

Appendix 6 Key to determining presence of the EPBC Act listed TEC Eucalypt woodlands of the Western Australian Wheatbelt

Description based on Department of the Environment (2015a): The Eucalypt woodlands of the Western Australian Wheatbelt TEC is composed of eucalypt woodlands dominated by a complex mosaic of eucalypt species with a single tree or mallet form over an understorey that is highly variable in structure and composition. A mallet habit refers to a eucalypt with a single, slender trunk and steep-angled branches that give rise to a dense crown. Many eucalypt species are considered iconic within the Wheatbelt landscape, for example, *Eucalyptus salmonophloia* (salmon gum), *E. loxophleba* subsp. *loxophleba* (York gum), *Eucalyptus rudis* subsp. *rudis*, *E. salubris* (gimlet), *E. wandoo* (wandoo) and the mallet group of species. Associated species may include *Acacia acuminata* (jam), *Corymbia calophylla* (marri) and *Eucalyptus marginata* (jarrah). The understorey structures are often bare to sparse, herbaceous, shrub of heath, chenopod-dominated, thickets (*Melaleuca* spp.) and saline areas with *Tecticornia* spp. The main diagnostic features include location, minimum crown cover of the tree canopy of 10% in a mature woodland, presence of key species and a minimum condition according to scale of Keighery (1994) that depends on size of a patch, weed cover and presence of mature trees. A patch is defined as a discrete and mostly continuous area of the ecological community and may include small-scale variations and disturbances, such as tracks or breaks, watercourses/drainage lines or localised changes in vegetation that do not act as a permanent barrier or significantly alter its overall functionality. Each patch of the community includes a buffer zone, an area that lies immediately outside the edge of a patch but is not part of the ecological community. The buffer zone is designed to minimise this risk to the ecological community.

Woodland vegetation with a very sparse eucalypt tree canopy and woodlands dominated by mallee forms characterised by multiple stems of similar size arising at or near ground level are not part of the ecological community. The ecological community is not likely to be present if it is dominated by non-eucalypt species in the tree canopy, for instance *Acacia acuminata* (jam) or *Allocasuarina huegeliana* (rock sheoak) even though these species may be present as an understorey or minor canopy component.

The community occupies a transitional zone between the wetter forests associated with the Darling Range and the southwest coast, and the low woodlands and shrublands of the semi-arid to arid interior. The Wheatbelt region where the ecological community occurs mostly encompasses two IBRA2 subregions: Avon Wheatbelt subregion AVW01 Merredin and Avon Wheatbelt subregion AVW02 Katanning. Patches of the ecological community may extend into adjacent areas of the primary Wheatbelt bioregions, such as the easternmost parts of the Jarrah Forest bioregion forming an extension of the Avon Wheatbelt landscape in that they comprise areas subject to similar climate, landscape and threats. A third IBRA2 subregion includes Mallee subregion MAL02 Western Mallee and is located south of Perth. The ecological community is generally associated with the flatter, undulating relief, including drainage lines and saline areas.

The WA Wheatbelt woodlands ecological community potentially corresponds to 45 Beard (Shepherd *et al.* 2002) vegetation associations. The most likely equivalents are with the 37 associations that are dominant or unique within the Wheatbelt regions.

Diagnostic 1 Location

Survey location occurs within one of the following three regions:

- Avon Wheatbelt bioregion - subregions AVW01 Merredin and AVW02 Katanning
- Mallee bioregion - MAL02 Western Mallee only

- Jarrah Forest bioregion – outlying patches in the eastern parts of JAF01 Northern Jarrah Forests and JAF02 Jarrah Forests adjacent to the Avon Wheatbelt, and are effectively an extension of the Avon Wheatbelt landscape. Within the Jarrah Forest bioregion, the ecological community occurs on landscapes that fall below 600 mm mean annual rainfall (Figure 1), are off the Darling Range, associated with the Yilgarn Craton geology and are generally heavily cleared. This covers the eastern to southeastern-most parts of the bioregion. The ecological community generally falls within the 300 to 600 mm average annual rainfall isohyets. The isohyets based on the latest 30-year average between 1976 to 2005 (BoM 2016) are most applicable to the current climatic regime.

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Survey location occurs within region:

- Jarrah Forest bioregion – outlying patches in the eastern parts of JAF01 Northern Jarrah Forests and JAF02 Jarrah Forests adjacent to the Avon Wheatbelt. Within the Jarrah Forest bioregion, the ecological community occurs on landscapes that ARE ABOVE the 600 mm isohyet, are ON the Darling Range, NOT associated with the Yilgarn Craton geology and are NOT generally heavily cleared. This covers the eastern to southeastern-most parts of the bioregion. It generally DOES NOT fall within the 300 to 600 mm average annual rainfall isohyets. The isohyets based on the latest 30-year average between 1976 to 2005 (BoM 2016) are most applicable to the current climatic regime.

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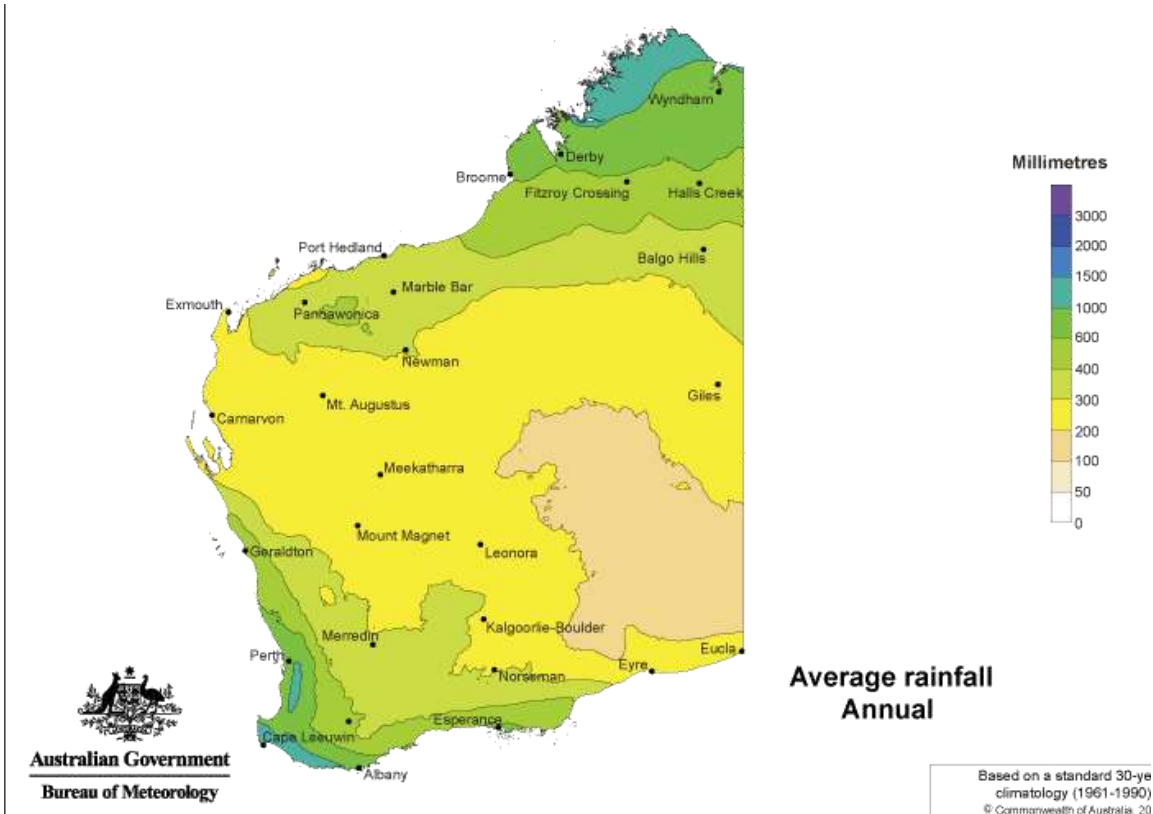


Figure 1 Isohyets of Western Australia (BoM 2016)

Diagnostic 2 Minimum crown canopy

The structure of the ecological community is a woodland in which the minimum crown cover of the tree canopy in a mature eucalypt woodland is 10% (crowns measured as if they are opaque). The maximum tree canopy cover usually is up to 40%. It may be higher in certain circumstances, for instance trees with a mallet growth form (multi-stemmed upper canopy) may be more densely spaced, or disturbances such as fire may result in an increased cover of canopy species during regeneration.

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Crown cover of trees less than 10% but area recently disturbed (e.g. fire), presence of seedlings and/or saplings.

.....3
Crown cover of trees less than 10%, no evidence of recent disturbance, no presence of seedlings or saplings.

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Diagnostic 3 Dominant *Eucalyptus* tree canopy

One or more of the key tree species in Table 1 are dominant or co-dominant, the trees are predominantly single trunked, not mallee (multi-stemmed).

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Other species are present in the tree canopy (e.g. species in Table 2 or other taxa) but these collectively do not occur as dominants in the tree canopy.

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Dominant woodlands with a mallee subcanopy (lower tree layer of mallee or non-eucalypt tree species). Upper eucalypt tree canopy must be present dominated by key woodland species in [Table 2](#) and have cover of 10% or more.

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Other species are present in the tree canopy (e.g. species in [Table 2](#) or other taxa) and these collectively do occur as dominants in the tree canopy.

