Landscape Plan

55 Martin Rd, Badgerys Creek NSW 2555

By Ecological Consultants Australia Pty Ltd TA

Kingfisher Urban Ecology and Wetlands

January 2025

About this document

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Statement of Authorship

This Landscape Plan was undertaken by Ecological Consultants Australia. The author of the report is Geraldene Dalby-Ball with qualifications BSc. majoring in Ecology, Botany and landscaping with over 30 years' experience in this field.

Document Control Sheet	
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Signed: Elaway (Geraldene) Dalby-Ball – Director of Ecological Consultants Australia

Summary

1. Landscaping recommended will result in the proposed 2-story office being screened at least 50% from Martin Road. Native canopy and fast-growing small trees and mid-size shrubs are recommended.
2. A total of 3,683 plants and 2-4kg of native seed mix are required in landscaping. This is to increase the aesthetic from Martin Road, partially shading the carpark areas, having appropriate species in the swale and increasing biodiversity including bringing back some of the species that are part of this ecological community.
3. Works are compliant with RFS requirements for this site.
4. The 10m buffer (for future road widening) is not being planted– existing turf and native plants are being retained.
5. The proposed car park adjoins the future road this results in the 2-story building being set back from the road and thus have a low bulk/scale. The carpark adjoining the road results in no significant landscaping between the car park and road however a car-park with trees alongside it is in keeping with the future use of the locality.
6. Swales, along the boundary have species that assist in taking up water. Grasses have not been recommended in these, and this is to avoid there being shallow water over grass as this creates mosquito habitat.
7. Original vegetation of this area includes *Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion*. This is a CEEC (state and commonwealth).
8. Landscape species are mostly in keeping with the original vegetation and include fast growing species that will assist in breaking up the visual impact. Plant species not from the community are local to Sydney and selected for their fast growth and that they will not be weedy in any nearby areas of bushland.
9. Tube-stock and Hiko sizes are recommended as experience shows they grow best and within 2 years outgrow specimens planted in larger sizes. Direct seeding can be used for the native grass species. Seed is readily available. Four larger sized canopy trees will be planted in the front section to assist in more rapid screening.
10. While most trees are being retained a few will need to be removed and it is recommended that the large trunks of these be used as habitat on the southern side of the office.
11. If fill is required on-site it needs to be on a gradient decrease towards trees being retained such that there is no fill in the drip line of the trees.

Table of Contents

1 Proposed Works and Landscaping

The site has works that are already approve. These are in Figure 1.1a These works include approved landscaping. The new works are for the 2 story office near Martin Road. This can be seen in Figure 1.1b. An on-site waste water treatment system is proposed (Fig 1.1c) pink area propsoed disposal zone.

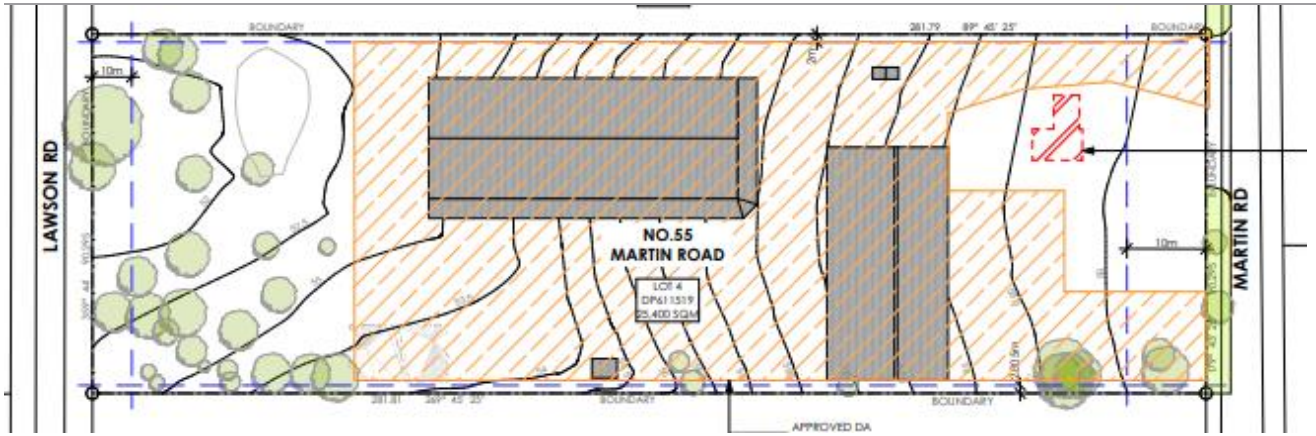


Figure 1.1a layout of existing approved works (orange hatching). Source PTi Architecture Drawing: DA02B.

