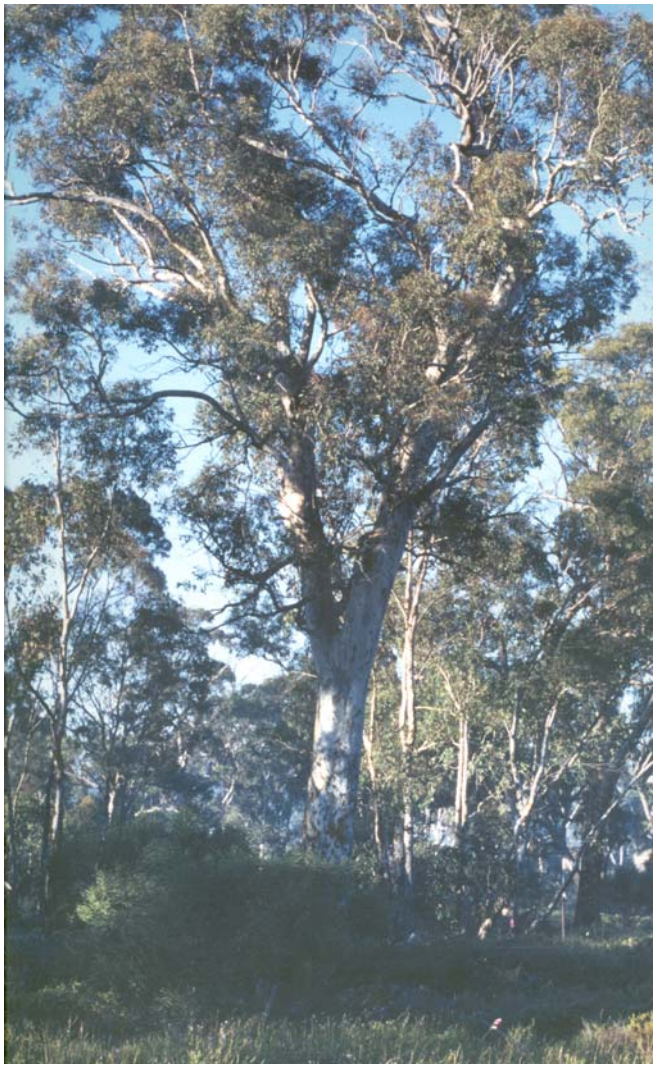
Roadside Conservation Values in the Shire of York



and Roadside Management Guidelines.

October 2003
Roadside Conservation Committee

CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

The Shire of York is located 97 km east of Perth in Western Australia's Wheatbelt Region. The major agricultural pursuits and industries in the area are hay processing, farming, olive oil processing, and adventure tourism. Tourism is an important industry, with the area's natural resources, historic sites and festivals being major attractions.

The Shire of York covers an area of 2,010 square kms, and supports a population of approximately 3,484 people. The area experiences a mediterranean climate with an average annual rainfall of 450mm. Seasonal temperatures are characterised by warm summers, with maxima averaging from the mid to high twenties, and mild winters, with maxima in the mid teens. Mean daily maximum and minimum temperatures and rainfall statistics are shown below.

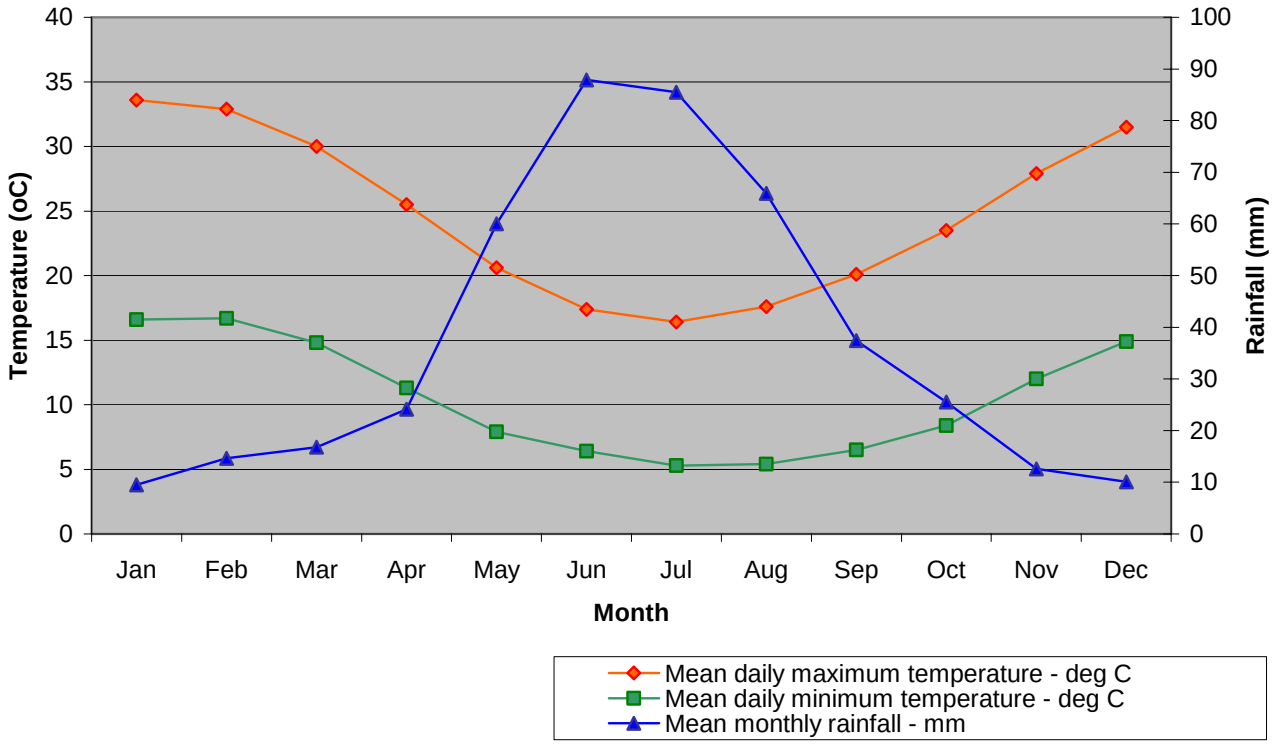
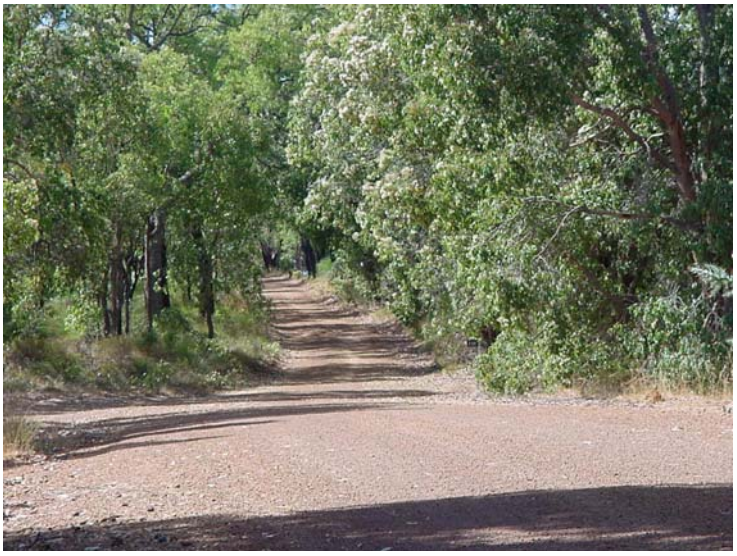


Figure 1 – Mean daily maximum and minimum temperature (°C) and rainfall (mm) in the Shire of York, based on climate averages from the York Post Office weather station 010144.