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Table 1 Key eucalypt species. One or more of these species are dominant or co-dominant within a given patch of the ecological community

Scientific name	Common name/s
<i>Eucalyptus accedens</i>	powder-bark; powder-bark wandoo
<i>Eucalyptus aequioperta</i>	Welcome Hill gum
<i>Eucalyptus alipes</i>	Hyden mallet
<i>Eucalyptus astringens</i> subsp. <i>astringens</i>	brown mallet
<i>Eucalyptus capillosa</i>	wheatbelt wandoo
<i>Eucalyptus densa</i> subsp. <i>densa</i>	narrow-leaved blue mallet
<i>Eucalyptus extensa</i>	yellow mallet
<i>Eucalyptus falcata</i>	silver mallet
<i>Eucalyptus gardneri</i> subsp. <i>gardneri</i>	blue mallet
<i>Eucalyptus goniocarpa</i>	Lake King mallet
<i>Eucalyptus kondininensis</i>	Kondinin blackbutt
<i>Eucalyptus longicornis</i>	red morrel
<i>Eucalyptus loxophleba</i> subsp. <i>loxophleba</i>	York gum
<i>Eucalyptus melanoxylon</i>	black morrel
<i>Eucalyptus mimica</i> subsp. <i>continens</i>	hooded mallet
<i>Eucalyptus mimica</i> subsp. <i>mimica</i>	Newdegate mallet
<i>Eucalyptus myriadena</i>	small-fruited gum; blackbutt
<i>Eucalyptus occidentalis</i>	flat-topped yate
<i>Eucalyptus ornata</i>	ornamental silver mallet; ornate mallet
<i>Eucalyptus recta</i>	Mt Yule silver mallet; Cadoux mallet
<i>Eucalyptus rudis</i> subsp. <i>rudis</i>	flooded gum
<i>Eucalyptus salicola</i>	salt gum; salt salmon gum
<i>Eucalyptus salmonophloia</i>	salmon gum
<i>Eucalyptus salubris</i>	gimlet
<i>Eucalyptus sargentii</i> subsp. <i>sargentii</i>	salt river gum
<i>Eucalyptus singularis</i>	ridge-top mallet
<i>Eucalyptus spathulata</i> subsp. <i>spathulata</i>	swamp mallet
<i>Eucalyptus spathulata</i> subsp. <i>salina</i>	Salt River mallet
<i>Eucalyptus urna</i>	merrit
<i>Eucalyptus wandoo</i> subsp. <i>pulverea</i>	wandoo
<i>Eucalyptus wandoo</i> subsp. <i>wandoo</i>	wandoo

Table 2 Associated canopy species that may be present within the ecological community but are not dominant or co-dominant¹

Scientific name	Common name/s
<i>Acacia acuminata</i>	jam
<i>Allocasuarina huegeliana</i>	rock sheoak
<i>Corymbia calophylla</i>	marri
<i>Eucalyptus annulata</i>	prickly-fruited mallee
<i>Eucalyptus arachnaea</i> subsp. <i>arachnaea</i>	black-stemmed mallee
<i>Eucalyptus arachnaea</i> subsp. <i>arrecta</i>	black-stemmed mallet
<i>Eucalyptus armillata</i>	flanged mallee
<i>Eucalyptus calycogona</i> subsp. <i>calycogona</i>	square-fruited mallee
<i>Eucalyptus camaldulensis</i> subsp. <i>arida</i>	river red gum
<i>Eucalyptus celastroides</i> subsp. <i>virella</i>	wheatbelt mallee
<i>Eucalyptus cylindriflora</i>	Goldfields white mallee
<i>Eucalyptus decipiens</i>	redheart; moit
<i>Eucalyptus drummondii</i>	Drummond's mallee
<i>Eucalyptus eremophila</i>	sand mallee
<i>Eucalyptus erythronema</i> subsp. <i>erythronema</i>	red-flowered mallee
<i>Eucalyptus erythronema</i> subsp. <i>inornata</i>	yellow-flowered mallee
<i>Eucalyptus eudesmioides</i>	Kalbarri mallee
<i>Eucalyptus flocktoniae</i> subsp. <i>flocktoniae</i>	Flockton's mallee
<i>Eucalyptus gittinsii</i> subsp. <i>illucida</i>	northern sandplain mallee
<i>Eucalyptus incrassata</i>	ridge-fruited mallee
<i>Eucalyptus kochii</i> subsp. <i>plenissima</i>	Trayning mallee
<i>Eucalyptus leptopoda</i> subsp. <i>leptopoda</i>	Merredin mallee; Tammin mallee
<i>Eucalyptus loxophleba</i> subsp. <i>gratae</i>	Lake Grace mallee
<i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i>	smooth-barked York gum
<i>Eucalyptus loxophleba</i> subsp. <i>supralaevis</i>	blackbutt York gum
<i>Eucalyptus macrocarpa</i>	mottlecah
<i>Eucalyptus marginata</i>	jarrah
<i>Eucalyptus moderata</i>	redwood mallee
<i>Eucalyptus obtusiflora</i>	Dongara mallee
<i>Eucalyptus olivina</i>	olive-leaved mallee
<i>Eucalyptus orthostemon</i>	diverse mallee
<i>Eucalyptus perangusta</i>	fine-leaved mallee
<i>Eucalyptus phaenophylla</i>	common southern mallee
<i>Eucalyptus phenax</i> subsp. <i>phenax</i>	white mallee
<i>Eucalyptus pileata</i>	capped mallee
<i>Eucalyptus platypus</i> subsp. <i>platypus</i>	moort
<i>Eucalyptus polita</i>	Parker Range mallet
<i>Eucalyptus sheathiana</i>	ribbon-barked mallee
<i>Eucalyptus sporadica</i>	Burngup mallee

<i>Eucalyptus subangusta</i> subsp. <i>subangusta</i>	grey mallee
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The list is not comprehensive and presents the more common taxa encountered.

Diagnostic 4 Native understorey

A native understorey is present but is of variable composition, being a combination of grasses, other herbs and shrubs. A list of key species is summarised in Table 3. Any one of the structural understorey categories may or may not be present.

Bare to sparse understorey (e.g. under some mallet woodlands).

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Herbaceous understorey – a ground layer of forbs and/or graminoids though a few, scattered shrubs may be present.

.....5

Scrub or heath understorey – comprises a mixture of diverse shrubs of variable height and cover. A ground layer of herbs and grasses is present to variable extent.

.....5

Chenopod-dominated understorey – a subset of the scrub category in which the prominent species present are saltbushes, bluebushes and related taxa (e.g. *Atriplex*, *Enchylaena*, *Maireana*, *Rhagodia* and *Sclerolaena*).

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Thickets of taller shrub species understorey (e.g. *Melaleuca pauperiflora*, *M. acuminata*, *M. uncinata*, *M. lanceolata*, *M. sheathiana*, *M. adnata*, *M. cucullata* and/or *M. lateriflora*, *Allocasuarina campestris* with *Melaleuca hamata* or *M. scalena*). A range of other shrub and ground layer species may occur among or below the thickets.

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Salt tolerant species understorey (e.g. samphire, *Tecticornia* spp.).

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Shrublands or herblands in which the tree canopy layer is very sparse to absent, either naturally or maintained so through long-term disturbance. Native vegetation where a tree canopy was formerly present is often referred to as 'derived' or 'secondary' vegetation. These sites would fall below the 10 per cent minimum canopy cover threshold for a woodland.

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Table 3 Understorey species

Scientific name	Common name/s
Shrubs	
<i>Acacia acuarria</i>	
<i>Acacia colletioides</i>	wait-a-while
<i>Acacia erinacea</i>	
<i>Acacia hemiteles</i>	
<i>Acacia lasiocalyx</i>	silver wattle
<i>Acacia lasiocarpa</i>	panjang
<i>Acacia leptospermoides</i>	

Scientific name	Common name/s
<i>Acacia mackeyana</i>	
<i>Acacia merrallii</i>	
<i>Acacia microbotrya</i> .	manna wattle
<i>Acacia pulchella</i>	prickly moses
<i>Allocasuarina acutivalvis</i>	
<i>Allocasuarina campestris</i>	
<i>Allocasuarina humilis</i>	dwarf sheoak
<i>Allocasuarina lehmanniana</i>	dune sheoak
<i>Allocasuarina microstachya</i>	
<i>Argyrolottis turbinata</i>	
<i>Astroloma epacridis</i>	
<i>Banksia armata</i>	prickly dryandra
<i>Banksia sessilis</i>	parrot bush
<i>Beyeria brevifolia</i>	
<i>Bossiaea divaricata</i>	
<i>Bossiaea eriocarpa</i>	common brown pea
<i>Bossiaea halophila</i>	
<i>Callistemon phoeniceus</i>	lesser bottlebrush
<i>Calothamnus quadrifidus</i>	one-sided bottlebrush
<i>Calothamnus quadrifidus</i> subsp. <i>asper</i>	one-sided bottlebrush
<i>Comesperma integerrimum</i>	
<i>Conostylis setigera</i>	
<i>Dampiera lavandulacea</i>	
<i>Darwinia</i> sp. <i>Karonie</i>	
<i>Daviesia nematophylla</i>	
<i>Daviesia triflora</i>	
<i>Dodonaea bursariifolia</i>	
<i>Dodonaea inaequifolia</i>	
<i>Dodonaea pinifolia</i>	
<i>Dodonaea viscosa</i>	sticky hopbush
<i>Eremophila decipiens</i>	slender fuchsia
<i>Eremophila ionantha</i>	violet-flowered eremophila
<i>Eremophila oppositifolia</i>	weeooka
<i>Eremophila scoparia</i>	broom bush
<i>Exocarpos aphyllus</i>	leafless ballart
<i>Gastrolobium microcarpum</i>	sandplain poison
<i>Gastrolobium parviflorum</i>	
<i>Gastrolobium spinosum</i>	prickly poison
<i>Gastrolobium tricuspidatum</i>	
<i>Gastrolobium trilobum</i>	bullock poison
<i>Grevillea acuaria</i>	
<i>Grevillea huegelii</i>	
<i>Grevillea tenuiflora</i>	tassel grevillea
<i>Hakea laurina</i>	pincushion hakea

