

BEST PRACTICE OPERATING PRINCIPLES

Notwithstanding the requirements of Section 26 of the Standard Specification for Civil Works, the Contractor must comply with the requirements of Council's "Best Practice Operating Principles for Planning, Design, Construction and Maintenance of works on Council controlled land (including roadsides)" (the Best Practice Operating Principles).

The Best Practice Operating Principles are detailed in the following clauses:

BEST PRACTICE OPERATING PRINCIPLES FOR PLANNING, DESIGN, CONSTRUCTION AND MAINTENANCE OF WORKS ON COUNCIL CONTROLLED LAND (INCLUDING ROADSIDES)

MANAGEMENT OPTIONS

The objectives of the *Best Practice Operating Principles for Planning, Design, Construction and Maintenance of Works on Council Controlled Land (Including Roadsides)* - the 'Best Practice Operating Principles' - are to:

- § Promote the environmental sustainability and safe use of the land;
- § Minimise the risk and impact from fire;
- § Protect and maintain indigenous vegetation communities and wildlife habitats;
- § Protect threatened, significant native and exotic species of flora and fauna (as identified in the Yarra Ranges Roadsides Conservation Inventory, and the Flora and Fauna Guarantee Act);
- § Identify, maintain wildlife habitat and corridors for indigenous fauna;
- § Minimise opportunities for new habitats for pest plants and animals;
- § Prevent further land degradation and improve water quality;
- § Control and prevent the spread of weeds and soil borne diseases;
- § Maintain the visual amenity and landscape quality of the site;
- § Protect the cultural and heritage values, and important trees, both indigenous and exotic.

LEGISLATIVE CONTEXT

Many Acts of Parliament and Government Policies impact on roadside and land management, with some being a valuable tool for enforcement of the Code of Practice. They include:

<i>Local Government Act 1989</i>	Gives local government responsibility for management of undeclared roads. Gives Council power to create certain local laws relating to roadsides
<i>Planning & Environment Act 1987</i>	<p>Controls the removal of native vegetation from roadsides under local section planning provisions and the <i>Native Vegetation Retention Controls</i>, and seeks to encourage the retention of native vegetation on private and public land.</p> <p>Prior to removing, destroying or lopping an area of native vegetation on any roadside for works not exempt under the controls, the responsible authority must issue a permit. In certain circumstances, applications for permits to remove native vegetation on roadsides must be referred to the Department of Natural Resources and Environment.</p>
<i>Catchment and Land Protection Act 1994</i>	<p>Identifies responsibility for the control of noxious weeds on roadsides. Adjacent landholders must control Pest Animals and Regionally Controlled weeds from municipal-controlled roadsides (excluding highways, Declared Roads and Unleased Crown land)</p> <p>The Department of Natural Resources and Environment is responsible for State Prohibited and Regionally Prohibited species.</p>
<i>Conservation, Forests & Lands Act 1987</i>	Prior to works being undertaken which may disturb critical habitat a plan of works must be submitted to DNRE.
<i>Country Fire Authority Act 1958</i>	Municipalities are responsible for managing roadside vegetation for fire prevention.
<i>Crown Land (Reserves) Act, 1978</i>	Gives Crown ownership rights over all vegetation on roadsides.
<i>Environment Protection Act 1970</i>	Provides for the control of polluted runoff from disturbed roads.

<i>Flora & Fauna Guarantee Act. 1988</i>	<p>Public authorities must have regard to flora and fauna conservation and management objectives which aim to ensure that Victoria's flora and fauna can survive, flourish and retain their potential for evolutionary development in the wild.</p> <p>The Act places a responsibility on Government, business organisations and the community to act in a way so as to conserve Victoria's flora and fauna and their genetic diversity.</p>
<i>Forests Act 1958</i>	Gives local municipalities responsibility for managing vegetation on most roadsides
<i>Land Act 1958</i>	Allows prosecution for removal of timber from roadsides
<i>Litter Act 1964</i>	Makes it an offence to litter roadsides and other specified public places.
<i>State Conservation Strategy 1987</i>	Recognises the value of roadside vegetation and commits the government to prepare roadside management plans.
<i>Transport Act 1983</i>	VicRoads responsible for management of declared roads.
<i>'Servicing Authority' Acts</i>	Permits servicing authorities to locate assets on roadsides and gives them rights of access for maintenance works.
<i>Telecommunications Act 1997</i>	No longer exempts many overhead and underground telecommunication cables on roadsides from state planning laws.
<i>Victoria's Biodiversity Strategy (1998)</i>	<p>Biodiversity is recognised as an important part of the Victorian Governments policy agenda.</p> <p>The strategy recognises the important role of roadside vegetation and promotes its proper management as a valuable biodiversity resource.</p>

HOW TO USE THE BEST PRACTICE OPERATING PRINCIPLES

The ***Best Practice Operating Principles*** include guidelines that are the current best operating practices to ensure appropriate work practices are used to minimise environmental damage.

All uses, works or activities carried out on Council controlled land, including roads, must adhere to these operating principles and guidelines.

For ease of use, the document has been divided into four categories:

- § **Conservation Values**
- § **Landcare Values**
- § **Functional Values**
- § **Cultural and Recreational Values**

Each category deals with a number of specific issues. Each issue is headed separately and comprises of an objective (explaining what is to be achieved) and recommended best practices to be used when carrying out any use, works or activity.

As part of the process to plan and implement your project, the Environmental Impact Assessment Check List should be used to identify the specific issues and best practices to be followed for any use, works or activity.

In using this document due regard should also be given to other policies and strategies. Some of these are listed in Section 23.

CONSERVATION VALUES

1 NATIVE VEGETATION

Remnant native vegetation includes more than just trees. Trees, shrubs and groundcovers (creepers, grasses and herbs) combine to:

- § make a balanced ecological system;
- § provide an important source of food and shelter for wildlife;
- § provide wildlife corridors linking other areas of indigenous vegetation;
- § supports threatened or significant plants and animals; provide a vital source of local seed for replanting;
- § are easier and cheaper to maintain than introduced vegetation;
- § have visual amenity and landscape value; and
- § provides microclimates eg. Windbreaks.

