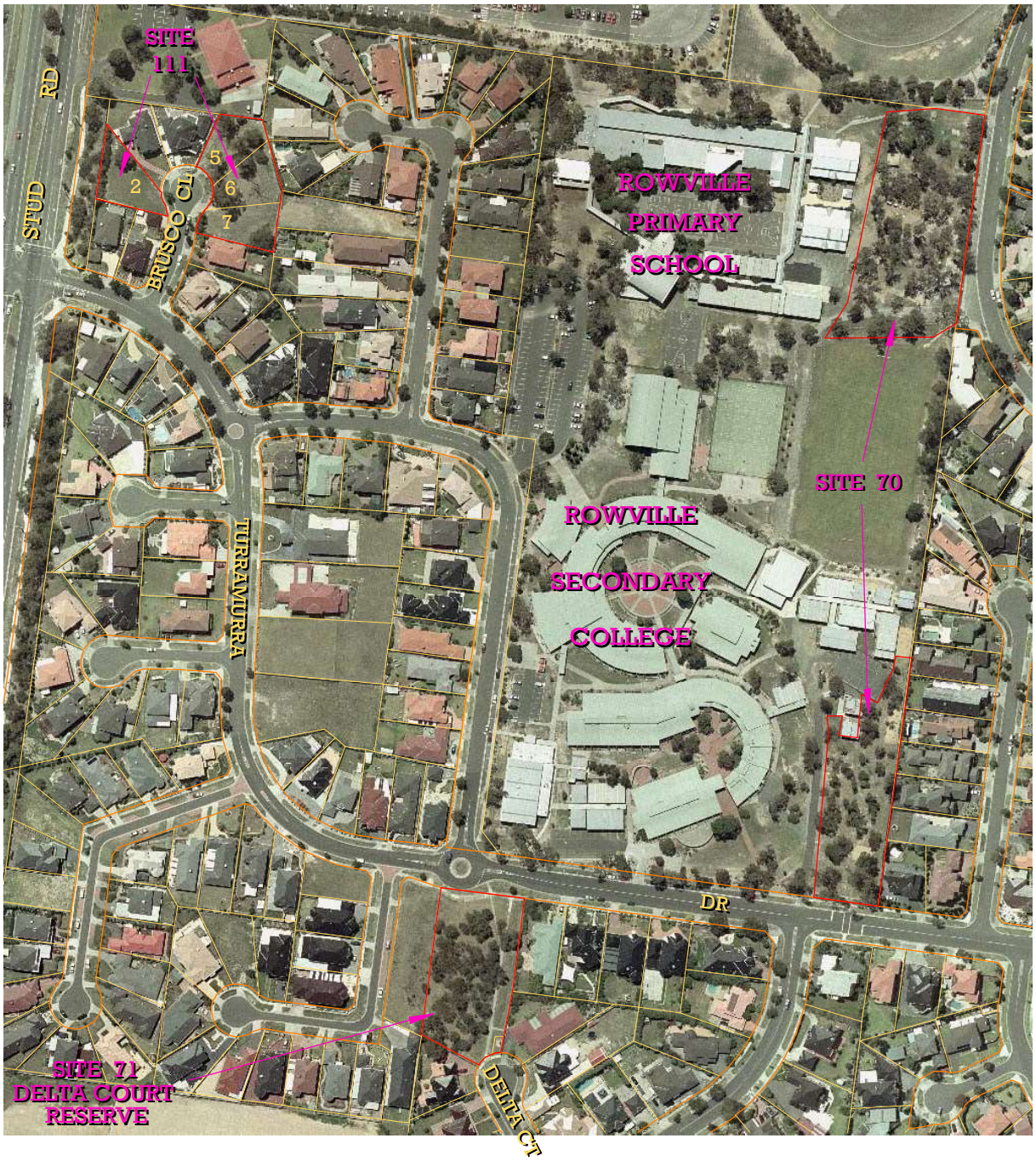
Site 70. Rowville Primary & Secondary Schools

Areas of native vegetation in the grounds of two adjacent schools. Melway ref. 81 K2.

Site Significance Level: *State*

- The native vegetation belongs to the endangered Ecological Vegetation Class, Valley Heathy Forest, but it is in poor ecological condition.