2.0 VALUES OF ROADSIDES

Since the settlement of Western Australia by Europeans, large areas of native vegetation in the south west of the state have been cleared for agriculture, roads, settlements, and other development. The fragmentation of the more or less continuous expanse of native vegetation communities by clearing has resulted in the isolation of plant and animal populations which have become severely disadvantaged by becoming isolated within a mosaic of man-made biogeographical islands of small native vegetation remnants. These are typically unreliable for sustaining wildlife due to food shortages, disease and reduced genetic diversity caused by a diminishing gene pool. Nevertheless, the presence of native vegetation along roadsides can often assist in alleviating this isolation effect by providing connectivity between bush remnants, thereby facilitating the movement of biota across the landscape.

Remnant vegetation includes more than just trees, comprising a diverse mix of trees, shrubs and ground covers (creepers, grasses and herbs) which when intact provide valuable food and shelter for local biodiversity. Existing native vegetation generally requires less maintenance if left undisturbed.



Remnant vegetation includes more than just trees.

Remnants in transport corridors are also valuable because they:

- are often the only remaining example of original vegetation within extensively cleared areas;
- are easier to maintain and generally less fire prone than introduced vegetation;
- provide habitat for many native species of plants, mammals, reptiles, amphibians and invertebrates;
- provide wildlife corridors linking other areas of native vegetation;
- often contain rare and endangered plants and animals. Currently, roadside plants represent more than 80 per cent of the known populations of 40 of the declared rare species, and three of these are known only to exist in roadside populations;
- provide the basis for our important wildflower tourism industry. The aesthetic appeal of well-maintained roadsides should not be overlooked, and they have the potential to improve local tourism and provide a sense of place;

- often contain sites of historic or cultural significance;
- provide windbreaks and stock shelter areas for adjoining farmland by helping to stabilise temperature and reduce evaporation.
- assist with erosion and salinity control, and not only in the land adjoining the road reserve per se;
- are generally far less of a fire threat than annual weeds;
- provide a benchmark for the study of soil change throughout the advancement of agriculture;
- are a vital source of local seed for revegetation projects in the absence of other alternatives;
- provide a valuable source of seed for regeneration projects. This is especially pertinent to shrub species, as clearing and grazing beneath farm trees often removes this layer;

Approval of the local shire and a CALM permit are required prior to collection.

In a time of rapid change, where the demands placed on the natural resources are numerous, it is vital that there is a coordinated management of lands across all tenures and boundaries to ensure the sustainability and integrity of the natural biota ecosystem processes, agricultural lands and service infrastructure.

Roadsides are the vital link ……. and a priceless community asset.

3.0 ASSESSMENT PROCESS

3.1 Methods

The methods to assess and calculate the conservation value of the roadside reserves are described in *Assessing Roadsides: A guide for Rating Conservation Value* (Jackson, 2002). The process involves scoring a set of pre-selected attributes, which, when combined, represent a roadside's conservation status. A list of these attributes is presented on a standard survey sheet, see Appendix 1. This provides both a convenient and uniform method of scoring.

Ideally, the survey is undertaken by a group of local volunteers, who, aided by their knowledge of the area, are able to provide an accurate and cost effective method of data collection. Community participation also ensures a sense of ownership of the end product, which increases the likelihood of its acceptance and use by the local community and road managers (Lamont and Blyth, 1995).

The majority (662.7 km) of the Shire of York's 732 km of roadsides were assessed for their conservation status and mapped. Fieldwork was carried out throughout the months of November and December in 1997.

The enthusiastic efforts of the volunteer surveyors ensured that this project was successfully completed. They were; A. King, J. Seabrook, M. Goodfellow, A. Clarke, P. Hussey, J. Monks, M. Heller, M. Stande, R. Fley, L. Manning, J. Seeds, H. Seeds, P. McGregor and L. Rosie.

3.2 Quantifying Conservation Values

The following attributes were used to produce a quantitative measure of conservation value:

- native vegetation on roadside;
- extent of native vegetation along roadside;
- number of native species;
- weed infestation;
- value as a biological corridor; and
- predominant adjoining land use.

Each of these attributes was given a score ranging from 0 to 2 points. Their combined scores provided a conservation score ranging from 0 to 12. The conservation values, in the form of conservation status categories, are represented by the following colour codes.

Conservation Value	Conservation Status	Colour Code
9 – 12	High	Dark Green
7 – 8	Medium High	Light Green
5 – 6	Medium Low	Dark Yellow
0 – 4	Low	Light Yellow

Table 1: Colour codes used to depict the conservation status of roadsides.

The following attributes were also noted but did not contribute to the conservation value score:

- width of road reserve;
- width of vegetated roadside;
- presence of utilities/disturbances;
- dominant native species;
- dominant weed species;
- fauna observed;
- general comments.

It is felt that the recording of these attributes will provide a community database that would provide information useful in many spheres, such as local government and community interest groups.

3.3 Mapping Conservation Values

A computer generated map (using a Geographic Information System, or GIS), depicting the conservation status of the roadside vegetation and the width of the road reserves within the Shire of York was produced at a scale of 1:100,000.

Data obtained from the Department of Conservation and Land Management, Main Roads WA and the Department of Agriculture was used in the base map. The roadside conservation values map initially provides an inventory of the *status quo* of the condition of the roadside vegetation. This is important as the quality of roadside vegetation has far reaching implications for sustaining biodiversity, tourism and Landcare values.

Moreover the data and map can be incorporated as a management and planning tool for managing the roadsides *per se*, as it enables the condition of roadside vegetation to be easily assessed. This information can then be used to identify environmentally sensitive areas, high conservation roadsides or strategically important areas, and thus ensure their conservation. Conversely, it enables degraded areas to be identified as areas

important for strategic rehabilitation or in need of specific management techniques and weed control programs.

The map can also be used as a reference to overlay transparencies of other information relevant to roadside conservation. This enables the roadside vegetation to be assessed in the context of its importance to the shire's overall conservation network. Other overlays, such as the degree of weed infestation, or the location of environmentally sensitive areas or future planned developments, could also be produced as an aid to roadside management.

Weed control along a roadside.
Photo MRWA

As well as providing a road reserve planning and management tool, the roadside conservation value map can also be used for:

- Regional or district fire management plans;
- Tourist routes, i.e. roads depicted as high conservation value would provide visitors to the district with an insight to the flora of the district;
- Landcare and/or Bushcare projects would be able to incorporate the information from this survey into 'whole of' landscape projects.

The survey data and map can be used in developing regional or district fire management plans.

4.0 SURVEY DATA RESULTS

A summary of the roadside conservation values the Shire of York is presented in Table 2. The survey data has been combined to provide the total kilometres, and percentages, of roadside occupied by each of the conservation status categories. As roadsides occur on both sides of the road, roadside distances (km) are equal to *twice* the actual distance of road travelled.

Roadside conservation values in the Shire of York

Conservation Status	**Total km**	**%**
High Conservation Value (9-12)	380.8	28.7
Medium-High Conservation Value (7-8)	366.4	27.6
Medium-Low Conservation Value (5-6)	375.0	28.3
Low Conservation Value (0-4)	203.4	15.3
TOTAL	1325.5	100.0

Conservation value score	**Total km**	**%**
12	21.5	1.6
11	84.8	6.4
10	152.0	11.5
9	122.5	9.2
8	199.9	15.1
7	166.5	12.6
6	218.1	16.5
5	156.9	11.8
4	68.2	5.1
3	59.0	4.5
2	62.7	4.7
1	13.5	1.0
0	0.0	0.0
TOTAL	1325.5	100.0

Table 2: Roadside conservation values in the Shire of York.

4.1 Roadside Conservation Status

Roadside sections of high conservation value covered 28.7% of the length of roadsides surveyed (380.8 km). Medium-high conservation value roadsides accounted for 27.6% of the total surveyed (366.4 km), medium-low conservation roadside covered 28.3% of the total surveyed (375.0 km). Areas of low conservation value occupied 15.3% of the roadsides surveyed (203.4 km).

