	Overview	Best	Worst	Species 1	Species 2	Species 3	Species 4				Species 5	Disturbance 1	Disturbance 2	Disturbance 3	
1	0	S	L	B	AV			S	S	JN	JE	PO	SA				3	3	5	GZ	KY	WT				EA S				MI	DIS,
	Horseshoe Rd		R	B	AV			S	S	JN	JE	PO	SA				3	3	5	GZ	KY	WT				EA S				NB	PL,DIS
2	360M	US	L	B	AV	SP		S	S	JN	JE	PO	SA				3	3	5	GZ	WT				EA S				NB	DIS,	
	END	1.7	R	B	AV	SP		S	S	JN	JE	PO	SA				3	3	5	GZ	WT				EA S	PF	RD		NB	DIS	
3	Saddleback Rd 0	S	L	B	AV	NB		BU	F	JN	JE	AN					5	3	4	W O	WT				EA S	PF			MI	DIS	
	500m		R	B	AV	MP		BU	F	JN	JE	AN	PO				5	3	4	W O	WT				EA S	PF			MI	SIG, DIS	
4	Berkshire Rd 0	S	L	B	MP	AV		BU	F	JN	JE	ET	CR	AV			5	3	4	W O	GZ	SJ			EA S	PF			NB	SIG, DIS	
	900m		R	B	MP	AV		BU	F	JN	JE	ET	CR	AV			5	3	4	W O	GZ				EA S	PF			NB	SIG, DIS	

5	Landrace Rd 0	S	L	B	MP	BB	AP	BU	F	SC	JN	AV	LA	AN	A O	G L	3	3	3	W O	SJ				EA S	PF				SIG, DIS
	900m		R	B	MP	BB	AP	BU	F	SC	JN	AV	LA	AN	A O	G L	3	3	3	W O	SJ				EA S	PF		RS S		SIG, DIS
6	Garrett Rd 0		L	B	MP	AA		BU	C	SC	JN	AV	LA	AN	A O	E S	2	2	3	W O	GZ				EA S	PF		RS S	NB	SIG, BUS
	565m		R		MP	AA		BU	C	SC	JN	AV	LA	AN	A O	E S	2	2	3	W O	GZ				EA S	PF		RS S	NB	SIG, BUS
7	Hancock Rd 0		L	M P			BU	F	S C	JE	AV	SS	AN				4	4	3	W O	SJ			E A S	PF	SL	RS S	NB	ES	SIG,SL
	595m		R	M P			BU	F	S C	JE	AV	SS	AN				4	4	3	W O	SJ			E A S	PF	SL	RS S	NB		SIG,SL
8	Tamworth Rd 0		L	A V			BU	F	S C	JE	AV						4	4	4	W O				E A S	PL	SL		MP	SIG,SL	
	600m		R	A V			BU	F	S C	JE	AV						4	4	4	W O				E A S	PL	SL		MP	SIG,SL	
9	Covino Rd		L	N B			BU	F	S C	JE	AV						4	4	4	W O				E A S	PL	SL		MP	SIG,SL	
	325m		R	N B			BU	F	S C	JE	AV						4	4	4	W O				E A S	PL	SL		MP	SIG,SL	
10	Saltbush Rd 0		L	N B			BU	F	S C	JE	AV						4	4	4	W O				E A S	PL	SL		MP	SIG,SL	
	465m		R	N B			BU	F	S C	JE	AV						4	4	4	W O				E A S	PL	SL		MP	SIG,SL	

Appendix 8 – Roadside Vegetation Maintenance Data Sheets

Road Name: Port Bonython - Fitzgerald Bay Road **Type:** Sealed : **Length:** 5.5k **Map No:**1 **Start:** Pt Bonython Junction **Road No.** 1