Scale 1:3,000

0 50 100 150 200m

Aerial photograph taken February 2007

Boundaries

The site of biological significance is in two polygons, marked on the aerial photograph on the previous page with red outlines and labelled 'Site 70'. Together, they total 0·94 ha. There are indigenous trees scattered around the buildings and just outside the northern boundary that add to the site's significance, but they do not warrant inclusion within the site boundary because they have hardly any understorey. Other sites at Delta Court Reserve and Brusco Close are also outlined in red on the aerial photograph.

Land use & tenure: Government primary and secondary schools on a shared lot.

Site description

These twin schools straddle a low knoll or short ridge, with a northeasterly slope of up to 4% in the site's north and a southwesterly slope of up to 8% in the south. The elevation is typically 80 m. The soil is shallow, poorly draining, light grey loam over clay subsoil, derived from decomposition of the underlying Lower Devonian sedimentary rocks of the Humevale formation.

The patches of vegetation with indigenous understorey are almost wholly within the site boundary displayed on the aerial photograph. There are also many remnant trees scattered among and around the school buildings, helping to attract native birds to the schools. Some of the trees contain hollows and some of the hollows are occupied by wildlife.

The ground flora left in the primary school grounds is very thin due to trampling and children's digging during play, but indigenous understorey trees and grasses are abundant. The secondary college grounds has suffered much less digging and trampling and hence there is a reasonable cover of hardy native grasses such as Weeping Grass (*Microlaena stipoides*) and Veined Spear-grass (*Austrostipa rudis*), as well as the indigenous Kidney Weed (*Dichondra repens*). However, part of the secondary college's indigenous vegetation is used as a dumping ground for a large pile of prunings and garden waste.

The ecological condition of most of the schools' indigenous vegetation had not deteriorated between 2002 and 2009, although some of it had been removed for new buildings. There are good prospects of significantly improving the ecological condition of the secondary college's patch by more sensitive mowing and ceasing the garden waste dumping.

Relationship to other land

The nearest areas of native habitat are Delta Court Reserve (Site 71), the Wellington Rd road verge (Site 96), the Rowville Electricity Terminal Station (Site 72) and the small remnant on Brusco Close (0). The native vegetation at Brusco Close is facing imminent replacement by houses. Most local native birds and flying insects would be able to fly easily between these five sites, but the more ecologically sensitive species would not find the school's habitat sufficiently attractive to cross the main roads and stark residential area between the sites.

Bioregion: Gippsland Plain

Habitat types

Valley Heathy Forest (EVC 127, **Endangered**): Estimated as 1·1 ha (excluding trees without native understorey), all in poor ecological condition (rating D).

Canopy trees: *Eucalyptus radiata* and *E. cephalocarpa*, the latter species dominant in the north and west and the former elsewhere.

Lower trees: Dominated by *Allocasuarina littoralis, Acacia mearnsii* and *Exocarpos cupressiformis*. There are very few *Acacia melanoxylon*.

Shrubs: Severely depleted by clearing, leaving *Acacia paradoxa* as the only shrub in substantial numbers. *Cassinia arcuata, Daviesia latifolia* and *Leptospermum continentale* are also present. *Bursaria spinosa* is uncharacteristically absent.

Vines: There were many of the light twiner, *Billardiera mutabilis*, in 2002 but few were visible in February 2009.

Ferns: There is a very small amount of *Pteridium esculentum*.

Ground flora: Dominated by *Microlaena stipoides*, *Austrostipa rudis* subsp. *rudis* and *Dichondra repens*. Other species include three *Rytidosperma* species, *Deyeuxia quadriseta, Gonocarpus tetragynus, Lepidosperma gunnii, Lomandra filiformis* (both subspecies)*, L. longifolia, Poa morrisii, Austrostipa pubinodis* and *Themeda triandra*.

Plant species

In February 2009, during a record drought, the author found 14 indigenous plant species in the primary school and 24 in the secondary college. A few extra species were seen in May 2002. More species would be found in mid spring to early summer. In the following plant list, the column headed 'Risk' indicates the indigenous species' risk of extinction in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable.