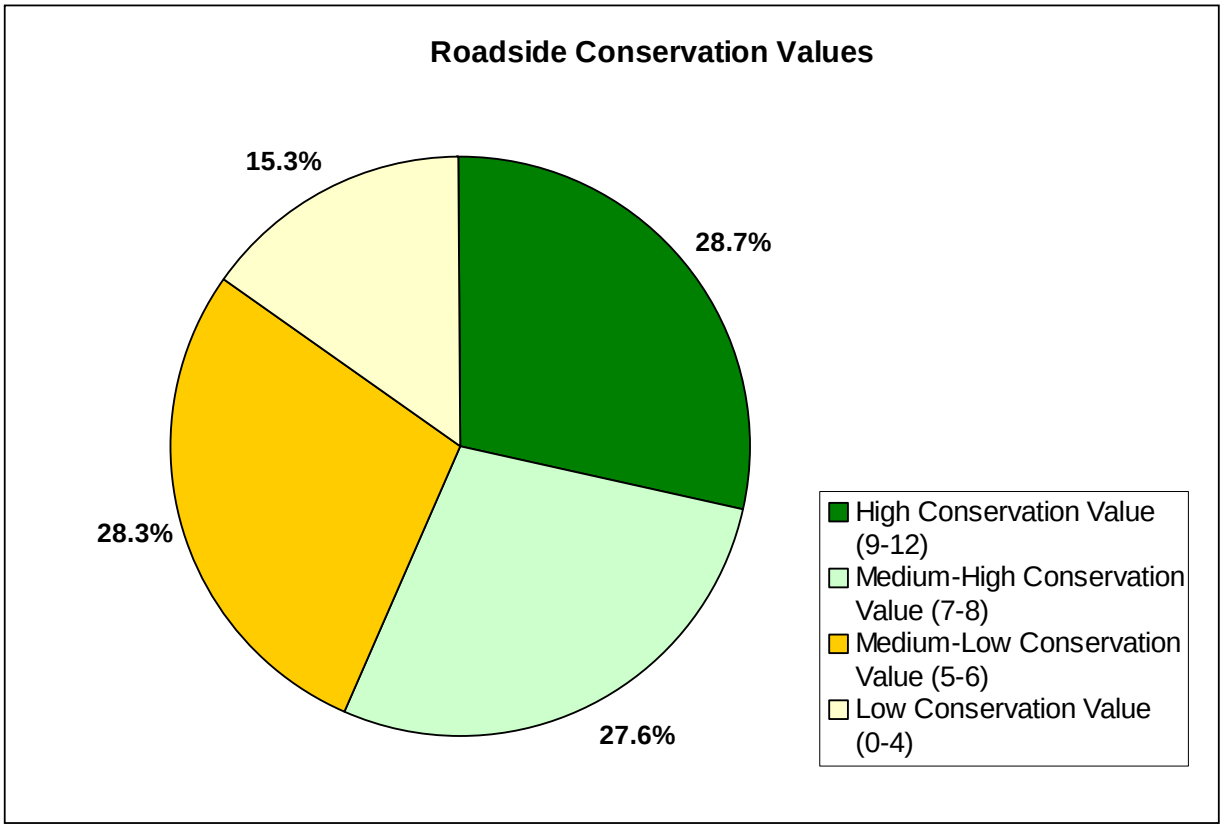


Figure 2 – Conservation status of roadsides in the Shire of York.

4.2 High Conservation Value Roadsides

High conservation value roadsides are those which scored between 9 and 12, and generally contained more than 20 native plant species, showed little or no signs of disturbance, low levels of weed infestation and had an intact structure that closely reflected the natural state of the vegetation for a given area. High conservation value roadsides may have also connected uncleared areas of bush and provided food and shelter for native fauna.

Table 2 shows high conservation value roads in the Shire of York, that is, they scored between 9 and 12 in the 1997 roadside survey (380.8 km).

Many roadsides are not uniform along their length; some may have long sections of high conservation value and others may only have short sections. Roadside conservation values may also differ between the left and right hand side of the road, therefore, the roadside surveyors collected the information individually, see Table 2.

Road Name	Left Total length of high conservation sections (km)	Right Total length of high conservation sections (km)	Total length of road (km)
York-Tammin Rd	10.4	10.4	33.5
Mannavale Rd	0.0	7.1	13.4
Talbot Rd	11.4	11.4	16.1
Mokine Rd	2.2	2.2	17.7
Talbot West Rd	31.1	26.3	32.6
Talbot Hall Rd	7.5	7.5	7.4
Wambyn Rd	10.3	10.3	10.2
Boyercutty Rd	4.8	4.8	7.3
Greenhills South Rd	4.3	4.3	4.3
Berry Brow Rd	10.2	10.2	10.1
Qualen West Rd	3.6	4.0	16.4
Sees Rd	4.3	4.3	8.7
Lennard Rd	2.3	0.8	7.6
Bogling Rd	2.5	2.5	7.1
Taylor Rd	1.8	1.3	5.0
Mackie Rd	4.9	4.9	8.9
Badgin Rd	1.4	1.4	5.1
Cubbine Rd	0.6	3.3	7.4
Piccadilly Rd	0.3	0.3	6.5
Cameron Rd	8.7	8.7	12.0
Mercer Rd	4.0	4.0	5.5
Helena Rd	15.4	15.0	19.3
Hamersley Siding Rd	2.5	1.5	9.5
Williams Rd	1.6	1.6	1.7
Waterfall Rd	7.1	7.1	8.4
Luelf Rd	11.0	11.0	4.6
Kittlers Rd	3.7	3.7	3.6
Duck Pool Rd	3.7	3.7	4.2
Flea Pool Rd	1.9	1.9	11.5
Kennedy Rd	2.1	0.8	4.7
Mills Rd	1.6	1.6	5.7
Rickeys Siding Rd	1.5	1.5	2.2
Chidlow-York Rd	0.8	2.5	22.0
York-Merredin Rd	6.8	12.7	37.0
TOTAL	186.3 km	194.5 km	

Table 2 – High conservation value roads, or sections of road, in the Shire of York.

4.3 Flora Roads

A flora road is one which has special conservation value because of the vegetation contained within the road reserve. The managing authority may decide to declare a Flora Road based on the results of the survey of roadside conservation value. Roadsides determined as having high conservation value in the Shire of York are Wambyn Road and Berry Brow Road.

Other roads classified as high conservation value may be investigated further to see if they warrant a declaration as a Flora Road. This has a twofold effect of drawing the attention of tourists to the high conservation value roadside and it also alerts all that work in the roadside environment that the marked section of roadside requires due care to protect the values present.

In order to plan roadworks so that important areas of roadside vegetation are not disturbed, road managers should know of these areas. It is suggested that the Shire establish a *Register of Roads Important for Conservation* (see section 5.4).

<u>Tourism</u>
Attractive roadside drives are an important drawcard in this, the "Wildflower State".
Declared Flora Roads will, by their very nature, be attractive to tourists and would often be suitable as part of a tourist drive network.

Consideration should be given to:

- Promoting the road by means of a small brochure or booklet,
- Showing all Flora Roads on a map of the region or State,
- Using specially designed signs to delineate the Flora Road section (contact the RCC).

Roadsides are one of the most accessible places for tourists to view wildflowers.

Management

Management objectives should involve disturbing the roadside flora as little as possible, consistent with the provision of a safe and efficient roadway. The management of Flora Roads should aim to:

- Minimise disturbance,
- Control weeds,
- Encourage natural regeneration.

The techniques referred to in Section 5.0 of this report can be used to minimise disturbance to roadside vegetation. Most importantly, staff should be instructed and supervised so that incremental widening does not occur at every pass of the grader. Environmental assessments (pre-construction check-lists) should be completed prior to any upgrading work, to assist with planning for flora preservation. Fire management should be undertaken in such a way so as to take into account the ecological needs of the flora. Where rehabilitation is contemplated, local native species should always be used.