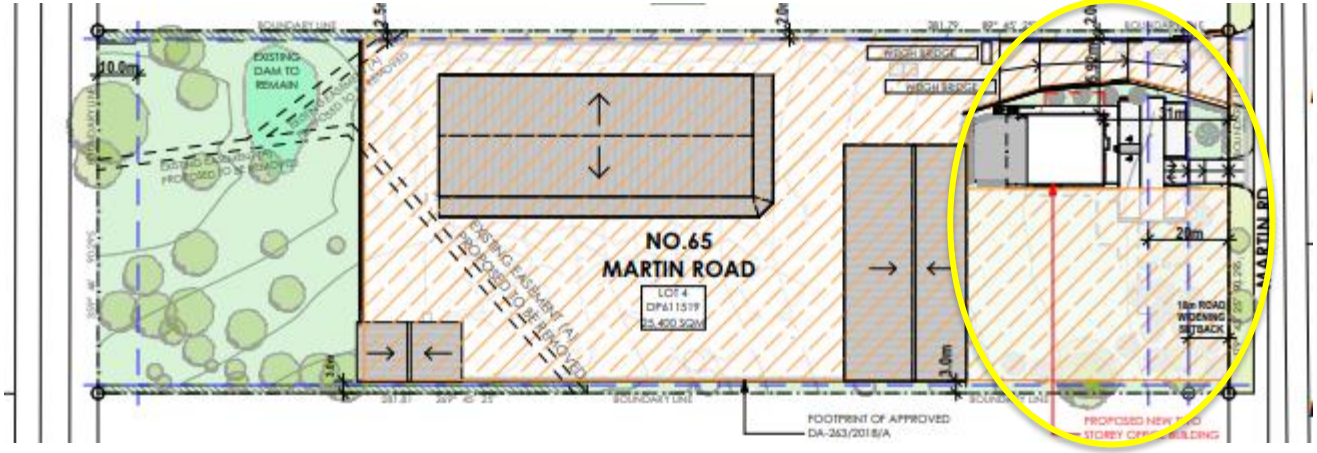


Figure 1.1b Site Plan showing proposed new 2 story office building (yellow oval) remaining works are approved through DA 261/218/A. Source PTi Architecture (sheet DA03B)

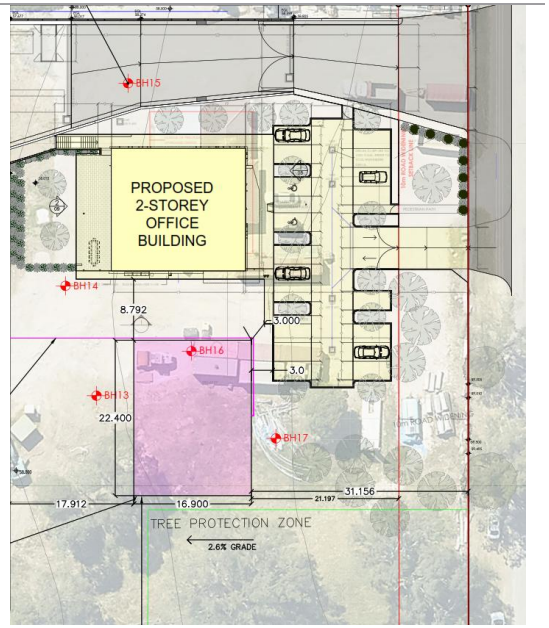


Figure 1.1c pink area proposed disposal zone.

The office building includes a parking area in front. A 10m set-back (in-front of car park) is in place for the future road widening (Fig 1.2b). This is being planted with fast growing screening shrubs for the time-being. Screening is also provided in the carpark within the site that will be retained post road widening.