Scientific name	Common name/s
<i>Hakea lissocarpa</i>	honey bush
<i>Hakea multilineata</i>	grass-leaf hakea
<i>Hakea petiolaris</i>	sea urchin hakea
<i>Hakea preissii</i>	needle tree
<i>Hakea varia</i>	variable-leaved hakea
<i>Hibbertia commutata</i>	
<i>Hibbertia exasperata</i>	
<i>Hibbertia hypericoides</i>	yellow buttercups
<i>Hovea chorizemifolia</i>	holly-leaved hovea
<i>Hypocalymma angustifolium</i>	white myrtle
<i>Leptomeria preissiana</i>	
<i>Leptospermum erubescens</i>	roadside teatree
<i>Lycium australe</i>	
<i>Australian boxthorn</i>	
<i>Melaleuca acuminata</i>	
<i>Melaleuca adnata</i>	
<i>Melaleuca atroviridis</i>	
<i>Melaleuca brophyi</i>	
<i>Melaleuca cucullata</i>	
<i>Melaleuca cuticularis</i>	saltwater paperbark
<i>Melaleuca halmaturorum</i>	
<i>Melaleuca hamata</i>	
<i>Melaleuca hamulosa</i>	
<i>Melaleuca lanceolata</i>	
<i>Rottneest teatree</i>	
<i>Melaleuca lateriflora</i>	gorada
<i>Melaleuca marginata</i>	
<i>Melaleuca pauperiflora</i>	boree
<i>Melaleuca radula</i>	graceful honeymyrtle
<i>Melaleuca raphiophylla</i>	swamp paperbark
<i>Melaleuca scalena</i>	
<i>Melaleuca strobophylla</i>	
<i>Melaleuca teuthidoides</i>	
<i>Melaleuca thyoides</i>	
<i>Melaleuca uncinata group</i>	broom bush
<i>Melaleuca viminea</i>	mohan
<i>Olearia muelleri</i>	
<i>Goldfields daisy</i>	
<i>Olearia</i> sp. Kennedy Range	
<i>Petrophile divaricata</i>	
<i>Petrophile shuttleworthiana</i>	
<i>Petrophile squamata</i>	
<i>Petrophile striata</i>	
<i>Phebalium filifolium</i>	slender phebalium

Scientific name	Common name/s
<i>Phebalium lepidotum</i>	
<i>Phebalium microphyllum</i>	
<i>Phebalium tuberosum</i>	
<i>Pimelea argentea</i>	silvery-leaved pimelea
<i>Pittosporum angustifolium</i>	
<i>Platysace maxwellii</i>	karno
<i>Rhadinothamnus rudis</i>	
<i>Santalum acuminata</i>	quandong
<i>Santalum spicatum</i>	sandalwood
<i>Scaevola spinescens</i>	currant bush
<i>Senna artemisioides</i>	
<i>Styphelia tenuiflora</i>	common pinheath
<i>Templetonia sulcata</i>	centipede bush
<i>Trymalium elachophyllum</i>	
<i>Trymalium ledifolium</i>	
<i>Westringia cephalantha</i>	
<i>Xanthorrhoea drummondii</i>	
Chenopods	
<i>Atriplex acutibractea</i>	toothed saltbush
<i>Atriplex paludosa</i>	marsh saltbush
<i>Atriplex semibaccata</i>	berry saltbush
<i>Atriplex stipitata</i>	mallee saltbush
<i>Atriplex vesicaria</i>	bladder saltbush
<i>Enchylaena lanata / tomentosa complex</i>	barrier saltbush
<i>Maireana brevifolia</i>	small-leaf bluebush
<i>Maireana erioclada</i>	
<i>Maireana marginata</i>	
<i>Maireana trichoptera</i>	downy bluebush
<i>Rhagodia drummondii</i>	
<i>Rhagodia preissii</i>	
<i>Sclerolaena diacantha</i>	grey copperburr
<i>Tecticornia spp.</i>	samphire
<i>Threlkeldia diffusa</i>	coast bonefruit
Forbs	
<i>Actinobole uliginosum</i>	flannel cudweed
<i>Asteridea athrixoides</i>	
<i>Blennospora drummondii</i>	
<i>Borya nitida</i>	pincushions
<i>Borya sphaerocephala</i>	pincushions
<i>Brachyscome ciliaris</i>	
<i>Brachyscome lineariloba</i>	
<i>Caesia micrantha</i>	pale fringe-lily
<i>Caladenia flava</i>	cowslip orchid
<i>Calandrinia calyptata</i>	pink purslane

Scientific name	Common name/s
<i>Calandrinia eremaea</i>	twining purslane
<i>Calotis hispidula</i>	bindy eye
<i>Carpobrotus modestus</i>	inland pigface
<i>Centipeda crateriformis</i> subsp. <i>crateriformis</i>	
<i>Chamaescilla corymbosa</i>	blue squill
<i>Chamaexeros serra</i>	little fringe-leaf
<i>Cotula coronopifolia</i>	waterbuttons
<i>Crassula colorata</i>	dense stonecrop
<i>Crassula exserta</i>	
<i>Dampiera juncea</i>	rush-like dampiera
<i>Dampiera lindleyi</i>	
<i>Daucus glochidiatus</i>	Australian carrot
<i>Dianella brevicaulis</i>	
<i>Dichopogon capillipes</i>	
<i>Disphyma crassifolium</i>	round-leaved pigface
<i>Drosera macrantha</i>	bridal rainbow
<i>Erodium cygnorum</i>	blue heronsbill
<i>Gilberta tenuifolia</i>	
<i>Gnephosis drummondii</i>	
<i>Gnephosis tenuissima</i>	
<i>Gnephosis tridens</i>	
<i>Gonocarpus nodulosus</i>	
<i>Goodenia berardiana</i>	
<i>Helichrysum leucopsidium</i>	
<i>Helichrysum luteoalbum</i>	Jersey cudweed
<i>Lagenophora huegelii</i>	
<i>Lawrencella rosea</i>	
<i>Lepidium rotundum</i>	veined peppergrass
<i>Podolepis capillaris</i>	wiry podolepis
<i>Podolepis lessonii</i>	
<i>Podotheca angustifolia</i>	sticky longheads
<i>Poranthera microphylla</i>	small poranthera
<i>Pterostylis sanguinea</i>	
<i>Ptilotus spathulatus</i>	
<i>Rhodanthe laevis</i>	
<i>Senecio glossanthus</i>	slender groundsel
<i>Spergularia marina</i>	
<i>Stylidium calcaratum</i>	book triggerplant
<i>Thysanotus patersonii</i>	
<i>Trachymene cyanopetala</i>	
<i>Trachymene ornata</i>	spongefruit
<i>Trachymene pilosa</i>	native parsnip
<i>Velleia cynopotamica</i>	
<i>Waitzia acuminata</i>	orange immortelle

Scientific name	Common name/s
<i>Zygophyllum ovatum</i>	dwarf twinleaf
Graminoids	
<i>Amphipogon caricinus - strictus complex</i>	greybeard grass
<i>Austrostipa elegantissima</i>	
<i>Austrostipa hemipogon</i>	
<i>Austrostipa nitida</i>	
<i>Austrostipa trichophylla</i>	
<i>Centrolepis polygyna</i>	wiry centrolepis
<i>Desmocladius asper</i>	
<i>Desmocladius flexuosus</i>	
<i>Gahnia ancistrophylla</i>	hook-leaf saw sedge
<i>Gahnia australis</i>	
<i>Harperia lateriflora</i>	
<i>Juncus bufonius</i>	toad rush
<i>Lachnagrostis filiformis</i>	blowngrass
<i>Lepidosperma leptostachyum</i>	
<i>Lepidosperma resinosum</i>	
<i>Lepidosperma sp. aff. tenue</i>	
<i>Lepidosperma tenue</i>	
<i>Lepidosperma viscidum</i>	sticky sword sedge
<i>Lomandra effusa</i>	scented matrush
<i>Lomandra micrantha</i> subsp. <i>micrantha</i>	small-flower matrush
<i>Lomandra nutans</i>	
<i>Meeboldina coangustata</i>	
<i>Mesomelaena preissii</i>	
<i>Neurachne alopecuroides</i>	foxtail mulga grass
<i>Rytidosperma caespitosum</i>	
<i>Rytidosperma setaceum</i> group	
<i>Schoenus nanus</i>	tiny bog-rush
<i>Schoenus sculptus</i>	gimlet bog-rush
<i>Schoenus subfascicularis</i>	

Diagnostic 5 Vegetation condition

Minimum condition for patches of the WA Wheatbelt Woodlands ecological community. For each category, both the weed cover and mature tree presence criteria must apply plus one of either patch size or patch width, depending on whether the patch is a roadside remnant or not.

Category A:

Patch corresponds to a condition of pristine / excellent / very good (Keighery, 1994) or a high RCC (RCC, 2014).

Exotic plant species account for 0 to 30% of total vegetation cover in the understorey layers (i.e. below the tree canopy).

Mature trees (diameter at breast height (dbh) of 30 cm or above) may be present or absent.

Patch size (non-roadside) 2 ha or more with no gap in native vegetation cover exceeding 50 m width.

.....TEC

Patch width roadside only (based on the native understorey component not width of the tree canopy)
5 m or more.

.....TEC

Patch corresponds to a condition of pristine / excellent / very good (Keighery, 1994) or a high RCV (RCC, 2014).

Exotic plant species account for 0 to 30% of total vegetation cover in the understorey layers (i.e. below the tree canopy).

Mature trees (diameter at breast height (dbh) of 30 cm or above) may be present or absent.

Patch size (non-roadside) less than 2 ha.

.....NOT TEC

Patch width roadside only (based on the native understorey component not width of the tree canopy)
less than 5 m.

.....NOT TEC

Category B:

Patch corresponds to a condition of good (Keighery, 1994) or a medium-high RCV (RCC, 2014).

Exotic plant species account for more than 30, to 50% of total vegetation cover in the understorey layers (i.e. below the tree canopy).

Mature trees are present with at least 5 trees per 0.5 ha.

Patch size (non-roadside) 2 ha or more with no gap in native vegetation cover exceeding 50 m width.

.....TEC

Patch width roadside only (based on the native understorey component not width of the tree canopy)
5 m or more.

.....TEC

Patch corresponds to a condition of good (Keighery, 1994) or a medium-high RCV (RCC, 2014), **AND** retains important habitat features.

Exotic plant species account for more than 30, to 50% of total vegetation cover in the understorey layers (i.e. below the tree canopy).

Mature trees are present with at least 5 trees per 0.5 ha.