Risk	Indigenous Species
V	*Acacia mearnsii*
V	*Acacia melanoxylon*
	Acacia paradoxa
V	*Allocasuarina littoralis*
C	*Amyema pendula*
	Austrostipa pubinodis
	Austrostipa rudis subsp. *rudis*
	Billardiera mutabilis
	Cassinia arcuata
	Chenopodium pumilio
E	*Daviesia latifolia*
	Deyeuxia quadriseta
	Dichondra repens
V	*Epilobium billardierianum* ssp. *cinereum*
V	*Eucalyptus cephalocarpa*
	Eucalyptus goniocalyx
V	*Eucalyptus melliodora*
E	*Eucalyptus radiata*
V	*Exocarpos cupressiformis*
	Gonocarpus tetragynus
	Kunzea ericoides spp. agg. (perhaps planted)
	Lachnagrostis filiformis
	Lepidosperma gunnii
	Leptospermum continentale
	Lomandra filiformis subsp. *coriacea*
	Lomandra filiformis subsp. *filiformis*
	Lomandra longifolia
	Microlaena stipoides
	Poa morrisii
	Pteridium esculentum
	Rytidosperma penicillatum
	Rytidosperma racemosum
	Rytidosperma setaceum
	Themeda triandra
	Tricoryne elatior

Introduced Species			
Agapanthus praecox	*Crataegus monogyna*	*Lolium perenne*	*Ulex europaeus*
Agrostis capillaris	*Cynodon dactylon*	*Paspalum dilatatum*	*Vulpia bromoides*
Briza maxima	*Ehrharta erecta*	*Pittosporum undulatum*	
Bromus catharticus	*Hypochoeris radicata*	*Plantago lanceolata*	

Fauna habitat features

- Some of the eucalypts in each school are large enough and old enough to have hollows that could provide nesting or roosting sites for birds, possums, bats or insects;
- The prickly shrub layer provides protection for small native birds, and three nests were found among them.

Significance ratings

The following is an assessment of the site's significance against the Department of Sustainability & Environment's standard criteria (Amos 2004).

Endangered Vegetation Types

Valley Heathy Forest is endangered and each of the two areas that make up this site meet the Department of Sustainability & Environment's definition of a 'remnant patch'. It follows from Appendix 3 of *Victoria's Native Vegetation Management - a Framework for Action* (NRE 2002a) and criterion 3.2.3 of Amos (2004) that the site is of **State** significance.

The author has misgivings about such a high rating when the ecological condition of the vegetation is so poor, but these misgivings are overridden by the importance of consistency with the standard criteria.

Locally Threatened Plant Species

Some of the locally threatened plant species listed above have viable populations, thereby meeting criterion 3.1.5 for a site of **Local** significance.

Threats

- Mowing at the secondary college that has been too low and too frequent, particularly during October to December;
- Dumping of green waste at the secondary college, including by neighbours. There is at least one very unhealthy *Allocasuarina* (beside the hockey/soccer pitch) whose base is affected by a neighbour's dumping;
- Trampling and digging by primary school children;
- Eucalypt dieback disease;
- Borers killing most *Acacia mearnsii*;
- Loss or decline of plant species whose populations are so small that they are vulnerable to inbreeding, poor reproductive success or misadventure.

Management issues

- It would be easy to significantly improve the ecological condition of the secondary college's indigenous vegetation by increasing the height of mowing, reducing the frequency of mowing (particularly in October-December) and allowing some of the indigenous shrubs to escape mowing;
- Green waste should not be dumped on native ground flora or the root zones of indigenous trees;
- The schools' trees have been receiving good arboricultural treatment, although some are stressed from the current record drought.

Administration matters

- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because the vegetation belongs to an endangered EVC that is heavily fragmented and occurs predominantly in urban surroundings;
- Parts of the grounds of Rowville Primary School are included under the existing Vegetation Protection Overlay Schedule 1 of the Knox Planning Scheme, based on the description of Site 43 of the report by Water Ecoscience (1998). The site described here differs in that it includes the (ecologically superior) vegetation in the secondary college and takes into account changes over the past decade. Note that the proposed ESO is not intended to affect maintenance of buildings, pavement or other facilities;
- The Planning Scheme zoning is Public Use Zone - Education (PUZ2).

Information sources used in this assessment

- Site surveys by Dr Lorimer in the secondary college on 24th May 2002 and in the primary school on 4th June 2002. In each case, this included a brief description of the vegetation structure and floristic composition, compilation of plant lists, incidental fauna observations, and checks for fauna habitat, ecological threats and management issues;
- A survey by Dr Lorimer on 26th February 2009 to update the information gained in the earlier surveys;
- Aerial photography from February 2001, April 2003 and February 2007;
- Satellite imagery of the district;
- The Department of Sustainability & Environment's BioMaps of the area;
- Maps of geology and topography produced by agencies of the Victorian government.

Acknowledgment

Thanks to the schools' administration for granting permission to inspect the grounds.