Existing trees are being retained on the site. Existing canopy is on the road edge and will be removed when the road is widened. Currently there are no additional trees directly in front of the proposed office (as can be seen in Figure 1.2c). Additional trees, shrubs and ground covers will be planted to assist in screening and retain biodiversity on-site. Four large pot size (1.5m trees) will be planted close to the proposed car-park and in tree planting bays within the car-park. These will provide shade as well as increasing screening from the road. As the office building is set well back from the road there is reduced bulk and it's of the appropriate scale for the area. Large size plants (advanced) will be planted closest to the road to speed up the screening from Martin Road. A boarder of tall dense shrubs and vines will further increase the aesthetic from the road. Species chosen to suit the conditions including the damp areas of the proposed swales. See Figure 1.3 for Landscape Plan.

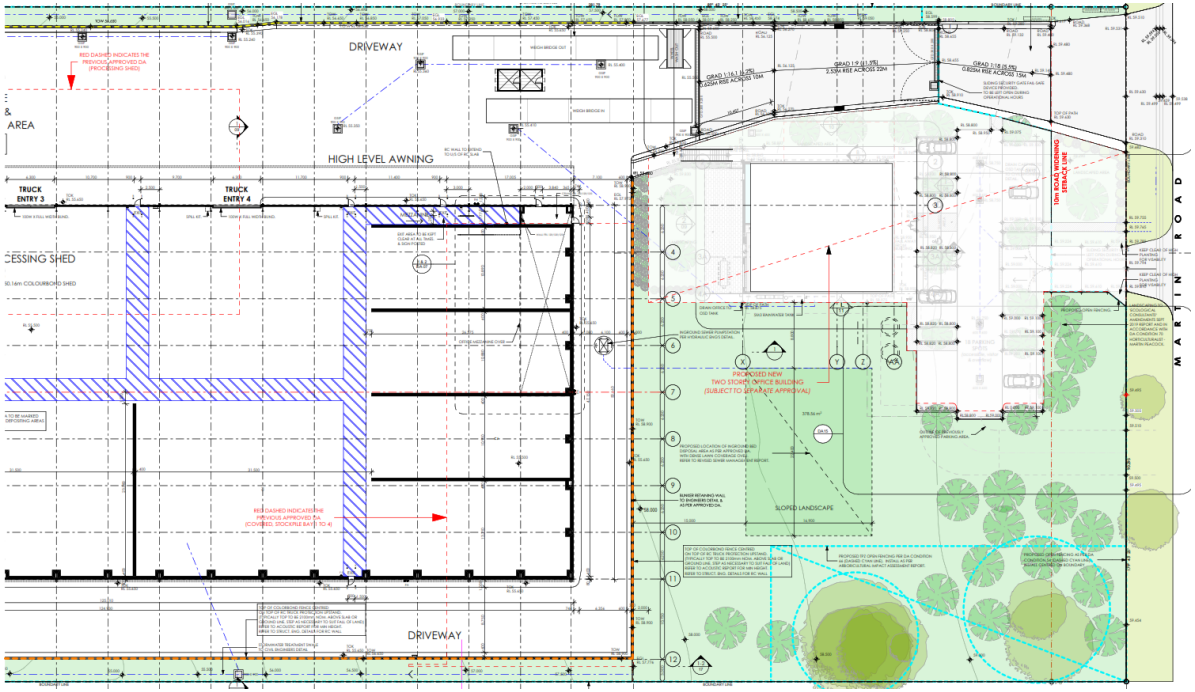


Figure 1.2b Proposed new 2 story office building. Source PTi Architecture (sheet DA04B) May 2025