5.0 MANAGEMENT TECHNIQUES

The primary aim of road management is the creation and maintenance of a safe, efficient road system. However, the following management procedures are recommended and should be adopted. The following section provides management recommendations that will assist in retaining and enhancing roadside conservation value. These guidelines are taken from the Roadside Conservation Committee's *Roadside Manual* and the *Roadside Handbook*.

The Executive Officer of the Roadside Conservation Committee is also available to assist on all roadside conservation matters, and can be contacted on (08) 9334 0423.

High Conservation Value Roadsides		
Management Goal		Maintain and enhance the native plant communities.
Management Guidelines		Minimal disturbance to existing vegetation. Disturbance leads to weed invasion, which downgrades the conservation value, and increases the fire threat.

Medium Conservation Value Roadsides		
Management Goal		Maintain native vegetation wherever possible, and encourage its regeneration.
Management Guidelines		Minimise disturbance to existing vegetation.

Low Conservation Value Roadsides		
Management Goal		Retain remnant trees and shrubs and encourage their regeneration. Encourage revegetation projects using indigenous plants.
Management Guidelines		Minimise soil disturbance to reduce weed invasion. Encourage revegetation projects by adjacent landholders.

Minimal disturbance can be achieved by:

- Adopting a road design that occupies the minimum space;
- Diverting the line of a table drain to avoid disturbing valuable flora;
- Pruning branches, rather than removing the whole tree or shrub;
- Not dumping spoil on areas of native flora;
- Observing dieback control measures as required;
- Apply the Fire Threat Assessment (Roadside Manual) before burning roadside vegetation;
- Use methods other than fuel reduction burns to reduce fire threat; if roadside burning must be undertaken, incorporate it into a district fire management program;
- Encourage adjacent landholders to set back fences to allow roadside vegetation to proliferate;
- Encourage adjacent landholders to plant windbreaks or farm tree lots adjacent to roadside vegetation to create a denser windbreak or shelterbelt;
- Encourage revegetation projects by adjacent landholders.

5.1 Code of Practice

A Code of Practice has been developed through collaboration with Main Roads Western Australia, the Western Australian Local Government Association and the Roadside Conservation Committee. It is anticipated that this document will be accepted as an industry standard for all working or interested in roadside conservation. This document provides defined parameters for all roadside management works and also provides the local community with an overview of management practices that will ensure the sustainability of native roadside vegetation. Please contact the Roadside Conservation Committee on 9334 0423 for further information.

5.2 Tree Roads

Tree roads are defined as those roadsides with a sufficient density of mature trees to create an attractive tunnel effect. Besides the aesthetic benefits, these areas also provide valuable habitat for birds and other arboreal fauna. Since mature trees are slow growing and hard to replace, care should be taken to conserve these avenues wherever possible. The following points should be considered when working on tree roads:

- prune offending branches rather than remove the whole tree;
- cut branches off close to limb or tree trunk;
- divert line of table drain to avoid disturbing tree roots;
- import fill to build up formation, rather than using side-borrow from roadside;
- when using herbicide for weed control on the roadside do not use a soil residual type, such as Simazine or Atrazine. Eucalypts are especially sensitive to these;

- encourage the adjoining landholders to plant shelterbelts on their property that will complement the roadside vegetation.

5.3 Special Environment Areas

A Special Environmental Area is a section of roadside, which has such significance that it requires special protection. Reasons for establishing Special Environmental Areas can include:

- Protection of rare or threatened species of native plants;
- Protection of sites that have other high conservation, scientific or aesthetic values;
- Protection of Aboriginal or European cultural sites.

Special Environmental Areas can be delineated by the use of site markers. See Figures 9 and 10 for design and placement of SEA markers. Workers who come across a 'Special Environmental Area' marker in the field should not disturb the area between the markers unless specifically instructed. If in doubt, the Supervisor, Shire Engineer or CEO should be contacted.

Western Power and West Net rail also have systems for marking sites near power or rail lines. Examples of these are seen in the figure below.

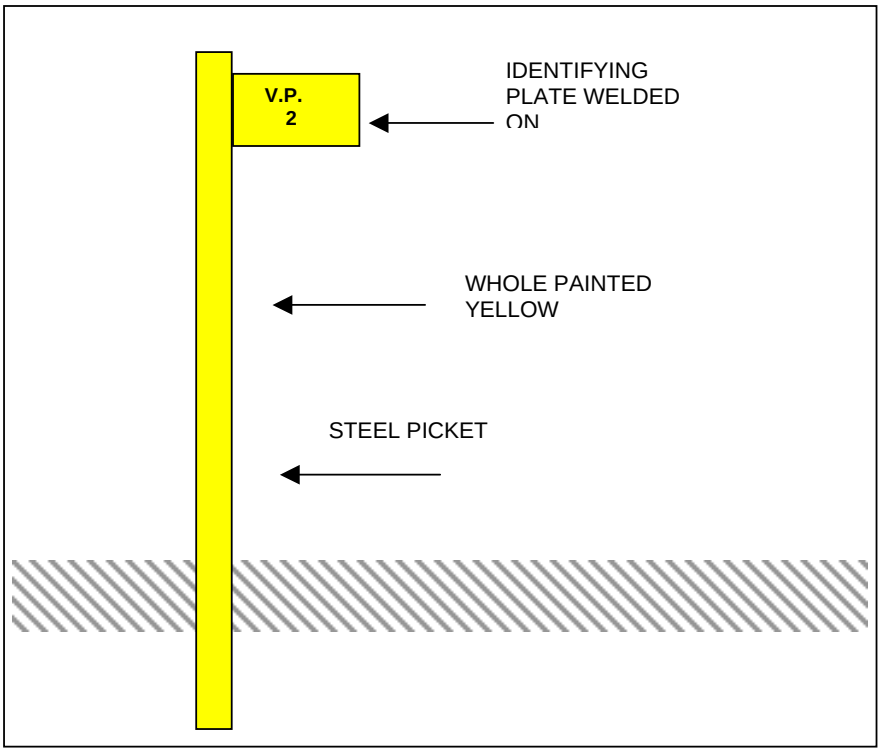


Figure 3 - Special Environmental Area site marker.

5.4 Special Environmental Area Register

To ensure that knowledge of rare flora and other sites does not get lost due, perhaps, to staff changes, a Local Authority should establish a Special Environmental Area Register. This should outline any special treatment, which the site should receive, and be consulted prior to any work being initiated in the area.

The Special Environmental Area Register should be consulted by the appropriate person prior to starting work on any particular road, to ensure that inadvertent damage does not occur. All Special Environment Area sites should be marked on the Shire map, which records Roadside Conservation Value

Local Government is encouraged to permanently mark Special Environmental Areas to prevent inadvertent damage to the rare flora or other values being protected. Markers of a uniform shape and colour will make recognition easier for other authorities using road reserves.