Segment	Tripmeter (end segment)	LHS	RHS	SIG	Infrastructure (roadside verge)	Disturb.	Exotic	Pot. Site	GPS / Comments
				Spp					
1	1.162		x	MP	PI, Telstra	EAS	WO,WW		MP scattered along RHS
2	2.9		x		Telstra	EAS	WO,WW		Entrance to Telstra sub
3	3.3		x		PI,	EAS	WO,WW		Entrance to Pipe Line valves
4	4.21	x	x	MP	PI,Telstra	EAS	WO,WW		MP 0755420 635055
5	4.39	x	x	MP	PI,Telstra	EAS	WO,WW		MP 0756386 6352095
6	4.46	x			PI,Telstra	EAS	WO,WW		Parking Bay
7	4.73		x	MP	PI,Telstra	EAS			MP (running mileage only)
END 5.5km									

Road Name: Douglas Point / Backy Point Rd **Type:** UnSealed : **Length:** 15.76km **Map No:**2 **Start:** Nth End Sentry Post P/Bay **Road No.** 2

Segment	Tripmeter (actual)	LHS	RHS	SIG	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
				Spp					
1	.594m	x			Gas Pipe RHS		WW	RSS	shack entry
2	1km	x			WS		WW		designated parking
3	1.33	x			shack entry		WW		
4	1.4km	x	x		PW		WW		Overhead power line over road
5	1.5km	x			shack entry	EAS,PF		RSS	
6	1.62km	x			shack entry	EAS,PF	WW		
7	1.85km	x			shack entry	EAS,PF	WW		
8	2.13km	x			shack entry	EAS,PF	WW		Tea Tree Bay shacks 49-60
9	2.14km	x			shack entry	EAS,PF	WW,WO		Douglas Point South entry
10	2.29km	x		MP		EAS,PF	WW	RSS	MP community to 2.7km
11	2.83km	x			Gas pipe	EAS,PI	WW,WO		Gas pipe under road to LHS
12	2.89km	x			shack entry	PF	WW		Douglas Point South junct
13	3.2km	x			shack entry	PF	WW		One shack Rd junct
14	4.0km	x			WS	EAS	WW		designated parking
15	4.3km	x	x		DR	EAS	WW,WO		Culvert under road

16	5.4km	x		MP			WW		scattered MP
17	5.7km	x	x		DR	EAS	WW,SJ		Culvert under road
18	6.7km	x			WS	EAS,AT	WW		Designated parking Crag Point
19	8.2km	x			shack entry	EAS	WW		Backy Point Nth Loop intersection
20	8.5km	x			shack entry				
21	9.15km	x							Backy Point Sth Loop intersection
22	9.65km	x				EAS	WW,WO	RSS	Fitz Bay Nth Intersection
23	10.1km	x	x	MP		AT	WW,WO	RSS	MP 0758890 6355431
24	10.8km	x		MP		AT	WW,WO	RSS	MP 0758393 6355935 END
25	11.35km	x	x	MP,CP		AT	WW	RSS	MP 0757182 6355746 END
26	13.4km	x			WS	AT	WW		designated parking
27	13.5km	x	x	MP			WW	RSS	MP 0757035 6354377 END
28	14.0km	x		MP	Shingle Beach	AT,CA,RD	WW	RSS	MP 0757022 6353630 END
29	15.6km	x		MP			WW	RSS	MP END

END ROAD SECTION AT FITZGERALD BAY SHACKS / PORT BONYTHON RD INTERSECTION

Road Name: Fitzgerald Bay Shacks to Pt Lowly Rd **Type:** UnSealed : **Length:** 5.4km **Map No:**1 **Start:** Fitz Bay Shack parking Bay **Road No.** 3