All non-urban roads in the Shire of Yarra Ranges have been assessed and assigned a conservation value, to assist in the identification of native vegetation on roadsides. Those values, listed below, relate to the intactness of the native vegetation:

- Very High:** intact native vegetation cover with little or no evidence of disturbance
- High:** substantially intact native vegetation cover, may have some level of disturbance
- Medium:** partially intact native vegetation cover may have medium levels of disturbance
- Low:** grossly modified vegetation with a high cover of non-native plant species

1.1 Only do what you have to do

Objective: Protect existing trees, shrubs and groundcovers. Protection is more effective economically and environmentally than it is to replant them.

Healthy vegetation is an asset. The unnecessary disturbance of healthy indigenous vegetation, (trees, shrubs and ground layer species):

- § encourages weeds, which compete with indigenous plants and increase maintenance costs and fire-risk;
- § can prevent the regeneration of indigenous plants;
- § increases the risk of soil erosion and stream sedimentation;
- § encourages the invasion of exotic or pest animals;
- § increases cost of restoration;
- § increases the risk of spreading soil pathogens;

Remember:

- § the fine feeder roots occur in the top 30 cm of soil and the larger, deeper roots act as ‘anchors’;
- § vehicle activity under trees or vegetation can damage indigenous vegetation and compact the soil, stopping air from reaching the roots;
- § fill material prevents water and air from reaching the roots, causing root death. It may also cause trunk rot. Where fill is unavoidable, try to retain the fill beyond the drip line;

- § cuts and trenches can damage the essential fine 'feeder roots' of the tree. Damage to roots can also make the tree unstable; and
- § when root removal cannot be avoided, leave a clean-cut edge to the root. Roots greater than 50mm in diameter should be retained where possible.

Best Practices:

- § Only disturb the minimum amount of soil and indigenous vegetation that is required to do the works or activity.
- § Work outside the drip line of a tree to reduce damage to the roots, trunk and limbs where possible.
- § Store materials and equipment away from trees, and in areas already cleared of vegetation.
- § Confine the driving or parking vehicles to within the designated work area.
- § Fence off areas where identified indigenous vegetation is threatened by vehicular activity or the storage of materials or equipment, by using woven mesh barriers, wire fencing or large logs.
- § Place fill material outside of the drip line of trees and shrubs.
- § Keep soil cuts and trenching away from the drip line of trees where possible.

1.2 Protect regeneration

Objective: To protect the natural re-establishment of indigenous plants from seed-fall or suckering. It costs nothing and ensures that the local vegetation will continue to survive by being replaced over time by the young plants.

Remember:

- § Disturbance encourages weed growth, which competes with young plants (Refer also 2.2).

Best Practices:

- § Minimise disturbance to indigenous vegetation. Identify obvious regenerating areas and mark them with stakes where mowing or other activities are likely to occur.

1.3 Wetlands

Objective: *To retain wetlands, which provide a source of food, water and shelter for wildlife.*

Best Practices:

- § Protect all wetland areas, whether natural or artificial, by minimising disturbance to the wetland and adjacent landforms.
- § Before undertaking any drainage works in areas surrounding wetlands contact the Council and the Department of Natural Resources and Environment.
- § Contact the Department of Natural Resources and Environment if changes are proposed to any wetland area prior to works being approved by Council.
- § Identify existing wetlands and protect by defining work zones in tender specifications and plans.

1.4 Rare, vulnerable and significant flora and fauna sites

Objective: *To maximise the retention of all species of flora and fauna listed under the Flora and Fauna Guarantee Act, and all sites of natural significance in the Shire.*

Best Practices:

- § Consult Council and the Department of Natural Resources and Environment to determine the location of threatened or significant species along subject roadsides.
- § Protect any identified site by minimising disturbance to the site and to the area surrounding the site (Refer also section 2.2).
- § When a threatened or significant flora or fauna species is located or known to occur on a roadside, the Department of Natural Resources and Environment must be contacted for advice to determine appropriate action.
- § When working in an area where signs identify a site of significance, contact the Council and quote the location code on the sign.

2 FAUNA

2.1 Wildlife corridors

Objective: *To protect and enhance areas of indigenous vegetation (particularly on roadsides) that provide for wildlife corridors.*

Remember:

- § Existing indigenous vegetation serves (or has the potential to serve) an important function for the movement of fauna from one area to another.

Best Practices:

- § Protect identified wildlife corridors for habitat and the movement of fauna.
- § Look for opportunities to enhance wildlife corridors.
- § Vegetation on roadsides that form wildlife corridors should be encouraged to regenerate, or be given high priority in revegetation rehabilitation programs.
- § Ensure wildlife corridors are considered in the Compliance Process.

2.2 Wildlife habitat

Objective: *To retain the quality of habitat components, which are required by birds, mammals, reptiles, amphibians, invertebrates and micro-organisms.*

Remember:

- § Existing indigenous vegetation serves (or has the potential to serve) an important habitat function for fauna, for the purposes of feeding, breeding and shelter.

Best Practices:

- § Retain all habitat components, that is leaf litter, rocks and crevices, trees with hollows, naturally fallen limbs and dead vegetation at various stages of decay, standing pools and marshy land, unless they pose a significant fire hazard (as specified by the relevant Shire Officer or in the Municipal Fire Management Program).
- § Ensure Habitat Components are considered in the Compliance Process.

3 SPECIAL ENVIRONMENTAL AREAS

3.1 Roadside environmental signs and markers

Objective: *Significant sites that need special care and attention to be identified by signs.*

Remember:

- § The protection of remnant roadside vegetation is an important objective of the Code of Environmental Practice and to assist in properly managing these roadsides a vegetation quality inventory of rural roads in the Shire has been established.
- § Roadsides that have high quality vegetation, requiring special management treatment, have been marked on site using signs and/or markers.
- § This program should also give consideration to the use of signs that provide interpretation of and information about, the importance of protecting remnant vegetation and wildlife habitat on roadsides, particularly those with significant environmental values

Best Practices:

- § Where a '**Vegetation of High Conservation Value**' sign is displayed, Do not commence any activity at these sites until the Yarra Ranges Shire Council has been contacted, quoting the site code number as shown on the sign.