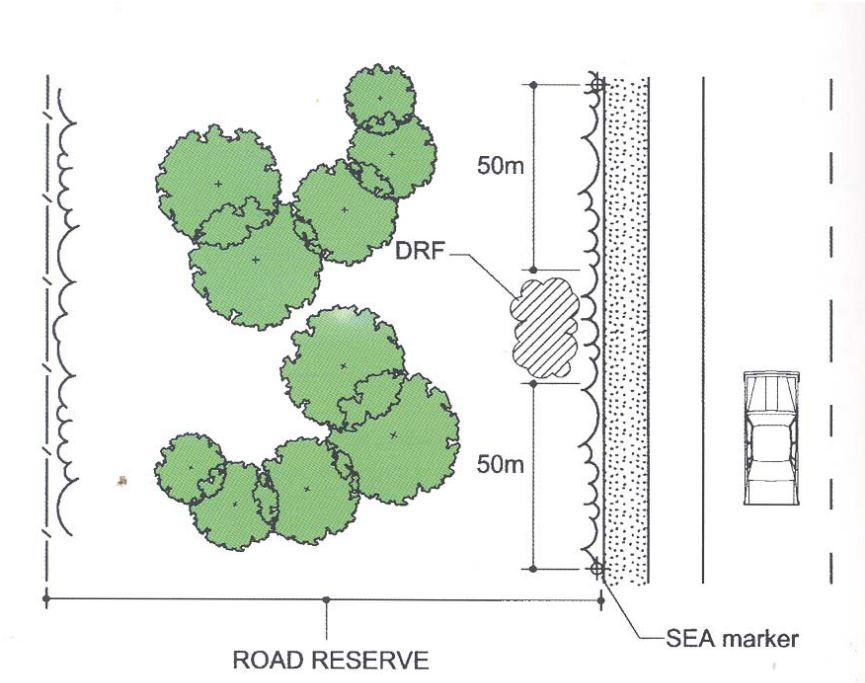


Figure 4 - Marking Special Environment Area (SEA) sites in the field. In this case, a declared rare flora (DRF) site has been marked.

When notified of a population needing marking, the Local Authority should contact the appropriate Department of Conservation and Land Management Regional or District office for assistance to ensure the exact site location and correct positioning of marker posts.

6.0 ROADSIDE PLANNING, STRATEGIES AND ACTION PLANS

6.1 Planning

The RCC is able to provide good models of Roadside Management Plans and encourages all shires to adopt this practice of planning for roadside conservation. The following actions greatly enhance likelihood of a plan that changes behaviour and results in on-ground actions:

- Community support encourage ongoing community involvement and commitment by establishing a local Roadside Advisory Committee or working group within the Shire Environmental Committee;
- Contract specifications maintain roadside values by developing environmental specifications for inclusion in all tender documents or work practices;
- Community education use of innovative and pertinent material can increase community understanding of roadside values;
- Training promote local roadside planning initiatives and gain acceptance and understanding by involving shire staff, contractors, utility provider staff and the community in workshops, seminars or training days. The Roadside Conservation Committee can provide this training.

Training develops recognition and understanding of roadside values and highlights best work practices. Workshops are developed to ensure that local issues and environments are dealt with and they include site visits to high conservation remnants, current projects and works.

The objective of all roadside management planning should be to:

- **Protect**
  - native vegetation
  - rare or threatened flora or fauna
  - cultural and heritage values
  - community assets from fire
- **Maintain**
  - safe function of the road
  - native vegetation communities
  - fauna habitats and corridors
  - visual amenity and landscape qualities
  - water quality
- **Minimise**
  - land degradation
  - spread of weeds and vermin
  - spread of soil borne pathogens
  - risk and impact of fire
  - disturbance during installation and maintenance of service assets
- **Enhance**
  - indigenous vegetation communities
  - fauna habitats and corridors

6.2 Strategies

The development of a strategy enables potentially competing uses to coexist and ensures that roadsides are managed in a coordinated approach. When producing regional strategies the RCC suggests that:

- Organisational support from local government is essential from the outset;
- Strategies should take no longer that 12 months to produce (including a period for community comment);
- Communities need to be provided with background information to make formal decisions.

Management strategies should be produced to address local issues, rather than be to a standard format. Issues can be categorised as:

- **Functional**

- Fire prevention
- Installation and maintenance of services
- Road construction and maintenance
- Stockpile and dumpsite management
- Vegetation removal
- Vehicle and machinery activity
- Water supply catchments

- **Cultural and Recreational**

- Cultural and heritage values
- Horse riding
- Visual amenity and landscape values
- Wayside stops

- **Landcare**

- Apiculture
- Insect Pests
- Pest animals
- Ploughing, cultivating or grading
- Revegetation and site rehabilitation
- Weeds

- **Conservation**

- Protecting and conserving remnant native vegetation
- Rare, threatened or significant flora and fauna
- Regeneration of native plant communities
- Roadside marking of special environmental areas
- Unused road reserves
- Wetlands
- Wildlife habitat
- Wildlife corridors

6.3 Roadside Action Plans

A Roadside Action Plan is prepared for an individual road and contains a works program that will enable conservation values and other road uses to be managed compatibly.

Roadside Action Plans are based on the guidelines that are produced as part of the roadside strategy.

The RCC suggests that Roadside Action Plans be:

- short term documents (to be reviewed within 2 years);
- prepared on a need basis;
- prepared after consultation with major stakeholders;
- a maximum of 2 pages per road;
- names a person or agency responsible for implementing the management recommendations.

Roadside Action Plans may, for example, aim to eradicate invasive weeds such as Tagasaste from roadsides. Weed overlays may be helpful in identifying strategic locations.

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APPENDIX ONE

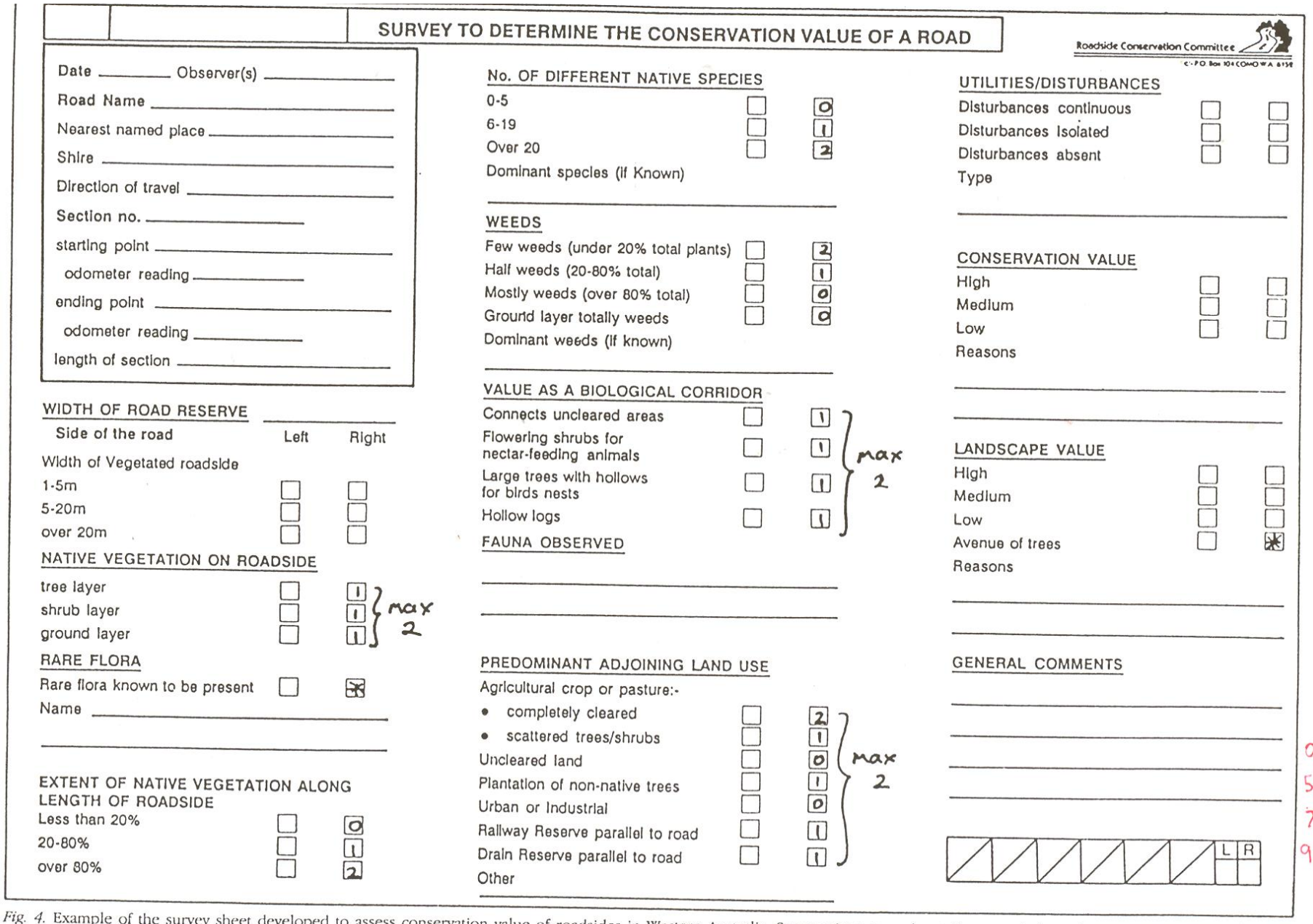

Fig. 4. Example of the survey sheet developed to assess conservation value of roadsides in Western Australia. Scores given to each attribute are indicated.