Figure 1.2c Aerial of the land shown in 1.2b

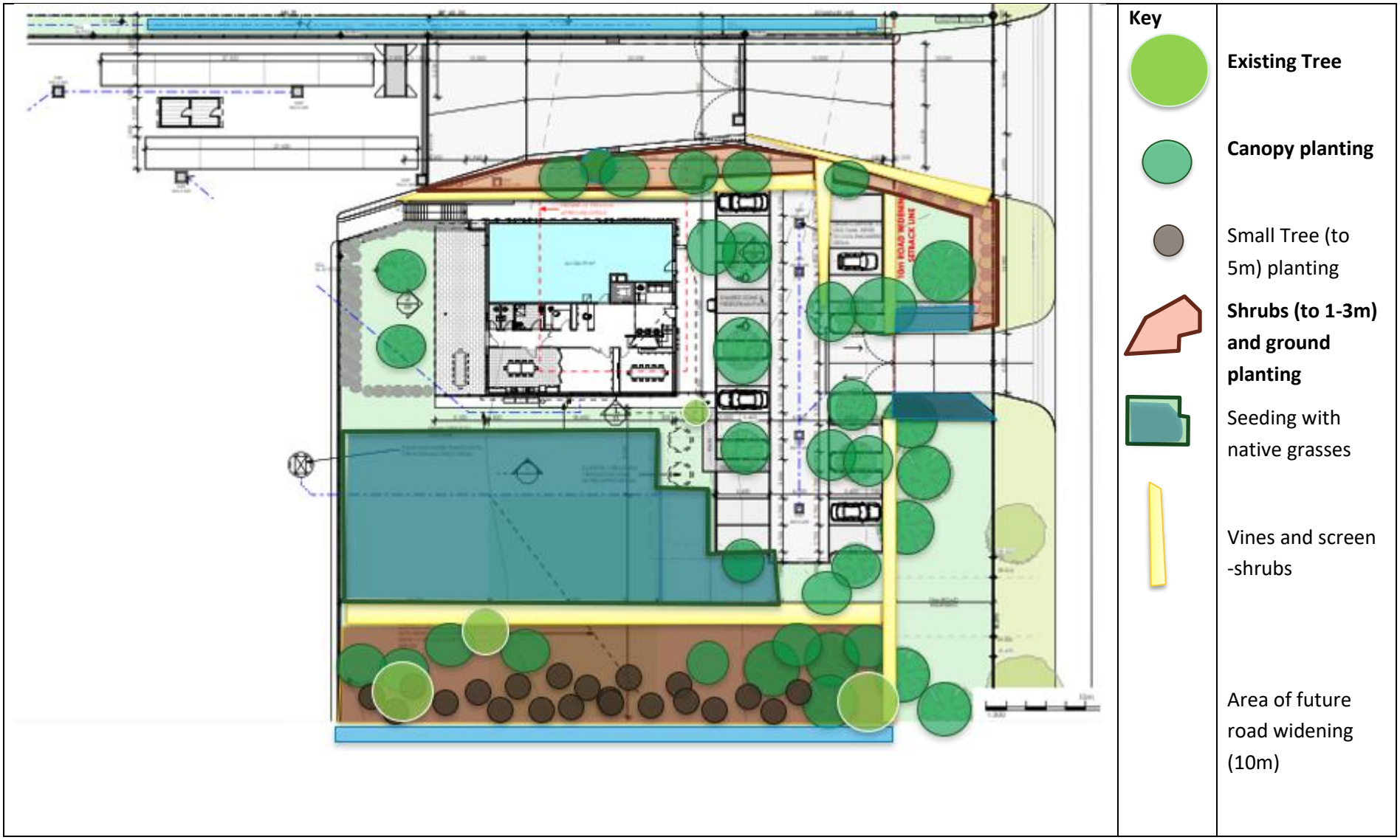
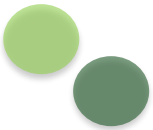


Figure 1.3 Landscape plan for the proposed new 2 story office building. Source PTi Architecture (sheet DA04B)updated May 2025

	Microlaena and other native grasses (direct seed and planting a limited number of hikos or tubes). Additional hikos or tubes of the prostrate plants Winter Apple and Ruby Saltbush (Enidia). Particularly for driveway entrance. Includes area of on-site wastewater disposal/irrigation area		Native canopy x 16 Grey Box (*Eucalyptus moluccana*) drier areas and Forest Red Gum (*E. tereticornis*), damper areas. Tube stock for all with the exception of 4 trees to be 25L.
	Native shrubs and ground plants. As per list with the road edge being species under 1m for the first 2m to enable clear vision. Low species are native grasses and Winter Apple and Ruby Saltbush (Enidia). Damp areas can have Carex and *Bossiaea prostrata* if available.		Swale 2m wide Carex, Juncus and *Meleluca nodosa*
	Native vines and shrubs as screen plants Vines plus *Callistemon citrinus* and *Acacia implexa*		Small Tree (to 5m) x 16 of each species. *Acacia implexa* on drier higher areas and *Meleluca linarifoliai* on lower damper areas. Noting to be determined post earthworks.