4 UNUSED ROAD RESERVES

4.1 Development options to be examined

Objective: *To protect unused road reserves of High Conservation Value from unnecessary development.*

Best Practices:

- § Alternatives to using unused road reserves of high conservation value or of significance as a wildlife corridor, for any development (new roads etc) is to be thoroughly evaluated.
- § When considering the sale of unused roads, regard is given to the conservation and/or recreation value and worth, prior to agreeing to sell.
- § When considering leases or licensing of unused or undeveloped road reserves, the protection of remnant vegetation, particularly on roads of 'high conservation value', be a matter that is addressed in appropriate lease conditions.

LANDCARE VALUES

5 WEEDS AND PEST ANIMALS

5.1 Be aware of Noxious and Environmental Weeds

Objective: To identify the particular weed threat to the roadside on which an activity is to be undertaken.

Remember:

- § ***Noxious and environmental weeds*** can be spread during activities which disturb vegetation or the soil.
- § ***Noxious weeds*** are plants that are declared to be a serious threat to agriculture and the environment.
- § ***Environmental weeds*** are plants that invade and replace indigenous vegetation. They may be native plants that do not occur naturally in the region, or introduced exotic plants.

Best Practices:

- § Prior to the commencement of any activity consult the Weed Chart to identify existing noxious and environmental weeds at the site.
- § Ensure weed management is incorporated in works proposal.
- § Landowners, including public landowners/managers have a legislative requirement to control noxious weeds on roadsides adjoining their property."

5.2 Carry out activities to reduce risk of weed spread

Objective: To prevent new outbreaks of problem weeds, to control existing problem weeds and increase the coverage of indigenous vegetation on roadsides.

Best Practices:

Prevent new Outbreaks

- § Slashing to control exotic grasses should be carried out at a time specified by the relevant Shire Officer.
- § Avoid areas of regenerating indigenous vegetation during slashing operations unless this conflicts with the Municipal Fire Management Program.
- § Blades on slashers to be set no lower than 100 mm above the ground.
- § Monitor sites of recent works for any regrowth of weeds and undertake follow up control where necessary.

(Refer also Sections on 'Avoid Tidying Up', 'Clean Down Machinery' and 'Fire Management Program').

Control Existing Problems

- § Weed control by ploughing, cultivation or broad acre herbicide use, is prohibited on all roadsides without prior approval from the Council.
- § Give priority to the control of environmental weeds on High Conservation roadsides in any weed control program on roadsides.
- § Undertake weed control programs jointly with adjacent landholders when weeds are also a problem on private land.
- § Do not remove weeds in seed if possible.
- § Dispose of noxious weeds at a designated dumpsite, or burn on site in a cleared area, or destroy and leave on site (only if re-shooting cannot occur).
- § Monitor designated weed dumpsites and prevent weeds from spreading off the site.

Rehabilitation

- § Plan the rehabilitation of any disturbed site resulting from weed removal.
(Refer Section 8 Revegetation and Rehabilitation Programs)
- § Plants known to be environmental weeds must not be used in any landscape project. (Refer list of environmental weeds in the Yarra Ranges Shire Planning Scheme).

5.3 Herbicides

Objective: To promote responsible use of herbicides on roadsides

Best Practices:

- § Herbicides to be used only when no other alternative weed control method can be applied.
- § Use only herbicides with the active ingredient glyphosate to control weeds on roadsides.
- § Use of other herbicides to control specific noxious and environmental weeds (which includes exotic grass species invading indigenous vegetation) is permitted only after seeking advice from the Department of Natural Resources and Environment and approval given by the authorised Council Officer.
- § Use of 'boom spray' application of herbicides is only permitted along roadsides after seeking advice from the Department of Natural Resources and Environment and approval given by the authorised Council Officer.
- § Ensure that trained staff use herbicides in accordance with Occupational and Health regulations, and the instructions recommended by the manufacturer.
- § Spraying in accordance with the Municipal Fire Management Plan is permitted only where glyphosate based herbicides are used.

5.4 Pest animals

Objective: *To effectively control pest animals in a manner that causes least disturbance to indigenous vegetation.*

Remember:

- § Pest animals are declared under the *Catchment and Land Protection Act*.
- § Rabbits and foxes are the main established pest animals on roadsides.
- § Landowners, including public landowners/managers have a legislative requirement to control established pest animals on roadsides adjoining their property.

Best Practices

- § Undertake control of pest animals in areas of quality remnant vegetation or medium to very high conservation value roadsides, in a manner that causes the least disturbance to the vegetation.
- § Contact the Department of Natural Resources and Environment for alternative control methods.

5.5 Insect pests

Objective: *To limit insect damage of roadside native vegetation*

Best Practices

- § Where defoliation is occurring from insect attack on a regular basis and the plant seems unable to recover notify the Department of Natural Resources and Environment and relevant Shire Officer.
- § Where dieback is evident or plants are visibly stressed consult with NRE on appropriate treatment.

6 FARMING AND ASSOCIATED ACTIVITIES

6.1 Farming activities on roadsides

Objective: To regulate farming activities on roadsides for the protection of flora and fauna.

Best Practices

- § Farming activities, such as ploughing, cropping and grading, must not be carried out on roadsides without the permission of Council.
- § Grazing may only be allowed in exceptional circumstances, with the permission of Council under the Native Vegetation Retention Controls and following consultation with the Department of Natural Resources and Environment.

6.2 Movement of livestock

Objective: To monitor and control the movement of all livestock to prevent undue damage to roadside vegetation.