APPENDIX TWO

Road #	Section #	Start Odo.	End Odo.	Conservation Value Left	Conservation Value Right
4330001	1	0	2.1	2	4
4330001	2	2.1	5.4	2	8
4330001	3	5.4	5.7	1	2
4330001	4	5.7	7.1	7	6
4330001	5	7.1	8	7	7
4330001	6	8	8.7	8	8
4330001	7	8.7	9.3	6	8
4330001	8	9.3	10.5	9	9
4330001	9	10.5	15.9	9	9
4330001	10	15.9	16.3	10	10
4330001	11	16.3	19.7	9	10
4330001	12	19.7	22	7	8
4330001	13	22	23.3	2	8
4330001	14	23.3	26.3	4	6
4330001	15	26.3	27	4	5
4330001	16	27	28	8	8
4330001	17	28	32	6	6
4330001	18	32	33.51	3	3
4330002	1	0	3.68	6	6
4330002	2	3.68	6.44	8	8
4330002	3	6.44	9.3	6	12
4330002	4	9.3	13.51	8	9
4330003	1	0	5.5	10	10
4330003	2	5.5	8.5	10	10
4330003	3	8.5	11.4	10	11
4330004	1	0	3.8	7	8
4330004	1	4.87	8.67	7	8
4330004	2	3.8	11.5	7	2
4330004	2	8.67	16.37	7	2
4330004	3	11.5	15.5	7	2
4330004	3	16.37	20.37	7	2
4330004	4	15.5	16.2	4	4
4330004	4	20.37	21.07	4	4
4330005	1	0	0.7	2	2
4330005	2	0.7	1.58	3	3
4330006	1	0	7.8	7	7
4330006	2	7.8	19.5	5	5
4330007	1	0	0.3	7	7
4330007	2	0.3	2.5	7	6
4330007	3	2.5	5.5	7	5
4330007	4	5.5	6.2	8	8
4330007	5	6.2	6.9	8	8
4330007	6	6.9	10.65	6	6
4330007	7	10.65	11.35	8	8
4330007	8	11.35	11.75	6	6
4330007	9	11.75	12.5	4	4
4330008	1	0	6.3	6	6
4330008	2	6.3	7	8	8
4330008	3	7	12	5	5
4330008	4	12	15.8	8	8

Road #	Section #	Start Odo.	End Odo.	Conservation Value Left	Conservation Value Right
4330008	5	15.8	16.3	6	6
4330008	6	16.3	17.8	8	8
4330008	7	17.8	19.08	3	3
4330009	1	0	3.7	5	5
4330009	2	3.7	7.1	5	4
4330009	3	7.1	12.8	6	6
4330009	4	12.8	16.7	6	6
4330010	1	0	4.1	5	5
4330010	2	4.1	8.9	7	5
4330010	3	8.9	12.2	3	3
4330010	4	12.2	14.4	10	10
4330010	5	14.4	17.7	4	3
4330011	1	0	8.43	6	6
4330012	1	0	3.6	10	8
4330012	2	3.6	18.9	11	10
4330012	3	18.9	20	9	9
4330012	4	20	21.2	10	8
4330012	5	21.2	31.1	10	10
4330013	1	0	3	12	12
4330013	2	3	4.3	10	9
4330013	3	4.3	7.45	12	12
4330014	1	0	8.3	11	11
4330014	2	8.3	9.3	10	11
4330014	3	9.3	10.3	10	10
4330015	1	0	4.8	11	11
4330015	2	4.8	7.47	2	2
4330016	1	0	4.31	9	9
4330017	1	0	1	11	11
4330017	2	1	2	11	11
4330017	3	2	4	11	11
4330017	4	4	8	10	10
4330017	5	8	10.18	11	11
4330019	1	5.5	7.1	3	3
4330019	2	7.1	9.2	9	9
4330019	3	9.2	9.5	10	10
4330019	4	9.5	10.7	10	10
4330019	5	10.7	11.5	2	2
4330019	6	11.5	14.7	8	8
4330019	7	14.7	15.1	8	9
4330019	8	15.1	15.6	4	4
4330019	9	15.6	16.6	3	2
4330020	1	1.23	1.85	8	6
4330020	2	1.85	2.25	4	4
4330021	1	0	5.85	8	8
4330021	2	5.85	6.91	6	7
4330021	3	6.91	10.43	8	8
4330022	1	0	1.37	6	6
4330023	1	0	0.9	7	7
4330023	2	0.9	5.2	9	9
4330023	3	5.2	6.2	4	4
4330023	4	6.2	8.45	7	8

Road #	Section #	Start Odo.	End Odo.	Conservation Value Left	Conservation Value Right
4330024	1	0	2.33	7	8
4330025	1	0	1.5	9	3
4330025	2	1.5	5.3	7	7
4330025	3	5.3	6.1	11	11
4330025	4	6.1	7.5	8	8
4330026	1	0	1.6	7	8
4330026	2	1.6	4.1	9	9
4330026	4	4.1	7.24	8	8
4330028	1	0	4.8	7	7
4330029	1	0	2.1	4	4
4330029	2	2.1	4.8	8	8
4330029	3	4.8	7.73	6	6
4330030	1	0	4.71	5	5
4330031	1	0	2.17	5	5
4330032	1	0	3.66	6	6
4330033	1	0	4.75	6	6
4330034	1	0.81	2.51	8	8
4330034	2	2.51	3.51	8	8
4330034	3	3.51	4.81	9	10
4330034	4	4.81	5.31	10	8
4330035	1	0	2	11	10
4330035	2	2	3.15	8	8
4330035	3	3.15	5.55	8	8
4330035	4	5.55	8.45	9	9
4330036	1	0	1.11	2	3
4330036	2	1.11	2.14	3	3
4330036	3	2.14	3.33	7	8
4330036	4	3.33	5.95	1	8
4330037	1	0	1.75	8	8
4330037	2	1.75	2.85	10	10
4330037	3	2.85	3.14	10	10
4330037	4	3.14	4.44	8	8
4330037	5	4.44	4.91	6	6
4330038	1	0	0.8	5	6
4330038	2	0.8	2.9	5	5
4330038	3	2.9	3.6	6	6
4330038	4	3.6	4.1	1	1
4330038	5	4.1	5.2	7	7
4330038	6	5.2	5.8	11	11
4330038	7	5.8	8.53	5	9
4330039	1	0	1.81	7	7
4330040	1	0	1.74	8	8
4330040	2	1.74	2.48	6	6
4330040	3	2.48	3.49	7	7
4330040	4	3.49	5.79	6	6
4330042	1	0	1.7	5	5
4330042	2	1.7	2.5	4	4
4330042	3	2.5	3.3	3	3
4330042	4	3.3	4.1	4	8
4330042	5	4.1	5.1	6	6
4330042	6	5.1	5.7	8	6