Patch size (non-roadside) less than 2 ha.

.....NOT TEC

Patch width roadside only (based on the native understorey component not width of the tree canopy)
less than 5 m.

.....NOT TEC

Category C:

Patch corresponds to a condition of good (Keighery, 1994) or a medium-high RCV (RCC, 2014), **AND** retains important habitat features.

Exotic plant species account for more than 30, to 50% of total vegetation cover in the understorey layers (i.e. below the tree canopy).

Less than 5 mature trees per 0.5 ha are present.

Minimum patch size (non-roadside) 5 ha or more.

.....TEC

Patch size (non- roadside) less than 5 ha

.....NOT TEC

Category D:

Patch corresponds to a condition of degraded to good (Keighery, 1994) or a medium-Low to medium-high RCV (RCC, 2014).

Exotic plant species account for more than 50 to 70% of total vegetation cover in the understorey layers (i.e. below the tree canopy).

Mature trees are present with at least 5 trees per 0.5 ha.

Minimum patch size (non-roadside) 5 ha or more.

.....TEC

Patch width roadside only (based on the native understorey component not width of the tree canopy)
5 m or more

.....TEC

Patch corresponds to a condition of degraded to good (Keighery, 1994) or a medium-low to medium-high RCV (RCC, 2014).

Exotic plant species account for more than 50 to 70% of total vegetation cover in the understorey layers (i.e. below the tree canopy).

Less than 5 mature trees per 0.5 ha are present.

.....NOT TEC

Appendix 7 Fauna species identified in the desktop review

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna
Invertebrates																								
<i>Idiosoma nigrum</i>	Shield-back Trapdoor Spider	VU	S3	VU		●	●			●	●			●	●				●			●	●	
<i>Throscodectes xederoides</i>	Mogumber Bush Cricket			P3		●																		
Amphibians																								
<i>Litoria moorei</i>	Motorbike Frog													●				●						
<i>Heleioporus albopunctatus</i>	Western Spotted Frog													●										
<i>Limnodynastes dorsalis</i>	Western Banjo Frog													●				●						
<i>Neobatrachus kunapalari</i>	Kunapalari Frog													●				●						
<i>Neobatrachus pelobatoides</i>	Humming Frog																				●			
<i>Neobatrachus sutor</i>	Shoemaker Frog													●				●						
<i>Crinia pseudinsignifera</i>	Bleating Froglet													●				●						
<i>Pseudophryne guentheri</i>	Crawling Toadlet													●				●						
Reptiles																								
<i>Ctenophorus reticulatus</i>	Western Netted Dragon					●																		
<i>Moloch horridus</i>	Thorny Devil																●					●		
<i>Diplodactylus granariensis granariensis</i>						●																●		
<i>Underwoodisaurus milii</i>	Southern Barking Gecko									●				●										
<i>Gehyra variegata</i>	Variegated Tree Dtella									●				●				●				●		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna
<i>Aprasia repens</i>	Sand-plain Worm-lizard					•																		
<i>Delma fraseri</i>	Fraser's Delma					•								•				•				•		
<i>Delma grayii</i>	Side-barred Delma					•																		
<i>Pygopus lepidopodus</i>	Common Scaly-foot					•								•				•				•		
<i>Cryptoblepharus buchananii</i>	Buchanan's Snake-eyed Skink									•														
<i>Ctenotus inornatus</i>						•																		
<i>Ctenotus schomburgkii</i>	Barred Widesnout Ctenotus					•																		
<i>Egernia depressa</i>	Southern Pygmy Spiny-tailed Skink													•								•		
<i>Egernia stokesii badia</i>	Western Spiny-tailed Skink	EN	S1	VU							•			•	•				•			•	•	
<i>Lerista distinguenda</i>	South-western Orange-tailed Slider					•																		
<i>Menetia greyii</i>	Common Dwarf Skink					•				•												•		
<i>Morethia obscura</i>	Planin Red-throated Skink					•																		
<i>Tiliqua occipitalis</i>	Western Bluetongue													•				•						
<i>Tiliqua rugosa rugosa</i>						•				•												•		
<i>Varanus gouldii</i>	Sand Monitor													•										
<i>Varanus tristis tristis</i>	Black-headed Monitor					•																		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes
<i>Aspidites ramsayi</i>	Woma Python		S4	P1 (S W)						•				•				•				•		
<i>Morelia spilota imbricata</i>	South-western Carpet Python		S4	SP		•				•														
<i>Brachyurophis fasciolatus fasciolatus</i>														•				•						
<i>Brachyurophis semifasciatus</i>	Southern Shovel-nosed Snake					•				•				•				•						
<i>Demansia psammophis</i>	Yellow-faced Whipsnake													•				•				•		
<i>Parasuta monachus</i>	Monk Snake																	•				•		
<i>Pseudechis australis</i>	Mulga Snake					•																•		
<i>Pseudonaja affinis affinis</i>														•				•						
<i>Pseudonaja mengdeni</i>	Western Brown Snake					•				•				•				•				•		
<i>Pseudonaja modesta</i>	Ringed Brown Snake													•								•		
<i>Simoselaps bertholdi</i>	Jan's Banded Snake																					•		
<i>Suta fasciata</i>	Rosen's Snake													•								•		
Birds																								
<i>Dromaius novaehollandiae</i>	Emu				•	•							•	•			•	•			•	•		
<i>Leipoa ocellata</i>	Malleefowl	VU	S3	VU			•				•				•				•				•	
<i>Coturnix pectoralis</i>	Stubble Quail				•																•	•		
<i>Biziura lobata</i>	Musk Duck				•	•																		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes
<i>Cygnus atratus</i>	Black Swan				•	•							•	•										
<i>Tadorna tadornoides</i>	Australian Shelduck				•	•				•			•	•			•	•			•	•		
<i>Chenonetta jubata</i>	Australian Wood Duck				•	•			•	•			•	•							•	•		
<i>Malacorhynchus membranaceus</i>	Pink-eared Duck				•	•								•								•		
<i>Anas rhynchotis</i>	Australasian Shoveler				•	•								•										
<i>Anas gracilis</i>	Grey Teal				•	•			•	•			•	•			•	•			•	•		
<i>Anas castanea</i>	Chestnut Teal				•	•																		
<i>Anas superciliosa</i>	Pacific Black Duck				•	•				•				•										
<i>Aythya australis</i>	Hardhead													•										
<i>Oxyura australis</i>	Blue-billed Duck			P4																				
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe				•	•							•	•										
<i>Poliocephalus poliocephalus</i>	Hoary-headed Grebe				•	•								•								•		
<i>Columba livia</i>	Rock Dove						•				•		•	•	•		•	•	•		•		•	
<i>Streptopelia senegalensis</i>	Laughing Dove				•	•	•				•		•	•	•		•	•	•		•	•	•	
<i>Streptopelia chinensis</i>	Spotted Dove						•																	
<i>Phaps chalcoptera</i>	Common Bronzewing				•	•			•	•			•	•			•	•			•	•		
<i>Ocyphaps lophotes</i>	Crested Pigeon				•	•			•	•			•	•			•	•			•	•		
<i>Podargus strigoides</i>	Tawny Frogmouth								•	•			•	•			•	•			•			
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar				•	•								•				•			•	•		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes
<i>Apus pacificus</i>	Fork-tailed Swift	Mi g.	S5				•				•				•				•				•	
<i>Anhinga novaehollandiae</i>	Australasian Darter				•	•															•			
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant				•	•							•				•							
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant				•	•																		
<i>Ardea pacifica</i>	White-necked Heron				•	•				•														
<i>Ardea modesta</i>	Eastern Great Egret	Mi g.	S5		•	•	•				•				•				•				•	
<i>Ardea ibis</i>	Cattle Egret	Mi g.	S5				•				•				•				•				•	
<i>Egretta novaehollandiae</i>	White-faced Heron				•	•			•	•											•			
<i>Nycticorax caledonicus</i>	Nankeen Night-heron				•	•																		
<i>Threskiornis molucca</i>	Australian White Ibis				•	•																		
<i>Threskiornis spinicollis</i>	Straw-necked Ibis				•	•																		
<i>Platalea flavipes</i>	Yellow-billed Spoonbill				•	•																		
<i>Pandion cristatus</i>	Eastern Osprey	Mi g.	S5				•																	
<i>Elanus axillaris</i>	Black-shouldered Kite				•	•				•			•	•			•	•			•	•		
<i>Lophoictinia isura</i>	Square-tailed Kite																					•		
<i>Haliaeetus leucogaster</i>	White-bellied Sea-eagle						•				•													
<i>Haliastur spheurnus</i>	Whistling Kite				•	•															•	•		
<i>Accipiter fasciatus</i>	Brown Goshawk				•	•			•	•							•	•			•	•		

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<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk									•														
<i>Circus assimilis</i>	Spotted Harrier				•	•			•	•							•	•			•	•		
<i>Circus approximans</i>	Swamp Harrier												•	•			•	•			•	•		
<i>Aquila audax</i>	Wedge-tailed Eagle				•	•			•	•			•	•			•	•			•	•		
<i>Hieraaetus morphnoides</i>	Little Eagle									•			•				•				•			
<i>Falco cenchroides</i>	Nankeen Kestrel				•	•			•	•			•	•			•	•			•	•		
<i>Falco berigora</i>	Brown Falcon				•					•			•								•	•		
<i>Falco longipennis</i>	Australian Hobby				•	•			•	•							•				•	•		
<i>Falco peregrinus</i>	Peregrine Falcon		S7	SP		•			•	•			•	•			•	•			•	•		
<i>Tribonyx ventralis</i>	Black-tailed Native-hen																					•		
<i>Fulica atra</i>	Eurasian Coot				•	•								•										
<i>Ardeotis australis</i>	Australian Bustard													•				•						
<i>Burhinus grallarius</i>	Bush Stone-curlew												•	•										
<i>Himantopus himantopus</i>	Black-winged Stilt				•	•							•	•			•	•			•	•		
<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet													•			•	•			•	•		
<i>Cladorhynchus leucocephalus</i>	Banded Stilt												•	•										
<i>Charadrius ruficapillus</i>	Red-capped Plover													•								•		
<i>Eseyornis melanops</i>	Black-fronted Dotterel				•	•			•	•			•				•	•			•	•		
<i>Thinornis rubricollis</i>	Hooded Plover			P4											•									