Best Practices

- § Movement of livestock that is part of normal farm practice and is an existing use is permitted. Where routes coincide with areas of significant vegetation the landholder must take special care to avoid damage.
- § Movement of livestock that is part of normal farm practice, but is not an existing practice, will require a permit from the Shire.
- § The proposed route must be inspected by the Council and the Department of Natural Resources and Environment prior to any permit being issued.

7 REVEGETATION AND REHABILITATION PROGRAMS

7.1 Disturbed sites – indigenous vegetation

Objective: To re-establish indigenous vegetation through responsible revegetation and rehabilitation programs

Best Practices:

- § Where works are likely to modify the existing indigenous vegetation, a management plan for the rehabilitation of that vegetation must form part of any works proposal and must ensure that revegetation replaces and enhances the vegetation cover and species diversity that exists at the works site.
- § Responsibility for rehabilitation after disturbance to a site rests with the organisation undertaking the works.
- § Maintenance of rehabilitated sites for up to two years post planting to be undertaken by the group performing the works.
- § Prior to undertaking any rehabilitation or revegetation work consult with the Shire Environment Officer, the Department of Natural Resources and Environment, and any other responsible agency with a direct interest, to determine appropriate treatments.
- § Take into consideration the requirements of the Municipal Fire Prevention Plan and clearances from powerlines.
- § Plan site rehabilitation or revegetation works well in advance, preferably one year prior to commencing works, to allow for vegetation identification, seed collection, propagation of plants and proper planning to achieve successful rehabilitation of the site.
- § Encouraging natural regeneration as much as possible. Utilise stockpiled topsoil and mulched vegetation to promote regrowth of species that are indigenous to the area.
- § Use seed of local provenance vegetation for direct seeding or tubestock planting.
- § Plant vegetation in accordance with best horticultural practices.

7.2 Disturbed sites – exotic landscapes

Objective: To re-establish exotic species of avenue plantings or individual exotic species that have been recognised as significant, even at the local level, through responsible replanting programs along roadsides

Best Practices:

- § Prior to undertaking works, identify and record any exotic species that have been recognised as significant.
- § Protect identified exotic species during works.
- § In replanting and rehabilitation works, do not use exotic species that have been classified as 'environmental weeds' or 'noxious weeds'
- § Replace any removed identified exotic species with the same species.
- § Prior to undertaking any replanting works consult with the Shire Environment Officer and any other responsible agency with a direct interest to determine the appropriate planting.
- § Maintenance of replanted exotic species for up to two years post planting to be undertaken by the group performing the works.
- § Plant vegetation in accordance with best horticultural practices.
- § Take into consideration the requirements clearances from powerlines.

FUNCTIONAL VALUES

8 CONSTRUCTION AND MAINTENANCE ACTIVITIES

8.1 'Walk the route'

Objective: To understand the environmental values of the site and define the limits of activity.

Best Practices:

§ 'Walk the Route', inspecting the works or project site before planning, design and before construction begins, to confirm and mark the limit of all construction activities (the construction zone).

This should involve officers from the Yarra Ranges Shire, who have appropriate environmental training, and the contractor's representative.

§ Minimise the impact of construction on vegetation by identifying and marking with stakes, tape or webbing:

- the limits of vegetation removal. (Tape is to be used to mark trees for removal);
- significant or protected vegetation, habitat areas and sensitive areas that should be protected from disturbance;
- the presence of weeds indicated on the Yarra Ranges Weed Identification Chart; and
- the exact locations of proposed stockpiles, plant compounds and access roads.

8.2 Training

Objective: To ensure all personnel undertaking works on Council land and roadsides acquire an understanding of the value of remnant vegetation and other environmental values present and acquire training in best practice techniques for management of those areas and roadsides.

Remember:

§ A great deal of damage can be done to the environment in a short period of time. Those involved in works need to understand that good planning and careful execution of works are essential in minimising their impact on the vegetation.

Best Practices:

- § All personnel, planners, designers, supervisors, road construction and maintenance personnel involved in road construction and maintenance works, must have completed a Shire approved 'environmental best operating practices' course.
- § Contractors must ensure subcontractors comply with this requirement prior to engagement.

8.3 Concept planning and design

Objective: To reduce the environmental impact of any proposal at the earliest part of the conceptual, planning and design stage, prior to any construction activity being undertaken.

Best Practices:

- § All those involved in the planning, design and construction (or maintenance) of works on Council controlled land or roadsides, must have completed a Shire approved 'environmental best operating practices' course.
- § Apply the Compliance Process of the Roadside Management Plan at the earliest opportunity for any activity, use or development on roads.
- § Plan all activities to reduce impact on the environment.
- § Consider alternatives to minimise impact on the environment.

8.4 Stay within the 'construction' and 'maintenance' zones

Objective: *To limit all activities to a defined area, reducing disturbance to surrounding vegetation.*

- § The '**Construction Zone**' is the area clearly marked where all construction activities take place (such as the area stripped for road construction, stockpile areas, compounds, access routes, etc.).
- § The '**Maintenance Zone**' is the area within the outside of the drain or toe of batter on each side of the road. This generally correlates to the limits of any routine maintenance works. (there are some exceptions, eg. cut-off drains).
- § The '**Roadside Zone**' is the area from the edge of the construction or maintenance zone to the fenceline on each side of the road. Construction and maintenance works that intrude into this area should comply with this Roadside Management Plan.

Remember:

- § By carrying out activities from within the 'Zone' minimum disturbance to roadside vegetation results. Eg. a backhoe can minimise disturbance to vegetation by remaining on a road shoulder, whereas a bulldozer is more destructive since it must manoeuvre within the vegetation.

Best Practices:

- § Stay within the defined construction and maintenance zones and access tracks during construction and routine maintenance works.

8.5 Vehicle and machinery activity

Objective: To minimise disturbance to indigenous vegetation (trees, shrubs and groundcover) by using the appropriate type and minimum size of machine for the job; and confining vehicular activities to designated areas.