Segment	Tripmeter Actual)	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1	.172m	x	x	MP		AT,CA	WW	RSS	MP 0757589 635192 END
2	2.9km	x	x	CP		AT,CA	WW	RSS	CP 0758890 6349239 END
3	3.68km	x			Freycinet Trail	AT,ATW,CA	WW	RSS	
4	4.0km	x			Drainage gully	AT,CA,	WW	RSS	
5	4.41km	x	x			AT,CA	WW	RSS	Authorised track & camping
6	4.73km	x				DR,AT	WW	RSS	Grader turn out drain
7	4.98km		x		Kingfish harbour	RD,AT,CA	WW		Kingfish harbour intersection
8	5.2km	x			Seat / L.out	AT	WW	RSS	
9	5.26km	x				AT	WW	RSS	access track down escarpment
10	5.36km	x	x		Major Drain	DR,AT	WW	RSS	New Major culvert/ gully - monitor erosion!
11	5.43km	x	x						Start 25km zone Pt Lowly
12	5.7km	x	x			AT,PF			Start planted verge, frontages

END of road section at 25kmh sign in eastern approach to Pt Lowly

Road Name: Port Bonython Rd / Pt Lowly Lighthouse/ boat ramp loop Rd **Type:** Sealed : **Length:** 2.45km **Map No:**1 **Start:** Pt Bonython Rd 0759218 6346861 **Road No** 4

Segment	Tripmeter (end reading)	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1	.300m	x	x	MP		EAS	WW,WO,SJ		MP start 0759218 6346861 scattered 300m
2	.600m		x		Beach access	AT	WW,WO,SJ		
3	.990M	x			junction ring route	AT,ATW	WW,WO,SJ		
4	1.5km	x			2 wheel track	AT			
5	1.65km		x	x	lighthouse	AT,ATW		RSS	Start of coastal heath of significance back to boat ramp
6	1.7km		x	x	WS	ATW		RSS	Coastal heath of significance
7	1.8km		x		WS	ATW,EAS,AT	WW	RSS	Coastal heath of significance
8	2.1km	x			WS	AT,EAS	WW,WO,SJ		Turning bay disturbances during road upgrade
9	2.19km	x			car park	AT,EAS			Boat Ramp Car Park
10	2.24km		x		Boat Ramp	AT,EAS			
11	2.54Kkm			MP		AT,EAS			MP 0759218 6346861

END at start of new fire access road to Fitzgerald Bay

Road Name: False Bay Rd **Type:** UnSealed : **Length:** 8.79km **Map No:**1 **Start:** Pt Bonython Rd 075819 6347302 **Road No** 5

Segment	Tripmeter (actual)	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1	.610m		x	MP			WW	RSS	MP 0757286 6346854
2	1.56km	x			WS seats	ATW	WW	RSS	
3	2.05km	x			WS	ATW		RSS	
4	2.07km	x			WS	ATW	WW	RSS	
5	2.0km	x			Beach Access	ATW,AT	WW	RSS	
6	3.8km		x		Track	AT,	WW	RSS	Rationalise track access - closure recommended
7	4.3km	x			WS	AT,ATW		RSS	
8	4.5km	x			WS	AT,ATW		RSS	Restrict access to shingle mounds
9	5.46km	x			Track	AT	WW	RSS	Rationalise track access - closure recommended

10	5.6km	x	x	DR	AT	WW	RSS	Culvert blocked exacerbating diversional flow erosion
11	5.86km	x		PF	AT,ATW	WW,WO	RSS	No through road to shacks
12	6.2km	x		WS	AT,ATW	WW	RSS	
13	7.04km	x		intersection, PF	AT	WW	RSS	Pt Lowly Rd sign & intersection at shacks
14	8.36km	x		Track	AT	WW	RSS	
15	8.4km	X		WS	AT,ATW,WREH	WW		Emergent MP in Euc gracilis throughout
16	8.6km	x		Track	AT		RSS	Emergent MP in Euc gracilis throughout
17	8.9km	x		Intersection				Junction with Pt Bonython Rd
	END							

Road Name: Horseshoe Road **Type:** Sealed / unsealed : **Length:** 1.7km **Map No:**3 **Start:** Lincoln Hwy Junction **Road No** 6

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1	0-360m	x	x		TE	EAS,AT,ATB,PL,RD	WW,WO,GZ,KY,SJ	REV	Graded verge dominated by alien species
2	1.7km					EAS,AT,ATB,PL,RD	WW,WO,GZ,KY,SJ	REV	Graded verge dominated by alien species
	END								