Road #	Section #	Start Odo.	End Odo.	Conservation Value Left	Conservation Value Right
4330042	7	5.8	6.14	10	10
4330043	1	0	2.11	8	8
4330043	2	2.11	3.24	8	8
4330043	3	3.24	5.71	10	10
4330043	4	5.71	6.76	11	10
4330043	5	6.76	7.03	6	5
4330043	6	7.03	12.23	9	9
4330044	1	0	0.4	10	11
4330044	2	0.4	3	10	10
4330044	3	3	4.03	10	10
4330045	1	0	1.26	2	2
4330045	2	1.26	3.21	2	4
4330045	3	3.21	4.57	10	10
4330045	4	4.57	4.96	6	10
4330045	5	4.96	5.84	10	10
4330045	6	5.84	7.01	9	11
4330045	7	7.01	8.96	10	10
4330045	8	8.96	14.42	10	10
4330045	9	14.42	15.2	9	8
4330045	10	15.2	18.99	10	10
4330046	1	0	2.7	1	1
4330046	1	0	1	11	1
4330046	2	1	2.5	11	10
4330046	2	2.7	9.98	5	5
4330046	3	2.5	8.05	7	7
4330047	1	0	1.61	10	9
4330048	1	0	2.66	2	2
4330049	1	0	1.3	6	7
4330049	2	1.3	5.47	5	7
4330050	1	0	7.05	9	9
4330050	2	7.05	8.05	2	2
4330051	1	0	6.6	6	6
4330053	1	0	11.02	11	10
4330054	1	0	0.5	10	10
4330054	2	0.5	3.65	12	12
4330056	1	0	5.4	3	3
4330058	1	0	0.6	8	8
4330058	2	0.6	4.28	10	9
4330059	1	0	0.7	6	6
4330059	2	0.7	1.61	6	6
4330060	1	0	2.9	5	5
4330061	1	0	3.5	3	3
4330061	2	3.5	5.4	4	3
4330061	3	5.4	7.3	9	9
4330061	4	7.3	8.4	7	7
4330061	5	8.4	9.8	2	8
4330063	1	0	1.45	6	6
4330067	1	0	1.77	5	5
4330069	1	0	2.3	6	6
4330069	2	2.3	4.07	5	5
4330070	1	0	1.66	5	4

Road #	Section #	Start Odo.	End Odo.	Conservation Value Left	Conservation Value Right
4330073	1	0	0.8	8	3
4330073	2	0.8	2.5	5	3
4330073	3	2.5	3.8	9	2
4330073	4	3.8	4.6	11	9
4330074	1	0	1.1	4	5
4330074	2	1.1	2.2	6	7
4330074	3	2.2	3.8	9	9
4330074	4	3.8	5.7	7	7
4330076	1	0	0.75	4	4
4330076	2	0.75	2.1	7	7
4330076	3	2.1	4.75	7	7
4330076	4	4.75	6.1	8	8
4330078	1	0	0.8	7	7
4330078	2	0.8	2.1	7	7
4330078	3	2.1	4.1	8	8
4330078	4	4.1	5.63	8	8
4330079	1	0	1.85	7	7
4330081	1	0	1	9	9
4330081	2	1	1.5	9	10
4330081	3	1.5	2.01	6	6
4330082	1	0	1.93	8	8
4330083	1	0	0.72	4	4
4330084	1	0	1.85	4	3
4330085	1	0	1.29	8	8
4330086	1	1.1	4.1	4	5
4330086	2	4.1	5.5	4	5
4330086	3	5.5	6.6	3	4
4330088	1	0	1.53	7	8
4330094	1	0	2.95	8	8
4330094	2	2.95	4.75	6	6
4330100	1	0	3.2	6	6
4330150	1	3.32	7.92	2	3
4330181	1	0	0.79	4	4
4330181	2	0.79	2.59	6	6
4330181	3	2.59	2.79	6	4
4330193	1	0	1.1	5	2
4330193	2	1.1	2.1	6	2
4330197	1	0	1.25	4	4
4330219	1	0	3	5	5
M010	1	23.24	24.07	11	10
M010	2	24.07	26.44	7	8
M010	3	26.44	38.66	6	7
M010	4	38.66	40	5	5
M010	5	40	41.05	7	8
M010	6	41.05	42.76	8	9
M010	7	42.76	44.83	5	4
M010	8	44.83	45.45	2	3
M031	1	11.23	27.97	5	4
M031	2	27.97	31.15	8	1
M031	3	33.98	52.58	6	6
M041	1	0	0.96	3	4

Road #	Section #	Start Odo.	End Odo.	Conservation Value Left	Conservation Value Right
M041	2	0.96	1.83	5	5
M041	3	1.83	4.19	9	8
M041	4	4.19	8.66	9	11
M041	5	8.66	10.9	7	9
M041	6	10.9	14.51	7	6
M041	7	14.51	20.45	7	9
M041	8	20.45	36	8	8

Appendix 3

Roadside Conservation Committee

Shire of York (#433)

Road Names and road lengths as at 27/10/03

Road #	Road name	Road length (km)
4330001	YORK-TAMMIN RD	33.51
4330002	MANNAVALE RD	13.35
4330003	TALBOT RD	16.05
4330004	SPENCERS BROOK-YORK RD	20.83
4330005	BURGES SIDING RD	1.56
4330006	QUELLINGTON RD	19.36
4330007	GWAMBYGINE EAST RD	12.70
4330008	DOODENANNING RD	20.02
4330009	TOP BEVERLEY-YORK RD	14.18
4330010	MOKINE RD	17.68
4330011	OVENS RD	8.32
4330012	TALBOT WEST RD	32.60
4330013	TALBOT HALL RD	7.37
4330014	WAMBYN RD	10.18
4330015	BOYERCUTTY RD	7.29
4330016	GREENHILLS SOUTH RD	4.34
4330017	BERRY BROW RD	10.11
4330018	TREWS RD	1.12
4330019	QUALEN WEST RD	16.44
4330020	CUT HILL RD	2.18
4330021	SANDGATE RD	10.31
4330022	MACKIES SIDING RD	1.24
4330023	SEES RD	8.74
4330024	GRASS VALLEY SOUTH RD	2.39
4330025	LENNARD RD	7.55
4330026	BOGLING RD	7.09
4330027	PARKER RD	2.25
4330028	KNOTTS RD	5.23
4330029	WARDING RD	6.36
4330030	WALLABY RD	4.66
4330031	LEEMING RD	2.27
4330032	MT HARDEY RD	6.76
4330033	STATION RD	4.97
4330034	TAYLOR RD	4.98
4330035	MACKIE RD	8.92
4330036	QUONAMINING RD	6.33
4330037	BADGIN RD	5.11
4330038	CUBBINE RD	7.42
4330039	ST JACKS RD	1.81
4330040	ALLEN RD	6.14
4330042	PICCADILLY RD	6.53
4330043	CAMERON RD	11.98
4330044	MERCER RD	5.52
4330045	HELENA RD	19.27
4330046	HAMERSLEY SIDING RD	9.50
4330047	WILLIAMS RD	1.67
4330048	KARABINE RD	2.91
4330049	WILBERFORCE RD	5.84
4330050	WATERFALL RD	8.40
4330051	ASHWORTH RD	6.94
4330052	GUNAPIN RIDGE RD	7.32
4330053	LUELF RD	4.63
4330054	KITTLERS RD	3.58
4330055	OAKOVER RD	0.62
4330056	YOUNG RD	2.72
4330058	DUCK POOL RD	4.16
4330059	WARDING DAM RD	1.80
4330060	HARDY RD	3.01