Best Practices:

- § Select the type and size of machinery appropriate for the task to minimise disturbance to vegetation.
- § Park machinery in a cleared area, in a designated wayside stop, car park or on private land (where permission has been granted).
- § Site machinery compounds clear of indigenous trees, shrubs and ground covers. In no circumstances should vegetation be removed to provide for the siting of machinery compounds or storage of materials.
- § Service vehicles and machinery on the roadside at a designated location only when it is not possible to move to a more appropriate site. Great care must be taken to ensure that no spillage results from any servicing operation.
- § Confine machinery to the existing road formation (including table drains), proposed alignment, access tracks or designated construction zone unless otherwise directed by the site supervisor.
- § Turn vehicles and machinery within the Construction Zone or on cleared sites or sites that have minimal indigenous vegetation.
- § Avoid drip lines of trees to minimise root damage and soil compaction around tree root systems from machinery.

8.6 Vegetation canopy clearance above roads

Objective: *To obtain minimum height clearance of vegetation overhanging roads with the least impact on the roadside vegetation.*

Best Practices:

- § Retain a minimum height of 5 metres clearance height from the established road formation (roads surface and shoulders) to the vegetation overhang.
- § Remove only those limbs necessary to obtain the minimum clearance.
- § Vegetation to be removed with minimal impact and disturbance to the roadside vegetation and environmental value.
- § Prune trees carefully. (Refer Section 9.2 – ‘Prune Trees Carefully’).

9 VEGETATION MANAGEMENT DURING WORKS

9.1 Vegetation removal

Objective: *Clear only the minimum amount of vegetation required.*

Remember:

- § A planning permit, and in some cases a permit under the *Flora and Fauna Guarantee Act*, will almost always be required before trees or vegetation are removed or pruned.

Best Practices:

- § Prior to commencing any works ensure you have the appropriate permits.
- § Consider the following points before any action is taken:
 - Safety of staff, property and road users;
 - All staff carrying out the works are adequately trained and accredited in the use of chainsaws and are approved by the Shire;
 - The effect of the tree removal on the appearance of the roadside; and
 - The historical and cultural significance of the tree.
- § Remove only vegetation required for construction (marked vegetation only) and for safety. (Refer Vic Roads Guidelines listed in Section 23).
- § Trees should be felled into the construction or maintenance zone, not into undisturbed vegetation.
- § Trees removed from outside of the construction and maintenance zone must be felled by cutting off at ground level to minimise disturbance to the surrounding vegetation. Removal of trees complete with root systems causes unnecessary soil and vegetation disturbance.
- § Removed indigenous vegetation can be chipped for mulch and spread on exposed areas to assist with the spread the local seed.
- § Removed indigenous vegetation may only be burnt or removed from the site with the Contract Supervisor's approval.

9.2 Prune trees carefully

Objective: Selective, and careful, pruning of trees wherever possible can often reduce the need for tree removal, resulting in preservation of those trees and minimal soil disturbance.

Best Practices:

- § Prior to commencing any works, and where required, ensure you have the appropriate permits.
- § Minimise the removal of timber from the site. Retain stumps and logs for animal shelters wherever possible. Light material can be chipped for mulch.
- § To avoid damage to the bark below the cut, use the three cut method on all but the smallest branches.
- § Where possible hollow bearing trees should only have weight reduction of the crown so that minimal loss of tree hollows occurs.

9.3 Avoid mowing indigenous vegetation

Objective: To avoid mowing or slashing indigenous vegetation and protect young plants that when established shade out exotic grasses and reduce the need for mowing.

Best Practices:

- § Mow only what is necessary in accordance with the specifications for the particular works.
- § Use stakes to protect groups of young trees and shrubs where mowing is essential.
- § Mow native grasses and wildflowers after seeding or flowering. In most cases this is in autumn.
- § Prior to the carrying out of any mowing or slashing program, all remnant vegetation to be protected during that program must be clearly mapped and clearly marked on the ground with steel stakes. The identification of the remnant vegetation to be protected will be through a consultative process involving the contract supervisor and a Council officer designated for that purpose.

9.4 Avoid 'tidying up' vegetation

Objective: *To prevent the unnecessary removal of vegetation as sites are tidied up.*

Remember:

- § Thinning out of plants or plant removal causes unnecessary disturbance to the soil, vegetation, and wildlife habitat and spreads weeds.
- § Exposed soil can also be subject to erosion leading to siltation of drainage lines and damage to aquatic environments.
- § Minimal disturbance avoids costly ground repairs after construction.

Best Practices:

- § Do not grade or excavate beyond the site or spread topsoil into native vegetation.
- § Leave vegetation undisturbed wherever possible during construction.
- § Avoid leaving earth bare and subject to erosion.
- § Identify and mark out areas of intact (quality) native vegetation prior to commencing works.

9.5 Weed and pathogen control

Objective: *To prevent the spread of weeds and soil pathogens by vehicles and machinery*

Best Practices:

- § Identify areas of weed and soil pathogen infestations prior to commencing any works.
- § Work from weed free (clean) areas into weed affected areas of the works site.
- § Prior to commencing work on a road of High and Medium Conservation Value, vehicles and machinery that have been working in known weed-infested or soil pathogen areas to be cleaned (scraped and washed or steamed cleaned) of all soil and plant debris.

- § Before being transported to any new location, vehicles and machinery to be cleaned of all soil and washed down thoroughly at a designated washdown area (eg. Depot) and in accordance with Department of Natural Resources and Environment procedures.
- § All materials used for construction and maintenance works on High and Medium conservation roads must be free from soil pathogens and weed seed prior to being used.
- § Refer also (Section 6- Weeds and Pest Animals).

10 SOIL EROSION AND SEDIMENTATION CONTROL

Objective: *To prevent soil erosion and sedimentation during works.*

Remember:

- § Erosion removes valuable topsoil and produces sediment, which silts drains, creeks and rivers damaging the aquatic environment.