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes
<i>Vanellus tricolor</i>	Banded Lapwing				•				•				•	•			•	•			•	•		
<i>Rostratula australis</i>	Australian Painted Snipe	EN	S2	EN			•				•				•				•				•	
<i>Actitis hypoleucos</i>	Common Sandpiper	Mi g	S5		•	•																		
<i>Gelochelidon nilotica</i>	Gull-billed Tern	Mi g	S5											•										
<i>Chroicocephalus novaehollandiae</i>	Silver Gull												•	•										
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black Cockatoo	VU	S3	VU		•																•		
<i>Calyptorhynchus banksii samueli</i>	Red-tailed Black Cockatoo				•								•	•			•	•			•	•		
<i>Calyptorhynchus latirostris</i>	Carnaby's Black cockatoo	EN	S2	EN	•	•	•		•	•	•			•	•			•	•				•	
<i>Calyptorhynchus baudinii</i>	Baudin's Black-cockatoo	VU	S2	EN		•																		
<i>Eolophus roseicapillus</i>	Galah				•	•			•	•			•	•			•	•			•	•		
<i>Cacatua pastinator derbyi</i>	Western Corella				•	•			•	•			•	•			•	•			•	•		
<i>Cacatua sanguinea</i>	Little Corella				•	•			•	•			•	•			•	•			•	•		
<i>Nymphicus hollandicus</i>	Cockatiel								•	•			•				•	•			•	•		
<i>Polytelis anthopeplus</i>	Regent Parrot																•				•	•		
<i>Barnardius zonarius</i>	Australian Ringneck				•	•			•	•			•	•			•	•			•	•		
<i>Purpureicephalus spurius</i>	Red-capped Parrot				•	•																		
<i>Psephotus varius</i>	Mulga Parrot												•				•				•			

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<i>Melopsittacus undulatus</i>	Budgerigar												•				•				•	•		
<i>Neophema elegans</i>	Elegant Parrot				•	•			•	•											•	•		
<i>Chalcites basalis</i>	Horsfield's Bronze-cuckoo				•					•							•				•			
<i>Chalcites lucidus</i>	Shining Bronze-cuckoo				•					•			•								•			
<i>Cacomantis pallidus</i>	Pallid Cuckoo				•	•			•	•			•	•			•	•			•	•		
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo				•	•																		
<i>Ninox connivens connivens</i>	Barking Owl (southern)			P2																		•		
<i>Ninox novaeseelandiae</i>	Southern Boobook				•	•			•	•														
<i>Tyto javanica</i>	Eastern Barn Owl				•									•			•				•			
<i>Dacelo novaeguineae</i>	Laughing Kookaburra				•	•			•	•														
<i>Todiramphus sanctus</i>	Sacred Kingfisher				•	•			•	•			•	•										
<i>Merops ornatus</i>	Rainbow Bee-eater	Mi g	S5		•	•	•				•		•	•	•		•		•		•	•	•	
<i>Climacteris rufa</i>	Rufous Treecreeper				•	•																•		
<i>Malurus splendens</i>	Splendid Fairy-wren				•	•			•	•														
<i>Malurus leucopterus</i>	White-winged Fairy-wren				•	•			•				•	•							•	•		
<i>Malurus lamberti</i>	Variegated Fairy-wren																•	•			•	•		
<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren												•	•			•	•			•	•		
<i>Malurus elegans</i>	Red-winged Fairy-wren				•	•																		
<i>Sericornis frontalis</i>	White-browed Scrubwren				•	•															•	•		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
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<i>Hylacola cauta whitlocki</i>	Shy Heathwren																				•			
<i>Calamanthus campestris montanellus</i>	Rufous Fieldwren (western wheatbelt)																				•	•		
<i>Pyrrholaemus brunneus</i>	Redthroat									•							•	•			•	•		
<i>Smicrornis brevirostris</i>	Weebill				•	•			•	•			•	•			•	•			•	•		
<i>Gerygone fusca</i>	Western Gerygone				•	•			•	•			•				•	•			•	•		
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill				•	•			•	•			•	•			•	•			•	•		
<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill				•	•							•	•			•	•			•	•		
<i>Acanthiza inornata</i>	Western Thornbill				•	•			•	•				•							•	•		
<i>Acanthiza apicalis</i>	Inland Thornbill				•	•			•	•			•	•			•	•			•	•		
<i>Pardalotus punctatus</i>	Spotted Pardalote				•	•			•	•			•	•							•	•		
<i>Pardalotus striatus</i>	Striated Pardalote				•	•			•	•			•	•			•	•			•	•		
<i>Acanthorhynchus superciliosus</i>	Western Spinebill				•	•																		
<i>Certhionyx variegatus</i>	Pied Honeyeater												•				•				•	•		
<i>Lichenostomus virescens</i>	Singing Honeyeater				•				•				•				•				•			
<i>Lichenostomus leucotis</i>	White-eared Honeyeater				•	•			•	•			•	•							•	•		
<i>Lichenostomus ornatus</i>	Yellow-plumed Honeyeater				•				•															
<i>Purnella albifrons</i>	White-fronted Honeyeater				•	•			•				•				•	•			•	•		
<i>Manorina flavigula</i>	Yellow-throated Miner				•	•			•	•			•	•			•	•			•	•		
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater				•	•							•	•			•	•			•	•		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Causes
<i>Anthochaera lunulata</i>	Western Wattlebird				•	•																		
<i>Anthochaera carunculata</i>	Red Wattlebird				•	•			•	•			•	•			•	•			•	•		
<i>Epthianura tricolor</i>	Crimson Chat																•				•			
<i>Epthianura albifrons</i>	White-fronted Chat				•	•			•	•			•	•			•	•			•	•		
<i>Sugomel niger</i>	Black Honeyeater												•				•				•	•		
<i>Glyciphila melanops</i>	Tawny-crowned Honeyeater				•				•	•				•										
<i>Lichmera indistincta</i>	Brown Honeyeater				•	•			•	•			•	•			•	•			•	•		
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater				•	•																		
<i>Phylidonyris niger</i>	White-cheeked Honeyeater				•	•																		
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater				•	•			•	•			•	•							•	•		
<i>Melithreptus lunatus</i>	White-naped Honeyeater				•																			
<i>Pomatostomus superciliosus</i>	White-browed Babbler				•				•	•			•	•			•	•			•	•		
<i>Psophodes occidentalis</i>	Chiming Wedgebill																				•	•		
<i>Daphoenositta chrysoptera</i>	Varied Sittella				•	•			•	•														
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike				•	•			•	•			•	•			•	•			•	•		
<i>Lalage sueurii</i>	White-winged Triller				•				•				•				•				•			
<i>Pachycephala pectoralis</i>	Golden Whistler				•	•																		
<i>Pachycephala rufiventris</i>	Rufous Whistler				•	•			•	•			•	•			•	•			•	•		
<i>Colluricincla harmonica</i>	Grey Shrike-thrush				•	•			•	•			•	•			•	•			•	•		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna
<i>Oreoica gutturalis gutturalis</i>	Crested Bellbird (southern)																•	•			•	•		
<i>Artamus cinereus</i>	Black-faced Woodswallow				•	•			•	•			•	•			•	•			•	•		
<i>Artamus cyanopterus</i>	Dusky Woodswallow				•	•			•	•														
<i>Cracticus torquatus</i>	Grey Butcherbird				•	•			•	•			•	•			•	•			•	•		
<i>Cracticus nigrogularis</i>	Pied Butcherbird				•	•			•	•			•	•			•	•			•	•		
<i>Cracticus tibicen</i>	Australian Magpie				•	•			•	•			•	•			•	•			•	•		
<i>Strepera versicolor</i>	Grey Currawong				•	•				•												•		
<i>Rhipidura albiscapa</i>	Grey Fantail				•				•	•			•				•				•			
<i>Rhipidura leucophrys</i>	Willie Wagtail				•	•			•	•			•	•			•	•			•	•		
<i>Corvus coronoides</i>	Australian Raven				•	•			•	•			•	•			•	•			•	•		
<i>Corvus bennetti</i>	Little Crow				•	•											•				•	•		
<i>Corvus orru</i>	Torresian Crow				•																			
<i>Grallina cyanoleuca</i>	Magpie-lark				•	•			•	•			•	•			•	•			•	•		
<i>Microeca fascians</i>	Jacky Winter				•	•																•		
<i>Petroica boodang (multicolor campbelli)</i>	Scarlet Robin				•																			
<i>Petroica goodenovii</i>	Red-capped Robin				•	•			•	•			•	•			•	•			•	•		
<i>Eopsaltria griseogularis</i>	Western Yellow Robin				•																			
<i>Drymodes brunneopygia</i>	Southern Scrub-robin												•	•							•	•		
<i>Cincloramphus mathewsi</i>	Rufous Songlark				•	•			•	•			•	•			•	•			•	•		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
		EPBC Act	WC Act	DPaW	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna	Birddata	NatureMap	EPBC Protected Matters	DPaW Threatened Fauna
<i>Cincloramphus cruralis</i>	Brown Songlark								•	•			•	•			•				•	•		
<i>Zosterops lateralis</i>	Silvereye				•	•			•	•			•	•			•	•			•			
<i>Cheramoeca leucosterna</i>	White-backed Swallow												•	•							•	•		
<i>Hirundo neoxena</i>	Welcome Swallow				•	•			•	•			•	•			•	•			•	•		
<i>Petrochelidon ariel</i>	Fairy Martin				•												•				•			
<i>Petrochelidon nigricans</i>	Tree Martin				•				•	•			•				•				•			
<i>Sturnus vulgaris</i>	Common Starling						•				•													
<i>Dicaeum hirundinaceum</i>	Mistletoebird				•	•																		
<i>Taeniopygia guttata</i>	Zebra Finch												•	•			•	•			•	•		
<i>Anthus novaeseelandiae</i>	Australasian Pipit				•				•	•			•				•				•			
<i>Motacilla cinerea</i>	Grey Wagtail	Mi g	S5				•				•				•				•				•	
Mammals																								
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna																					•		
<i>Dasyurus geoffroii</i>	Western Quoll	VU	S3	VU		•	•				•				•				•				•	
<i>Parantechinus apicalis</i>	Dibbler	EN	S2	EN		•																		
<i>Phascogale calura</i>	Red-tailed Phascogale	EN	S6	CD			•				•													
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale					•																		
<i>Sminthopsis crassicaudata</i>	Fat-tailed Dunnart													•				•				•		
<i>Sminthopsis dolichura</i>	Little long-tailed Dunnart					•																•		