4330061	FLEA POOL RD	11.51
4330062	CREES RD	3.00
4330063	MOORE RD	1.45
4330065	NORTHBOURNE RD	1.47
4330066	OSBORNE RD	1.67
4330067	WRIGHTS RD	1.93
4330068	NEEDLING HILLS RD	0.73
4330069	MARWICK RD	4.04
4330070	SEABROOK RD	1.64
4330071	RAILWAY RD	3.46
4330073	KENNEDY RD	4.67
4330074	MILLS RD	5.69
4330075	GAULTS RD	0.21
4330076	NARRALOGGAN RD	6.08
4330078	CORNER WELL RD	5.55
4330079	KEEBLES RD	2.10
4330080	HALBERT RD	1.12
4330081	RICKEYS SIDING RD	2.18
4330082	BOYLE RD	2.06
4330083	CHESTER RD	0.73
4330084	CLUB HOTEL RD	1.93
4330085	JENKINS RD	1.41
4330086	BUCKINGHAM RD	6.73
4330088	COLD HARBOUR RD	1.63
4330089	AVON TCE	2.32
4330090	ULSTER RD	2.74
4330091	GREY ST	1.03
4330092	TENTH RD	1.61
4330093	BRUNSWICK RD SECTION 1	0.18
4330094	SOUTH ST	0.76
4330095	FORD ST	1.28
4330096	POOL ST	0.64
4330098	BROOME ST	0.18
4330099	JOAQUINA ST	0.19
4330100	BIRD ST	0.29
4330101	GEORGIANA ST	1.14
4330102	HARRIOTT ST	0.48
4330103	FRASER ST	0.59
4330104	ALFRED ST	0.62
4330105	HENRY RD	1.05
4330106	OSNABURG RD	1.61
4330107	BLAND RD	2.04
4330108	CARTER RD	2.12
4330109	NORTH RD	4.00
4330110	ELEVENTH RD	1.39
4330111	SCARPIA ST	0.26
4330112	KNIGHT ST	0.50
4330113	EIGHTH RD	0.36
4330114	NINTH RD	1.27
4330115	SIXTH RD	0.45
4330116	MOUNT ST	0.21
4330117	HERBERT RD	1.40
4330118	NEW ST	0.36
4330119	NEWCASTLE ST	2.18
4330120	WHEELER ST	0.57
4330121	ELIZABETH ST	0.21
4330122	BARKER ST	0.08
4330123	FORREST ST	0.80
4330124	GEORGE ST	0.41
4330125	MEARES ST	0.47
4330126	GILFORD ST	0.34
4330127	HOWICK ST	0.27
4330128	REDMILE RD	0.27
4330129	CLIFFORD ST	0.53

4330130	SUBURBAN RD	0.86
4330131	SEABROOK ST	0.17
4330132	VIEW ST	0.21
4330133	STEERE RD	1.63
4330134	CARDWELL RD	0.79
4330135	RADNOR RD	0.46
4330136	HOPE ST	0.43
4330137	SCOTT ST	0.33
4330138	BOUVERIE RD	0.54
4330139	THOMPSON ST	0.22
4330140	COWAN RD	0.90
4330141	RIVER ST	0.13
4330142	GLEBE ST	0.53
4330143	ATTFIELD ST	1.89
4330144	LINCOLN ST	0.27
4330145	YARRA RD (F)	24.14
4330146	NOCKINE RD (F)	11.46
4330147	SURVEYOR RD (F)	30.00
4330148	BOOMA RD (F)	6.62
4330149	QUALEN RD	15.35
4330150	GREENHILLS RD	4.77
4330151	DINSDALE RD	0.61
4330152	RAILWAY RD	0.27
4330153	BROOK ST	0.21
4330154	RIVER ST SECTION 2	0.15
4330156	POOL ST SECTION 2	0.24
4330157	POOL ST SECTION 3	0.51
4330158	LOWE ST	0.27
4330159	BRUNSWICK RD SECTION 2	0.85
4330160	BIRCH ST	0.16
4330161	NUGENT RD	0.55
4330162	BAYLY RD	1.10
4330163	CHANDOS RD	1.43
4330164	CRAWFORD CT	0.34
4330165	MAUD ST	0.25
4330166	BARRATT ST	0.12
4330167	MANSFIELD ST	0.32
4330168	BLAND ST SECTION 1	0.25
4330169	BLAND ST SECTION 2	0.15
4330170	MAIN CAMP RD	0.26
4330171	MAXWELL ST	0.32
4330172	SPICES RD	0.94
4330173	HORLEY RD	0.19
4330174	PRUNSTER RD SECTION 1	1.66
4330175	MORSE PL	0.22
4330176	CRAIG ST	0.09
4330177	DAVIS ST	0.15
4330178	ROE ST	0.46
4330179	SIDNEY RD	0.25
4330180	PRUNSTER RD SECTION 2	0.59
4330181	MACARTNEY ST	1.07
4330182	EDWARDS ST	0.15
4330183	MONGER ST	0.20
4330184	NEVILLE ST	0.14
4330185	HARVEY ST	0.06
4330186	PARKER RD	0.12
4330187	STEPHEN ST	0.13
4330188	THORN ST	0.14
4330189	WILLIAM ST	0.35
4330190	GUILFOYLE RD	0.23
4330191	LITTLE ST	0.24
4330192	FISH ST	0.09
4330193	ARNOLD PARK RD	3.59
4330194	CLIFTON RD	3.56

4330195	BROWN RD	0.62
4330196	ROEDIGER RD	2.56
4330197	WHITE WELLS RD	1.15
4330198	MORRIS EDWARDS DR	2.73
4330199	NO NAME RD	0.75
4330200	EMMET PL	0.10
4330201	TRIGG ST	0.23
4330202	PELHAM ST	0.34
4330203	WATER ST	0.16
4330204	LEE CRES	0.52
4330206	NO NAME RD(NO 9785)	0.55
4330207	PARK RD	0.25
4330208	ENSIGN DALE CT	0.40
4330209	LIGHTLY PL	0.28
4330210	SYLVESTER CT	0.30
4330211	FORBES ST	0.32
4330212	LOTT RD	1.20
4330213	EATON ST	0.07
4330214	FISHER ST	0.24
4330215	PLAUDIT ST	0.26
4330216	DURABLE ST	0.17
4330217	HOOPS RD	1.00
4330218	RIVERSIDE CT	0.38
4330219	PENNY DR	3.09
4330220	GLASS CT	0.13
4330221	LEWIS RD	0.37
4330222	MCCARTHY PL	0.12
4330223	JANET MILLET LANE	0.19
4330224	LYNCH RD	0.01
4330225	LOCKIER RD	0.01
4330226	COLD HARBOUR RD	0.57
4330227	RAILWAY PDE (GREENHILLS)	0.01
4330228	WELLINGTON ST (GREENHILLS)	0.01
4330229	NELSON ST (GREENHILLS)	0.01
4330230	REID ST (GREENHILLS)	0.01
4330231	MURPHY ST (GREENHILLS)	0.01
4330232	PARNELL ST (GREENHILLS)	0.01
4330233	TWELTH RD	0.22
4330234	SEVENTH RD	0.15
4330235	WARBURTON RD	0.01
4330236	FIFTH RD	0.01
4330237	FOURTH RD	0.01
4330238	THIRD RD	0.01
4330239	SECOND RD	0.01
4330240	FIRST RD	0.01
4330241	CAHILL RD	0.13
4330242	CEMETERY RD	0.23
4330243	CALJIE RD	1.00
4330244	McDOUGALL RD	2.30
4330245	ATTFIELD RD NORTH	0.48
4330500	RICKEY ST (KAURING)	0.01
4330501	PENNY ST (KAURING)	1.73
4330502	PARKER ST (KAURING)	0.01
4330503	WOODLEY ST (KAURING)	0.01
4330600	SCOTT ST (MT HARDEY)	0.01
4330601	MARLEY ST (MT HARDEY)	0.01
4330602	LODGE ST (MT HARDEY)	0.01
4330603	RICKEY ST (MT HARDEY)	0.01
4330604	WHITFIELD ST (MT HARDEY)	0.01