Best Practices:

- § Soil erosion and sedimentation control procedures must be included in the Planning and Design stage of any proposed use of a road.
- § Erosion to be minimised by:
 - protecting existing vegetation;
 - minimising soil disturbance; and
 - stabilising disturbed areas as works proceed.
- § Make provision for stormwater runoff at the beginning of the job.
- § Divert all stormwater away from loose or exposed soil.
- § Avoid steep drainage lines where possible.
- § Avoid steep batter slopes.
- § Dissipate flows by use of wetland ponds or energy dissipating devices where appropriate.
- § Capture silt by use of silt traps or sumps.
- § Establish an adequate inspection, maintenance and cleaning program for all stormwater drainage systems.
- § Do not direct stormwater from construction sites into areas supporting high quality indigenous vegetation including watercourses.

Note: Exotic pasture grasses should not be used to stabilise exposed soil in areas that support indigenous vegetation. Imported weed free mulch or mulch chipped from the site may be an alternative cover.

11 STORMWATER DRAINAGE AND MANAGEMENT OF RUNOFF

Objectives: To design, construct and maintain stormwater systems that protect the natural environment.

Best Practices:

- § Drainage systems including piped, open and cutoff drains must be designed to avoid native vegetation where possible or to minimise disturbance to native vegetation, minimising the potential for erosion and sedimentation.
- § Keep excavations for pipes open for minimum time periods.
- § Avoid the concentration of runoff flows onto adjoining land.
- § Design, construct and maintain table drains and cut-off mitre drains:
 - to follow natural drainage lines;
 - to reduce water velocity and runoff;
 - to prevent water from flooding the road and roadside (except at times of flash downpours);
 - to cause minimum disturbance to surrounding vegetation; and
 - to minimise siltation.
- § Design, construct and maintain table drains as grassed waterways to reduce soil erosion and siltation of watercourses.
- § Grassed roadside table drains should be slashed, not treated with herbicide as this exposes the soil to ongoing erosion.
- § Spoil from drains requiring cleaning to be directed towards the road pavement and removed to a designated dumpsite unless it can be safely retained on the road shoulder. Where spoil is spread over the road shoulder it must be maintained to prevent weed establishment.
- § Windrowing drain material onto roadside vegetation must not occur.

- § Remove vegetation growing within the effective part of a table drain (from edge of road shoulder to the top of bank on the outer edge of the drain) which interferes with the working of the drain or is a safety hazard and is not likely to lead to erosion.

Note: Removal of well established vegetation may require a planning permit. In these situations, contact the Planning & Approvals Department to check what approvals/permits, if any, are required under the planning scheme

- § Do not disturb, where possible, vegetation outside the effective part of the table drain when maintaining table drains.
- § Prepare Contingency Procedures to cater for the large storms during the construction phase of the project to minimise offsite effects of erosion, siltation and damage to water quality.

12 LITTER CONTROL

Objective: *To keep sites litter free.*

Best Practices:

- § Ensure all litter including oil cans, hoses and machinery parts are disposed in a responsible manner.
- § Maintain a high quality of housekeeping and ensure that materials are not left where they can be washed or blown away to become litter.
- § Provide bins for construction workers and staff at locations where food is consumed.
- § Conduct ongoing awareness education with staff of the need to avoid littering.

13 DUST CONTROL

Objective: *To minimise risk or loss of amenity due to the emission of dust to the environment from works on roads.*

Best Practices

- § Implement a dust strategy where it has been identified as a risk, eg. safety.
- § Take appropriate dust suppression measures during maintenance and/or construction, eg. by promptly watering exposed areas when visible dust is observed.

14 STRIPPING, STOCKPILES AND DUMP SITES

14.1 Strip and stockpile topsoil

Objective: *To promote the stockpiling of topsoil from the site or areas of native vegetation for reuse as it contains organic matter and the seeds of local native plants.*

Best Practices:

- § Strip and stockpile the topsoil before starting any works.
- § Locate soil stockpiles in cleared areas, away from existing drainage lines, trees, shrubs and native grasses.
- § Remove any weeds before stockpiling by spraying or scalping.
- § Topsoil should ideally be stockpiled for less than 12 months to make sure that the native plant seed in the soil remains viable.
- § Imported topsoil only to be used if authorised by the Contract authorised Council Officer.

14.2 Disposal of excavation material, drain and road spoil

Objective: *To limit the removal of excavation drain and road spoil to approved disposal sites only in nominated Very High Conservation Areas.*

Best Practices:

- § Direct the spoil from works towards the designated construction or maintenance zone for collection.
- § Remove drain and road spoil to approved disposal sites.
- § Where appropriate, avoid extra reshaping or increasing the size of drains. Exposed earth and drain spoil is ideal for weed establishment.
- § Where there is contaminated soil to be disposed of, contact must be made with the Environment Protection Authority to determine an acceptable method of disposal for that material.

14.3 Location and management

Objective: *To manage the location of stockpiles and dumpsites to limit invasion of materials into native vegetation, the spread of weeds and for the protection of the areas amenity.*

Best Practices:

- § Designated stockpile/dump sites only to be used for the stockpiling of materials when carrying out any works on road reserves.
- § Designated stockpile/dump sites are identified on a locality map provided by the Shire.
- § New stockpile or dumpsites sites may only be approved by the Contract Superintendent or relevant Shire Officer, and are not to be located on roadsides with medium to very high conservation values, drainage lines, floodways, and culvert areas or on roadsides adjacent to forests areas.

In no circumstances must vegetation be removed to provide for the siting stockpiles or the storage of materials (including dumpsites for excess soils/materials).
- § Select the location for new stockpile/dump sites with consideration to the visual amenity and landscape values of the site.
- § Monitor the stockpile/dump site for weed growth and pathogens and implement necessary controls to remove weed growth before flowering and seeding.
- § Use minimum space necessary to store materials and to gain access to the stockpile/dump site.
- § Stockpile/dump site boundaries to be clearly defined eg. fencing, fallen logs.
- § Control run-off and drainage around stockpiles of material and stored topsoil, to prevent the spread of weeds.

15 UTILITY SERVICES

15.1 Installation of services: power, communications, water, sewage and gas

Objective: To minimise disturbance of the indigenous vegetation during the installation and maintenance of service assets whilst maintaining a safe operating environment for the asset.