Scientific name	Common name	Conservation status			Calingiri				Midlands Road to Bindi Bindi				Pithara				Dalwallinu Bypass Improvements				Nugadong to Wubin			
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<i>Macropus fuliginosus</i>	Western Grey Kangaroo					●															●			
<i>Macropus robustus erubescens</i>	Euro					●																		
<i>Macropus rufus</i>	Red Kangaroo												●				●							
<i>Pteropus scapulatus</i>	Little Red Flying-fox												●				●							
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat					●															●			
<i>Tadarida australis</i>	White-striped Freetail-bat												●				●				●			
<i>Mus musculus</i>	House Mouse					●	●				●		●	●				●			●	●		
<i>Notomys longicaudatus</i>	Long-tailed Hopping-mouse	EX	S4	EX		●																		
<i>Notomys macrotis</i>	Big-eared Hopping-mouse	EX	S4	EX		●																		
<i>Notomys mitchellii</i>	Mitchell's Hopping-mouse												●				●				●			
<i>Rattus rattus</i>	Black Rat						●																	
<i>Oryctolagus cuniculus</i>	Rabbit						●				●			●				●				●		
<i>Vulpes vulpes</i>	Red Fox						●				●			●				●				●		
<i>Felis catus</i>	Cat						●				●			●				●				●		
<i>Sus scrofa</i>	Pig						●																	

Appendix 8 Flora species inventory for the study area

Family	Taxon
Aizoaceae	<i>*Mesembryanthemum crystallinum</i>
Aizoaceae	<i>*Mesembryanthemum nodiflorum</i>
Amaranthaceae	<i>Ptilotus declinatus</i>
Amaranthaceae	<i>Ptilotus divaricatus</i>
Amaranthaceae	<i>Ptilotus drummondii</i>
Amaranthaceae	<i>Ptilotus gaudichaudii</i>
Amaranthaceae	<i>Ptilotus manglesii</i>
Amaranthaceae	<i>Ptilotus nobilis</i>
Amaranthaceae	<i>Ptilotus obovatus</i>
Amaranthaceae	<i>Ptilotus polystachyus</i>
Amaranthaceae	<i>Ptilotus</i> sp.
Amaranthaceae	<i>Ptilotus</i> sp.
Amaranthaceae	<i>Ptilotus spathulatus</i>
Apiaceae	<i>Daucus glochidiatus</i>
Apiaceae	<i>Platysace trachymenioides</i>
Apiaceae	<i>Xanthosia candida</i>
Araliaceae	<i>Trachymene ornata</i>
Asparagaceae	<i>*Asparagus asparagoides</i> Declared, WoNS
Asparagaceae	<i>Arthropodium dyeri</i>
Asparagaceae	<i>Dichopogon capillipes</i>
Asparagaceae	<i>Lomandra ?preissii</i>
Asparagaceae	<i>Lomandra effusa</i>
Asparagaceae	<i>Lomandra maritima</i>
Asparagaceae	<i>Lomandra</i> sp.
Asparagaceae	<i>Thysanotus manglesianus</i>
Asparagaceae	<i>Thysanotus patersonii</i>
Asparagaceae	<i>Thysanotus</i> sp.
Asphodelaceae	<i>Bulbine semibarbata</i>
Asteraceae	<i>*Arctotheca calendula</i>
Asteraceae	<i>*Cotula coronopifolia</i>
Asteraceae	<i>*Dittrichia graveolens</i>
Asteraceae	<i>*Gorteria personata</i>
Asteraceae	<i>*Hypochaeris glabra</i>
Asteraceae	<i>*Symphyotrichum squamatum</i>
Asteraceae	<i>*Taraxacum khatoonae</i>
Asteraceae	<i>*Ursinia anthemoides</i>
Asteraceae	<i>*Ursinia anthemoides</i> subsp. <i>anthemoides</i>
Asteraceae	<i>Blennospora drummondii</i>
Asteraceae	<i>Brachyscome</i> sp.
Asteraceae	<i>Calotis hispidula</i>
Asteraceae	<i>Cephalopterum drummondii</i>
Asteraceae	<i>Erymophyllum ramosum</i> subsp. <i>ramosum</i>

Family	Taxon
Asteraceae	<i>Erymophyllum tenellum</i>
Asteraceae	<i>Gilberta tenuifolia</i>
Asteraceae	<i>Hyalosperma cotula</i>
Asteraceae	<i>Hyalosperma glutinosum</i> subsp. <i>glutinosum</i>
Asteraceae	<i>Olearia muelleri</i>
Asteraceae	<i>Podolepis aristata</i> subsp. <i>aristata</i>
Asteraceae	<i>Podolepis canescens</i>
Asteraceae	<i>Podolepis capillaris</i>
Asteraceae	<i>Podolepis lessonii</i>
Asteraceae	<i>Rhodanthe chlorocephala</i> subsp. <i>rosea</i>
Asteraceae	<i>Rhodanthe manglesii</i>
Asteraceae	<i>Rhodanthe spicata</i>
Asteraceae	<i>Schoenia cassiniana</i>
Asteraceae	<i>Schoenia filifolia</i>
Asteraceae	<i>Sonchus oleraceus</i>
Asteraceae	<i>Waitzia acuminata</i>
Asteraceae	<i>Waitzia acuminata</i> var. <i>acuminata</i>
Boraginaceae	* <i>Echium plantagineum</i> Declared
Boraginaceae	<i>Halgania</i> sp. <i>Wongan Hills</i> (K.F. Kenneally 2393)
Boraginaceae	<i>Heliotropium curassavicum</i>
Boryaceae	<i>Borya sphaerocephala</i>
Brassicaceae	* <i>Brassica barrelieri</i>
Brassicaceae	* <i>Brassica tournefortii</i>
Brassicaceae	* <i>Raphanus raphanistrum</i>
Brassicaceae	* <i>Sisymbrium erysimoides</i>
Brassicaceae	* <i>Sisymbrium irio</i>
Brassicaceae	* <i>Sisymbrium orientale</i>
Brassicaceae	<i>Brassica</i> ? <i>napus</i>
Brassicaceae	<i>Carrichtera annua</i>
Cactaceae	* <i>Opuntia monacantha</i> Declared, WoNS
Campanulaceae	<i>Wahlenbergia</i> ? <i>capensis</i>
Casuarinaceae	<i>Allocasuarina</i> ? <i>campestris</i>
Casuarinaceae	<i>Allocasuarina acutivalvis</i>
Casuarinaceae	<i>Allocasuarina acutivalvis</i> subsp. <i>acutivalvis</i>
Casuarinaceae	<i>Allocasuarina campestris</i>
Casuarinaceae	<i>Allocasuarina huegeliana</i>
Casuarinaceae	<i>Allocasuarina humilis</i>
Casuarinaceae	<i>Allocasuarina</i> sp.
Casuarinaceae	<i>Casuarina obesa</i>
Celastraceae	<i>Psammomoya choretroides</i>
Celastraceae	<i>Tripterococcus brunonis</i>
Chenopodiaceae	<i>Atriplex amnicola</i>
Chenopodiaceae	<i>Atriplex bunburyana</i>

Family	Taxon
Chenopodiaceae	<i>Atriplex codonocarpa</i>
Chenopodiaceae	<i>Atriplex nummularia</i>
Chenopodiaceae	<i>Atriplex semibaccata</i>
Chenopodiaceae	<i>Atriplex semilunaris</i>
Chenopodiaceae	<i>Atriplex</i> sp.
Chenopodiaceae	<i>Atriplex</i> sp.
Chenopodiaceae	<i>Atriplex</i> sp.
Chenopodiaceae	* <i>Chenopodium album</i>
Chenopodiaceae	<i>Dissocarpus paradoxus</i>
Chenopodiaceae	<i>Dysphania melanocarpa</i> forma <i>melanocarpa</i>
Chenopodiaceae	<i>Enchylaena tomentosa</i>
Chenopodiaceae	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>
Chenopodiaceae	<i>Maireana brevifolia</i>
Chenopodiaceae	<i>Maireana carnosa</i>
Chenopodiaceae	<i>Maireana enchylaenoides</i>
Chenopodiaceae	<i>Maireana georgei</i>
Chenopodiaceae	<i>Maireana marginata</i>
Chenopodiaceae	<i>Maireana</i> sp.
Chenopodiaceae	<i>Maireana</i> sp.
Chenopodiaceae	<i>Maireana</i> sp.
Chenopodiaceae	<i>Maireana trichoptera</i>
Chenopodiaceae	<i>Maireana triptera</i>
Chenopodiaceae	<i>Rhagodia drummondii</i>
Chenopodiaceae	<i>Rhagodia preissii</i>
Chenopodiaceae	<i>Rhagodia preissii</i> subsp. <i>preissii</i>
Chenopodiaceae	<i>Rhagodia</i> sp. Watheroo (R.J. Cranfield & P.J. Spencer)
Chenopodiaceae	<i>Salsola australis</i>
Chenopodiaceae	<i>Sclerolaena diacantha</i>
Chenopodiaceae	<i>Tecticornia pergranulata</i>
Chenopodiaceae	<i>Tecticornia</i> sp.
Chenopodiaceae	<i>Tecticornia</i> sp.
Colchicaceae	<i>Burchardia congesta</i>
Convolvulaceae	<i>Wilsonia humilis</i>
Crassulaceae	<i>Crassula colorata</i>
Crassulaceae	<i>Crassula colorata</i> var. <i>acuminata</i>
Crassulaceae	<i>Crassula exserta</i>
Crassulaceae	<i>Crassula</i> sp.
Crassulaceae	<i>Crassula</i> sp.
Crassulaceae	<i>Crassula</i> sp.
Cucurbitaceae	* <i>Cucumis</i> sp.
Cyperaceae	<i>Bolboschoenus caldwellii</i>
Cyperaceae	<i>Chrysitrix distigmatosa</i>
Cyperaceae	<i>Cyperus gymnocaulos</i>