1.1 Species for Landscaping

1.1.1 Vegetation mapping

The main Plant Community Type (PCT) is *Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion*. See Figure 1.1

The PCTs are in the table below.

Yellow:	**Green:**	**Blue:**
PCT Name: Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion PCT Code: 849.00 State Form: GW State Class: Coastal Valley Grassy Woodlands	PCT Name: Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion PCT Code: 724.00 State Form: DSFSG State Class: Cumberland Dry Sclerophyll Forests	PCT Name: Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion PCT Code: 835.00 State Form: GW State Class: Coastal Valley Grassy Woodlands

Figure 1.1 Vegetation Mapping. Source: SEED, extracted Aug 2024

1.1.2 Existing trees

Locations are shown on the aerial and discussed in the DA submission.

1.1.3 Plant Species, sizes and numbers

All species are Cumberland Plain with the exception of those with *. Native to Sydney region and chosen for screening abilities in narrow areas.

Grasses and ground (mown area)	**Density**	**Number**	**Pot Size**	**Size at maturity**
Kangaroo Grass (*Themeda* sp.) and Weeping Meadow Grass (*Microlaena stipoides* var. *stipoides*).mix	50% cover after 12 mths	2kg seed and 50 hikos	Seed mix and hikos	30cm
Carex spp	5/ m2	50	Hikos	50cm
Winter Apple *Eremophila debilis*	scattered	30	Hikos	50cm
Einadia hastata/ nutans	Plant in clumps	50	Tube stock/Hiko	50cm
Ground, Shrubs and canopy	Average of 4 per m^2			
Forest Red Gum (*E. tereticornis*),	1/30m2	16	Tube stock	15-20m
Grey Box (*Eucalyptus moluccana*)	1/30m2	16	Tube stock	15-20m
Snow in Summer (*Meleluca linarifoliai)*	1/30m2 and screening	16	Tube stock	15-20m
Blackthorn (*Bursaria spinosa*)		50	Hikos	2m
Bossiaea prostrata (if available – if not increase Melaleuca spp. by 250.	Cluster in damper soil	250	Hikos	0.5
Lomandra multiflora		250		0.5
Acacia implexa		250	Hikos	5-15m
Winter Apple *Eremophila debilis*	scattered	50	Hikos	50cm

Einadia hastata/ nutans	Plant in clumps	60	Tube stock/Hiko	50cm
Vines and screening	Average of 4 per linear m. Shrubs and vines interspersed			
Hardenbergia violacea		300	Hikos/Tubes	
*Kennidia rubicunda**		200	Hikos/Tubes	
*Smilax glyciphylla**		200		
Callistemon citrinus		800	Hikos/Tubes	3m
Swale 2m wide	Average of 5 per m^2			
Juncus usitatus		500	Hikos	0.5
Carex appressa and *Carex inversa or fascicularis*		500	Hikos	0.6
Meleluca nodosa and *Melaleuca thymifolia*		45		2.5m
Total plants		**3683**		

1.2 Images of recommended plants

Plant Name	Image Link
Weeping Meadow Grass (*Microlaena stipoides var. stipoides*) and Kangaroo Grass (*Themeda sp.*) with Forest Red Gums (*Eucalyptus tereticornis*)	
Winter Apple (*Eremophila debilis*) Prostrate plant	 h

Einadia nutans *Einadia hastata*	
Grey Box (*Eucalyptus moluccana*)	
Snow in Summer (**Melaleuca linariifolia**)	 
Blackthorn (*Bursaria spinosa*)	 
Bossiaea prostrata Prostrate plant, best in damp areas. Suitable around swale	
Lomandra multiflora	

Acacia implexa	
Callistemon citrinus	 
Juncus usitatus Grows best when in saturated soil or shallow water.	
Carex appressa *Carex fascicularis* *Carex inversa* Grows best when in saturated soil or shallow water.	  C. appressa C. fascicularis
Melaleuca nodosa (2m) and *Melaleuca thymifolia (to 2m)* *Melaleuca linariifolia* to 8m.	 