Best Practices

- § 'Walk the route', inspecting the works or project site before planning, design and before construction begins, to confirm and mark the limit of all construction activities (the construction zone). This should involve officers from the Yarra Ranges Shire with appropriate environmental training.
- § Minimise the impact of construction on vegetation by identifying and marking with stakes, tape or webbing:
 - the limits of vegetation removal. (Tape is to be used to mark trees for removal);
 - significant or protected vegetation, habitat areas and sensitive areas that should be protected from disturbance;
 - the presence of weeds indicated on the Yarra Ranges Weed Identification Chart; and
 - the exact location of proposed stockpiles, plant compounds and access roads.
- § Arrange an on-site inspection of all interested parties if proposed vegetation removal (occurring during installation works) may result in conflict. Consult with affected landholders and local residents with specialist knowledge. Inspections to be arranged by the proponent and should occur at the appropriate time of year to allow identification of vegetation.
- § Locate services, where appropriate, on low conservation value roadsides or cleared land adjacent to roadsides. Consideration should also be given to locating the services within the road pavement, road shoulder or table drain (subject to Council agreement).

- § Utility Providers to ensure they have sufficient knowledge of, and plan routes and plant/equipment storage areas to take into account:
- State or Shire policies or agreements;
 - Sites of natural significance and the location of threatened flora and fauna species and communities;
 - Sites of cultural or heritage significance as identified in the Yarra Ranges Shire Planning Scheme and Regional Strategy Plan;
 - Maps and guidelines (as detailed in the Roadsides Management Plan);
 - Codes of Practice of relevant agencies; and
 - Requirement of the Upper Yarra Valley & Dandenong Ranges Regional Strategy Plan.
- § Consider all options to minimise vegetation loss when vegetation removal is proposed on high or medium conservation value roadsides.
- § Rehabilitated all disturbed sites in accordance with this policy, at the cost of the Utility body.
- § Where works have an impact on the adjacent landholder the Utility provider of works, prior to commencement, should advise adjacent landowner.
- § All employees or contractors carrying out construction and/or maintenance works for a Utility Service provider should adhere to the policies and guidelines detailed in this Roadside Management Plan.
- § All employees or contractors carrying out Utility Service construction and/or maintenance works are encouraged to undertake environmental care training to a standard approved by the Shire.

15.2 Maintaining services: communications, water, sewage and gas

Best Practices:

- § All employees or contractors carrying out construction and/or maintenance works for a Utility Service provider should adhere to the policies and guidelines detailed in this Roadside Management Plan.
- § All employees or contractors carrying out Utility Service construction and/or maintenance works are encouraged to undertake environmental care training to a standard approved by the Shire.

15.3 Maintaining services: power

Best Practices:

- § Any vegetation removal must be the minimum necessary to comply with the 'Code of Practice for Powerline Clearance [Vegetation] 1996'.

In the Dandenong Ranges, care needs to be taken to ensure that the additional vegetation and environmental protection measures afforded by the 'Areas of Special Significance' provisions of the Powerlines Clearance Code are adhered to.
- § It is preferable that for any works of maintenance to powerline infrastructure and any removal of vegetation comply with the following:
 - Vegetation removal necessary to maintain clearance for powerlines is to be in accordance with this Strategy and its Guidelines.
 - All employees or contractors carrying out construction and/or maintenance works for a Power Utility Service provider should adhere to the policies and guidelines detailed in this Roadside Management Plan.
 - All employees or contractors carrying out Utility Service construction and/or maintenance works are encouraged to undertake environmental care training to a standard approved by the Shire
- § Specific Site Plans are to be prepared in consultation with the Power Utility provider where conflict between significant vegetation and clearance around powerlines is identified.

16 FIREWOOD COLLECTING, TIMBER AND SEED HARVESTING

Objective: To protect important habitat trees standing or fallen, living or dead, with or without hollows.

Best Practices:

- § Permits are not to be issued for firewood collection or timber harvesting on any roadside.
- § Fallen timber on roadsides should be left untouched unless it constitutes a safety or fire risk or threatens the health of existing vegetation.
- § Seed collection on roadsides or the removal of native vegetation requires a permit from the Department of Natural Resources and Environment unless exempt under the Planning and Environment Act.

17 LAND SUBDIVISION AND DEVELOPMENTS

Objective: To limit the impact of new developments on the flora and fauna of existing roadsides and in the private land being subdivided.

Best Practices:

- § New subdivisions or other developments must be designed to minimise impact on indigenous remnant vegetation remaining on roadsides and ensure where possible that indigenous remnant vegetation remaining on private land is not destroyed to build new roads and supply services to the new development.
- § Designs to be prepared to have the least impact on indigenous remnant vegetation and minimises vegetation loss.
- § Information about the flora and fauna existing on roadsides or private land likely to be modified by the development works must be obtained and the site inspected.
- § Issue Development Permits with conditions that will result in minimising the impact of the development on the remnant vegetation.

18 FIRE MANAGEMENT

Objective: To manage roadside vegetation in order that fire threat to life and property is minimised, and for the conservation of flora and fauna.

Best Practices:

- § Undertake all fire prevention works on roadsides in accordance with the Municipal Fire Prevention Strategy and Management Program.
- § The Fire Management Program to be prepared taking into consideration the Fire Prevention Strategy and Roadside Management Plan.
- § The Municipal Fire Management Program must take into account the conservation values of Council land or roadsides that have been designated as firebreaks.
- § Fuel reduction burns on roadsides of medium to very high conservation values must be planned in consultation with the Council and the Department of Natural Resources and Environment. Parks Victoria also to be consulted when a roadside is adjacent to Parks Victoria managed park.