Road Name: Eight Mile Creek Road **Type:** Sealed / unsealed : **Length:** 17.4km **Map No:**3 **Start:** Intersection Horseshoe Road

Segment	Tripmeter (end section)	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1	0 - start	x	x	MP	TE	AT,PF,EAS	GZ,WO,	REV	MP scattered amongst planted trees as emergents
2	1.7km	x	x	MP,AP	TE	AT,PF,EAS,	GZ,WO,WW,	REV	MP & AP start 0736518 6339293
3	2.08km	x		MP,AP	TE	AT,PF,EAS	GZ,WO,WW,	REV	MP, AP 0736216 6338923
4	3.5km	x	x	MP		AT,PF,EAS	GZ,WO,WW,	REV	Emergent MP scattered on verge as emergents

5	5.4km	x	x	MP		AT,PF,EAS	GZ,WO,WW,	REV	MP 0734014 6336201 START UNSEALED SECTION
6	5.4km	x	x		Intersection	AT,EAS	WO,WW	REV	Reverts to Saltbush community LHS 8 mile beach intersection
7	6.7km	x	x	MP		AT,EAS,DR	WO,WW	REV	Emergent MP scattered on verge as emergents
8	7.18km	x	x		DR	DR	WO,WW		Grader turn out drains next 500m
9	7.4km	x			track intersection	AT,RD,DR	WO,WW		
10	8.7km	x		MP	turning point	AT,DR	WO,WW		Single MP RHS private gateway RHS
11	10km	x			Intersection	AT,DR	WO,WW		
12	16.27km	x	x			EAS	WO,WW		5M verge scalped either side
13	16.9km	x	x			EAS	WO		Samphire community both sides of road

END 17.4KM at intersection to Cowleds Landing

Road Name: Eight Mile Creek Beach Road **Type:** unsealed : **Length:** 1.96km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 7

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1	125m	x		MP		AT,DR	WW,WO		MP start 125m finish 1.8m as scattered emergents

Road Name: Saddleback Road **Type:**sealed : **Length:** .5km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 8

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1		x		MP		PF,EAS	WW,WO	REV	MP present as emergents in poor quality remnant veg

Road Name: Berkshire Road **Type:**sealed : **Length:** .9km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 9

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1		x	x	MP		PF,EAS	WW,WO	REV	MP present as emergents in poor quality remnant veg

Road Name: Landrace Road **Type:**sealed : **Length:** .9km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 10

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1		x	x	MP		PF,EAS	WW,WO,SJ	REV,BUS	MP Present in FAIR quality remnant veg

Road Name: Garret Road **Type:**sealed : **Length:** .565km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road no** 11

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1		x	x	MP		PF,EAS	WO,GZ	BUS	High Value vegetation with good understorey MP present as emergents in GOOD quality remnant veg

Road Name: Hancock Road **Type:**sealed : **Length:** .600km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 12

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1		x	x	MP		PF,EAS,CL	WW,WO	BUS,REV	MP scattered as emergent in FAIR verge slashed for half the initial length both sides

Road Name: Tamworth Road **Type:**sealed : **Length:** .600km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 13

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1		x	x	MP		PF,EAS,CL,AT,PL	WW,WO	BUS,REV	MP present as scattered emergents in POOR remnant veg on verges

Road Name: Covino Road **Type:**sealed : **Length:** .325km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 14

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
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1	x	MP		PF,EAS,CL,AT,PL	WO	BUS,REV	MP present in POOR remnant veg as emergents
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Road Name: Saltbush Road **Type:**sealed : **Length:** .463km **Map No:**3 **Start:** Intersection Eight Mile Creek Road **Road No** 15

Segment	Tripmeter	LHS	RHS	SIG Spp	Infrastructure	Disturb.	Exotic	Pot. Site	GPS/ Comments
1	x			MP		PF,EAS,CL,AT,PL	WW,WO	REV,BUS	MP present in POOR remnant veg as emergents