Family	Taxon
Cyperaceae	<i>Gahnia australis</i>
Cyperaceae	<i>Gahnia drummondii</i>
Cyperaceae	<i>Lepidosperma calcicola</i>
Cyperaceae	<i>Lepidosperma costale</i>
Cyperaceae	<i>Lepidosperma leptostachyum</i>
Cyperaceae	<i>Lepidosperma longitudinale</i>
Cyperaceae	<i>Lepidosperma pubisquameum</i>
Cyperaceae	<i>Lepidosperma</i> sp.
Cyperaceae	<i>Lepidosperma</i> sp.
Cyperaceae	<i>Lepidosperma</i> sp.
Cyperaceae	<i>Lepidosperma squamatum</i>
Cyperaceae	<i>Lepidosperma tenue</i>
Cyperaceae	<i>Mesomelaena preissii</i>
Cyperaceae	<i>Schoenus armeria</i>
Cyperaceae	<i>Schoenus brevisetis</i>
Cyperaceae	<i>Schoenus pleiostemoneus</i>
Cyperaceae	<i>Tetraria octandra</i>
Cyperaceae	<i>Tetraria</i> sp. Jarrah Forest (R. Davis 7391)
Dilleniaceae	<i>Hibbertia commutata</i>
Dilleniaceae	<i>Hibbertia drummondii</i>
Dilleniaceae	<i>Hibbertia hibernioides</i> var. <i>hibbertioides</i>
Dilleniaceae	<i>Hibbertia hypericoides</i>
Dilleniaceae	<i>Hibbertia lasiopus</i>
Dilleniaceae	<i>Hibbertia miniata</i> P4
Dilleniaceae	<i>Hibbertia polystachya</i>
Dilleniaceae	<i>Hibbertia</i> sp.
Droseraceae	<i>Drosera macrantha</i>
Droseraceae	<i>Drosera macrantha</i> subsp. <i>macrantha</i>
Droseraceae	<i>Drosera macrophylla</i> subsp. <i>macrophylla</i>
Droseraceae	<i>Drosera menziesii</i>
Droseraceae	<i>Drosera</i> sp.
Droseraceae	<i>Drosera</i> sp.
Droseraceae	<i>Drosera subhirtella</i>
Ecdeiocoleaceae	<i>Ecdeiocolea monostachya</i>
Ericaceae	<i>Astroloma serratifolium</i>
Ericaceae	<i>Leucopogon planifolius</i>
Ericaceae	<i>Leucopogon</i> sp. outer wheatbelt (M. Hislop 30)
Ericaceae	<i>Leucopogon</i> sp. Avon (J. Buegge D34)
Euphorbiaceae	<i>Beyeria sulcata</i> var. <i>sulcata</i>
Euphorbiaceae	<i>Euphorbia drummondii</i>
Euphorbiaceae	<i>Ricinocarpus undulatus</i>
Fabaceae	* <i>Lupinus cosentinii</i>
Fabaceae	* <i>Medicago minima</i>

Family	Taxon
Fabaceae	<i>Acacia acuaria</i>
Fabaceae	<i>Acacia acuminata</i>
Fabaceae	<i>Acacia ancistrophylla</i> var. <i>ancistrophylla</i>
Fabaceae	<i>Acacia applanata</i>
Fabaceae	<i>Acacia assimilis</i>
Fabaceae	<i>Acacia assimilis</i> subsp. <i>assimilis</i>
Fabaceae	<i>Acacia aulacocarpa</i>
Fabaceae	<i>Acacia browniana</i> var. <i>glaucescens</i>
Fabaceae	<i>Acacia burkittii</i>
Fabaceae	<i>Acacia coolgardiensis</i>
Fabaceae	<i>Acacia daphnifolia</i>
Fabaceae	<i>Acacia daviesioides</i>
Fabaceae	<i>Acacia dielsii</i>
Fabaceae	<i>Acacia drummondii</i> subsp. <i>affinis</i>
Fabaceae	<i>Acacia enervia</i> subsp. <i>explicata</i>
Fabaceae	<i>Acacia erinacea</i>
Fabaceae	<i>Acacia hemiteles</i>
Fabaceae	<i>Acacia heteroneura</i> var. <i>jutsonii</i>
Fabaceae	<i>Acacia heteroneura</i> var. <i>prolixa</i>
Fabaceae	<i>Acacia huegelii</i>
Fabaceae	<i>Acacia isoneura</i> subsp. <i>nimia</i>
Fabaceae	<i>Acacia jacksonioides</i>
Fabaceae	<i>Acacia lasiocarpa</i>
Fabaceae	<i>Acacia lasiocarpa</i> var. <i>sedifolia</i>
Fabaceae	<i>Acacia mackeyana</i>
Fabaceae	<i>Acacia merrallii</i>
Fabaceae	<i>Acacia microbotrya</i>
Fabaceae	<i>Acacia multispicata</i>
Fabaceae	<i>Acacia neurophylla</i> subsp. <i>erugata</i>
Fabaceae	<i>Acacia pravifolia</i>
Fabaceae	<i>Acacia pulchella</i>
Fabaceae	<i>Acacia pulchella</i> var. <i>goadbyi</i>
Fabaceae	<i>Acacia resinimarginea</i>
Fabaceae	<i>Acacia saligna</i>
Fabaceae	<i>Acacia saligna</i> subsp. <i>lindleyi</i>
Fabaceae	<i>Acacia scalena</i>
Fabaceae	<i>Acacia shuttleworthii</i>
Fabaceae	<i>Acacia sibina</i>
Fabaceae	<i>Acacia</i> sp.
Fabaceae	<i>Acacia sulcata</i>
Fabaceae	<i>Acacia willdenowiana</i>
Fabaceae	<i>Acacia yorkrakinensis</i> subsp. <i>acrita</i>
Fabaceae	<i>Bossiaea eriocarpa</i>

Family	Taxon
Fabaceae	<i>Bossiaea spinescens</i>
Fabaceae	<i>Daviesia angulata</i>
Fabaceae	<i>Daviesia debilior</i> subsp. <i>sinuans</i> P3
Fabaceae	<i>Daviesia decurrens</i>
Fabaceae	<i>Daviesia hakeoides</i>
Fabaceae	<i>Daviesia hakeoides</i> subsp. <i>subnuda</i>
Fabaceae	<i>Daviesia nematophylla</i>
Fabaceae	<i>Daviesia polyphylla</i>
Fabaceae	<i>Gastrolobium bennettsianum</i>
Fabaceae	<i>Gastrolobium calycinum</i>
Fabaceae	<i>Gastrolobium capitatum</i>
Fabaceae	<i>Gastrolobium laytonii</i>
Fabaceae	<i>Gastrolobium polystachyum</i>
Fabaceae	<i>Gastrolobium reflexum</i>
Fabaceae	<i>Gastrolobium spathulatum</i>
Fabaceae	<i>Gastrolobium spinosum</i>
Fabaceae	<i>Gompholobium aristatum</i>
Fabaceae	<i>Gompholobium tomentosum</i>
Fabaceae	<i>Kennedia prostrata</i>
Fabaceae	<i>Leptosema tomentosa</i>
Fabaceae	<i>Mirbelia microphylla</i>
Fabaceae	<i>Mirbelia trichocalyx</i>
Fabaceae	<i>Templetonia ceracea</i>
Fabaceae	<i>Templetonia smithiana</i>
Geraniaceae	* <i>Erodium botrys</i>
Geraniaceae	<i>Erodium cygnorum</i>
Goodeniaceae	<i>Dampiera alata</i>
Goodeniaceae	<i>Dampiera lavandulacea</i>
Goodeniaceae	<i>Goodenia berardiana</i>
Goodeniaceae	<i>Goodenia pulchella</i>
Goodeniaceae	<i>Lechenaultia biloba</i>
Goodeniaceae	<i>Lechenaultia floribunda</i>
Goodeniaceae	<i>Lechenaultia</i> sp.
Goodeniaceae	<i>Scaevola spinescens</i>
Goodeniaceae	<i>Velleia cynopotamica</i>
Goodeniaceae	<i>Velleia rosea</i>
Goodeniaceae	<i>Verreauxia reinwardtii</i>
Haemodoraceae	<i>Anigozanthos humilis</i> subsp. <i>humilis</i>
Haemodoraceae	<i>Conostylis aculeata</i> subsp. <i>aculeata</i>
Haemodoraceae	<i>Conostylis androstemma</i>
Haemodoraceae	<i>Conostylis candicans</i>
Haemodoraceae	<i>Conostylis setigera</i> subsp. <i>setigera</i>
Haemodoraceae	<i>Conostylis</i> sp.