Prior to any fuel reduction burn occurring on roadsides, or other land, with vegetation identified as being of medium to very high conservation value, the effects of that proposed burning on the long term viability of remnant native vegetation, wildlife habitat and water quality must be assessed. Where that assessment finds that there will be adverse impacts on any of those environmental values, alternate fuel reduction measures must be implemented.
- § Sites of threatened or significant flora or fauna, or other values, to be recorded on the Municipal Fire Management Program and clearly identified and protected on the ground by the responsible authority prior to any works being carried out.
- § Evaluate and monitor annually fire prevention works in consultation between the CFA and NRE to determine the effect of works on both conservation values and fire management.
- § Where a management program conflicts with identified conservation objectives, a site management plan must be prepared and agreed to.

CULTURAL AND RECREATIONAL VALUES

19 WAYSIDE STOPS

Objective: To ensure that wayside stops will have minimum impact on surroundings

Best Practices:

- § Select suitable locations for a wayside stop on roadsides after a site inspection and consultation with the Council, the facility designer, the Department of Natural Resources and Environment and any other relevant authority.
- § Locate the facility to complement any natural, scenic, cultural or historic features on the roadside and the distance from one stop to another.
- § Determine the type of facility suitable for the area after considering a number of factors including impact on flora and fauna, environmental issues, fire risk and road safety.
- § Design the facility in a manner to have the least impact on remnant vegetation and to minimise vegetation loss.

20 HORSE RIDING

Objective: To ensure that active management of horse riding to minimise any adverse impact on flora and fauna.

Best Practices:

- § Commercial Trail Rides wishing to use roadsides must consult with the Council to determine a route that causes least damage to vegetation.
- § Preference will be given to locating trail rides on roadsides of Low Conservation Value.
- § The maintenance of all horse riding trails should also involve the monitoring of any adverse impacts on the area through in which the trail is located. Where adverse environmental impacts are detected, remedial work should be carried out immediately, in consultation with Council's land management or conservation officers.

21 VISUAL AMENITY AND LANDSCAPE VALUES

Objective: To maintain and restore the visual amenity and landscape value of roadsides.

Best Practices:

- § Prior to undertaking works on roads determine if the works detract from the conservation, visual amenity or landscape significance of the area.
- § Avenues of Honour or plantings of exotic species recognised as significant, even at a local level, will be replaced with the same species if losses are incurred, unless this is inappropriate. Replacement to be undertaken by the proponent of the use/works.
- § Landscapes recognised as significant, even at a local level, will be preserved.

22 CULTURAL AND HERITAGE VALUES

Objective: To ensure the protection of roadside sites identified as having cultural or heritage values.

Best Practices:

- § Sites of cultural or heritage value, archaeological sites and Aboriginal sites known to exist throughout the municipality, as identified in the Yarra ranges Shire Planning Scheme and Regional Strategic Plan, shall be formally recognised and protected from the adverse impact of any other uses of the road reserve.
- § Any new archaeological sites found, or suspected to occur, must be reported to the Victoria Archaeological Survey.
- § If new Aboriginal sites are located, report them to the Heritage Branch, Aboriginal Affairs.

Prior to any works being undertaken, check if the works will affect any Aboriginal, Cultural or Heritage sites of significance. Check with the Council, Heritage Victoria (Department of Planning) and the Heritage Branch, Aboriginal Affairs.

23 REFERENCE DOCUMENTATION

- § Yarra Ranges Pest Plant Brochure
- § Yarra Ranges Council - Land and Roadsides Conservation & Inventory Map (includes approved stockpiles and disposal sites) (in prep)
- § Yarra Ranges Fire Prevention Strategy Plan (in prep)
- § Yarra Ranges Planning Scheme and the Regional Strategy Plan
- § EPA Environmental Guidelines for Major Construction Sites Publication 480 (Dec 1995).
- § VIC ROADS Roadside Management Guide Parts 1 and 2
- § VIC ROADS, Road and Environment Safety Note No. 106, 'Roadside Hazard Management'
- § Victoria's Biodiversity – Our Living Wealth (1997)
- § Victoria's Biodiversity – Sustaining Our Living Wealth (1997)
- § Victoria's Biodiversity – Directions in Management (1997)

24 GLOSSARY OF TERMS

WORKS	Includes the actions of conceptual development, planning, design, construction and maintenance of any project.
PROJECT	Includes any matter which will involve a physical change to the environment.
EXOTIC VEGETATION	Vegetation which does not occur naturally in Australia and has been introduced to the Shire of Yarra Ranges.
INDIGENOUS VEGETATION	Native vegetation which occurs naturally in the Shire of Yarra Ranges.
NATIVE VEGETATION	Vegetation which occurs naturally in Australia but has been introduced to the Shire of Yarra Ranges.
REMNANT VEGETATION	Indigenous vegetation remaining in uncleared parts of the Shire of Yarra Ranges.
REVEGETATION	Vegetation established by hand planting tube stock or by direct seeding.
REGENERATION	Naturally occurring growth of grasses, shrubs and trees from root stock or soil born seeds
GROUND COVER	Includes creepers, grasses and herbs.
HABITAT	The home of a plant or animal.
NOXIOUS WEED	Any plant declared under the Catchment and Land Protection Act 1994 as noxious to the State of Victoria. Noxious weeds degrade agricultural land but may also be environmental weeds
ENVIRONMENTAL WEED	Any plant that invades natural vegetation, usually adversely affecting regeneration and the survival of indigenous flora and fauna
STOCKPILE	A site for storage of short-term re-useable materials only as specified by Council.
DISPOSAL SITES	Those areas for the disposal of non re-useable materials as specified by Council.

- WILDLIFE** Species native to Australia and indigenous to the Shire of Yarra Ranges
- WILDLIFE CORRIDOR** A corridor of indigenous, remnant vegetation which provides habitat for wildlife.
- THREATENED SPECIES** Indigenous flora, fauna, fish and invertebrates of State Significance listed under the Flora and Fauna Guarantee Act.
- SIGNIFICANT SPECIES** Flora, fauna, fish and invertebrates that are of Regional or local significance which may also be listed as threatened under the FFG Act.
- ROUTINE MAINTENANCE** Is that work which is of an ongoing regular nature, with each work event being generally relatively minor in nature. Eg. grading road shoulders, cleaning drains, patching potholes etc.