The Vines

All vines species can be inter-planted. Trailing Guinea Flower and Purple Coral Pea are the most appropriate as Dusky Coral Pea can be very vigorous in growth. Supports will be provided for vines to encourage them to grow up and horizontally so that a maximum area is covered. The Hibbertia will be used around the car-park to screening to 0.5cm and Callistemons will provide the main screening from 1-3m. Where taller screening is required this will see the interplanting with Melaleuca (3-10) and Acacia implexa (5-15m)

Common Name	Scientific Name	Photo	Notes
Trailing Guinea Flower	*Hibbertia scandens*		Best for the lower areas. Dense to about 1m. Great at climbing over low edges, parking lots etc.
Dusky Coral Pea	*Kennedia rubicunda*		Dusky Coral Pea is recommended for major screening. Grows vigorously so fewer needed that other species. Best for areas that are most exposed.
Purple Coral Pea	*Hardenbergia violacea*		Purple Coral Pea is one of the most appropriate species to plant around the Built areas.
Native Sarsaparilla	*Smilax glyciphylla*		The least aesthetic of the recommended vines Native Sarsaparilla has been chosen due to it ability to form dense masses and used by small birds for nesting.

		Canopy trees approved to be removed can have parts of the trunk retained as habitat and moved to the landscaped slope on-ground.

2 Expertise of author

With over 25 years wetland and urban ecology experience, a great passion for what she does, and extensive technical and on-ground knowledge make Geraldene a valuable contribution to any project.

Geraldene has over 8 years local government experience as manager of environment and education for Pittwater Council. Geraldene presented papers on the topic at the NSW Coastal Conference, Sydney CMA and Hawkesbury Nepean forums. Geraldene is a Technical Advisor Sydney Olympic Park Wetland Education and Training (WET) panel.

Geraldene has up to date knowledge of environmental policies and frequently provides input to such works. Geraldene was a key contributor to the recent set of Guidelines commissioned by South East Queensland Healthy Waterways Water Sensitive Urban Design Guidelines. Geraldene's role included significant contributions and review of the Guideline for Maintaining WSUD Assets and the Guideline for Rectifying WSUD Assets.

Geraldene is a frequent contributor to many community and professional workshops on ecological matters particularly relating to environmental management. She is an excellent Project Manager.

Geraldene is a joint author on the popular book Burnum Burnum's Wildthings published by Sainty and Associates. Author of the Saltmarsh Restoration Chapter Estuary Plants of East Coast Australia published by Sainty and Associates (2013). Geraldene's early work included 5 years with Wetland Expert Geoff Sainty of Sainty and Associates. Geraldene is an expert in creating and enhancing urban biodiversity habitat and linking People with Place.

Elaway (Geraldene Dalby-Ball)

Ecologist/Director

SPECIALISATIONS

- Urban Ecology – and habitat rehabilitation and re-creation.
- Urban waterway management – assessing, designing and supervising rehabilitation works
- Saltmarsh and Wetland re-creation and restoration – assessment, design and monitoring
- Engaging others in the area of environmental care and connection
- Technical Advisor – environmental design, guidelines and policies
- Sound knowledge and practical application of experimental design and statistics
- Project management and supervision
- Grant writing and grant assessment
- Budget estimates and tender selection
- Expert witness in the Land and Environment Court

CAREER SUMMARY

- **Director and Ecologist**, Ecological Consultants Australia. 2014-*present*
- **Director and Ecologist**, Dragonfly Environmental. 1998-*present*
- **Manager** Natural Resources and Education, Pittwater Council 2002-2010
- **Wetland Ecologist** Sainty and Associates 1995-2002

QUALIFICATIONS AND MEMBERSHIPS

- **Bachelor of Science with 1st Class Honors**, Sydney University
- WorkCover WHS General Induction of Construction Industry NSW White Card.
- Senior First Aid Certificate.
- Biodiversity Offset Scheme Accreditation (in renewal)
- **Practicing member** Ecological Consultants Association of NSW