Family	Taxon
Haloragaceae	<i>Glischrocaryon flavescens</i>
Haloragaceae	<i>Gonocarpus cordiger</i>
Hemerocallidaceae	<i>Dianella revoluta</i>
Hemerocallidaceae	<i>Dianella revoluta</i> var. <i>divaricata</i>
Hemerocallidaceae	<i>Stypandra glauca</i>
Iridaceae	* <i>Freesia alba</i> x <i>leichtlinii</i>
Iridaceae	* <i>Romulea rosea</i>
Iridaceae	<i>Orthrosanthus laxus</i> var. <i>gramineus</i>
Iridaceae	<i>Patersonia occidentalis</i>
Iridaceae	<i>Patersonia occidentalis</i> var. <i>latifolia</i>
Iridaceae	<i>Patersonia rudis</i> subsp. <i>rudis</i>
Juncaceae	* <i>Juncus acutus</i> subsp. <i>acutus</i>
Juncaceae	<i>Juncus</i> sp.
Juncaginaceae	<i>Triglochin</i> sp. A Flora of Australia (G.J. Keighery)
Lamiaceae	<i>Hemigenia westringioides</i>
Lauraceae	<i>Cassytha capillaris</i>
Lauraceae	<i>Cassytha glabella</i>
Lauraceae	<i>Cassytha glabella</i> forma <i>casuarinae</i>
Lauraceae	<i>Cassytha nodiflora</i>
Lauraceae	<i>Cassytha racemosa</i>
Lauraceae	<i>Cassytha racemosa</i> forma <i>racemosa</i>
Loranthaceae	<i>Amyema preissii</i>
Malvaceae	* <i>Malva parviflora</i>
Malvaceae	<i>Alyogyne hakeifolia</i>
Myrtaceae	<i>Aluta aspera</i>
Myrtaceae	<i>Baeckea</i> ? sp. Wubin
Myrtaceae	<i>Baeckea crispiflora</i> var. <i>tenuior</i>
Myrtaceae	<i>Baeckea elderiana</i>
Myrtaceae	<i>Baeckea grandis</i>
Myrtaceae	<i>Baeckea muricata</i>
Myrtaceae	<i>Baeckea</i> sp.
Myrtaceae	<i>Calothamnus gilesii</i>
Myrtaceae	<i>Calothamnus pachystachyus</i> P4
Myrtaceae	<i>Chamelaucium brevifolium</i>
Myrtaceae	<i>Corymbia calophylla</i>
Myrtaceae	<i>Darwinia purpurea</i>
Myrtaceae	<i>Enekbatus sessilis</i>
Myrtaceae	<i>Enekbatus stowardii</i>
Myrtaceae	<i>Eucalyptus</i> ? <i>camaldulensis</i>
Myrtaceae	<i>Eucalyptus</i> ? <i>dolichocera</i>
Myrtaceae	<i>Eucalyptus</i> ? <i>rigidula</i>
Myrtaceae	<i>Eucalyptus accedens</i>
Myrtaceae	<i>Eucalyptus armillata</i>

Family	Taxon
Myrtaceae	<i>Eucalyptus baudiniana</i>
Myrtaceae	<i>Eucalyptus brachycorys</i>
Myrtaceae	<i>Eucalyptus camaldulensis</i>
Myrtaceae	<i>Eucalyptus capillosa</i>
Myrtaceae	<i>Eucalyptus capillosa</i> subsp. <i>polyclada</i>
Myrtaceae	<i>Eucalyptus celastroides</i>
Myrtaceae	<i>Eucalyptus dolichocera</i>
Myrtaceae	<i>Eucalyptus horistes</i>
Myrtaceae	<i>Eucalyptus kochii</i>
Myrtaceae	<i>Eucalyptus kochii</i> subsp. <i>kochii</i>
Myrtaceae	<i>Eucalyptus kochii</i> subsp. <i>plenissima</i>
Myrtaceae	<i>Eucalyptus leptopoda</i>
Myrtaceae	<i>Eucalyptus leptopoda</i> subsp. <i>arctata</i>
Myrtaceae	<i>Eucalyptus loxophleba</i>
Myrtaceae	<i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i>
Myrtaceae	<i>Eucalyptus loxophleba</i> subsp. <i>loxophleba</i>
Myrtaceae	<i>Eucalyptus marginata</i>
Myrtaceae	<i>Eucalyptus moderata</i>
Myrtaceae	<i>Eucalyptus oldfieldii</i>
Myrtaceae	<i>Eucalyptus orthostemon</i>
Myrtaceae	<i>Eucalyptus rudis</i>
Myrtaceae	<i>Eucalyptus salmonophloia</i>
Myrtaceae	<i>Eucalyptus salubris</i>
Myrtaceae	<i>Eucalyptus sargentii</i>
Myrtaceae	<i>Eucalyptus</i> sp.
Myrtaceae	<i>Eucalyptus</i> sp.
Myrtaceae	<i>Eucalyptus stowardii</i>
Myrtaceae	<i>Eucalyptus subangusta</i> subsp. <i>subangusta</i>
Myrtaceae	<i>Eucalyptus tenera</i>
Myrtaceae	<i>Eucalyptus torquata</i>
Myrtaceae	<i>Eucalyptus wandoo</i>
Myrtaceae	<i>Leptospermum erubescens</i>
Myrtaceae	<i>Malleostemon roseus</i>
Myrtaceae	<i>Malleostemon tuberculatus</i>
Myrtaceae	<i>Melaleuca acuminata</i> subsp. <i>websteri</i>
Myrtaceae	<i>Melaleuca acutifolia</i>
Myrtaceae	<i>Melaleuca adnata</i>
Myrtaceae	<i>Melaleuca atroviridis</i>
Myrtaceae	<i>Melaleuca concreta</i>
Myrtaceae	<i>Melaleuca conothamnoides</i>
Myrtaceae	<i>Melaleuca cordata</i>
Myrtaceae	<i>Melaleuca hamata</i>
Myrtaceae	<i>Melaleuca eleuterostachya</i>

Family	Taxon
Myrtaceae	<i>Melaleuca lateriflora</i>
Myrtaceae	<i>Melaleuca lateritia</i>
Myrtaceae	<i>Melaleuca longistaminea</i>
Myrtaceae	<i>Melaleuca longistaminea</i> subsp. <i>longistaminea</i>
Myrtaceae	<i>Melaleuca nematophylla</i>
Myrtaceae	<i>Melaleuca radula</i>
Myrtaceae	<i>Melaleuca raphiophylla</i>
Myrtaceae	<i>Melaleuca scalena</i>
Myrtaceae	<i>Melaleuca seriata</i>
Myrtaceae	<i>Melaleuca</i> sp.
Myrtaceae	<i>Melaleuca</i> sp.
Myrtaceae	<i>Melaleuca stereophloia</i>
Myrtaceae	<i>Melaleuca trichophylla</i>
Myrtaceae	<i>Melaleuca viminea</i>
Myrtaceae	<i>Melaleuca viminea</i> subsp. <i>viminea</i>
Myrtaceae	<i>Micromyrtus obovata</i>
Myrtaceae	<i>Micromyrtus racemosa</i>
Myrtaceae	<i>Scholtzia drummondii</i>
Myrtaceae	<i>Thryptomene cuspidata</i>
Myrtaceae	<i>Verticordia monadelphae</i>
Myrtaceae	<i>Verticordia rennieana</i>
Myrtaceae	<i>Verticordia</i> sp.
Myrtaceae	<i>Verticordia venusta</i> P3
Oleaceae	* <i>Olea europaea</i> subsp. <i>europaea</i>
Orchidaceae	<i>Caladenia dimidia</i>
Orchidaceae	<i>Diuris corymbosa</i>
Orchidaceae	<i>Diuris refracta</i>
Orchidaceae	<i>Prasophyllum gracile</i>
Oxalidaceae	* <i>Oxalis</i> sp.
Oxalidaceae	<i>Oxalis exilis</i>
Oxalidaceae	* <i>Oxalis pes-caprae</i>
Phrymaceae	<i>Mimulus repens</i>
Phyllanthaceae	<i>Phyllanthus calycinus</i>
Pittosporaceae	<i>Cheiranthra preissiana</i>
Poaceae	* <i>Avena barbata</i>
Poaceae	* <i>Briza maxima</i>
Poaceae	* <i>Briza minor</i>
Poaceae	* <i>Bromus catharticus</i>
Poaceae	* <i>Bromus diandrus</i>
Poaceae	* <i>Bromus rubens</i>
Poaceae	* <i>Cynodon dactylon</i>
Poaceae	* <i>Ehrharta calycina</i>
Poaceae	* <i>Ehrharta longiflora</i>

Family	Taxon
Poaceae	<i>*Ehrharta</i> sp.
Poaceae	<i>*Ehrharta</i> sp.
Poaceae	<i>*Eragrostis curvula</i>
Poaceae	<i>*Hordeum leporinum</i>
Poaceae	<i>*Lolium perenne</i>
Poaceae	<i>*Lolium rigidum</i>
Poaceae	<i>*Pentameris airoides</i>
Poaceae	<i>*Pentameris airoides</i> subsp. <i>airoides</i>
Poaceae	<i>*Polypogon monspeliensis</i>
Poaceae	<i>Amphipogon caricinus</i>
Poaceae	<i>Amphipogon caricinus</i> var. <i>caricinus</i>
Poaceae	<i>Aristida contorta</i>
Poaceae	<i>Aristida holathera</i>
Poaceae	<i>Aristida holathera</i> var. <i>holathera</i>
Poaceae	<i>Austrostipa campylachne</i>
Poaceae	<i>Austrostipa elegantissima</i>
Poaceae	<i>Austrostipa exilis</i>
Poaceae	<i>Austrostipa flavescens</i>
Poaceae	<i>Austrostipa macalpinei</i>
Poaceae	<i>Austrostipa nitida</i> ?
Poaceae	<i>Austrostipa scabra</i>
Poaceae	<i>Austrostipa semibarbata</i>
Poaceae	<i>Austrostipa</i> sp.
Poaceae	<i>Austrostipa</i> sp. 2
Poaceae	<i>Austrostipa hemipogon</i>
Poaceae	<i>Austrostipa nitida</i>
Poaceae	<i>Austrostipa trichophylla</i>
Poaceae	<i>Austrostipa variabilis</i>
Poaceae	<i>Enteropogon ramosus</i>
Poaceae	<i>Eragrostis pergracilis</i>
Poaceae	<i>Eriachne ovata</i>
Poaceae	<i>Monachather paradoxus</i>
Poaceae	<i>Neurachne alopecuroidea</i>
Poaceae	Poaceae sp.
Poaceae	Poaceae sp.
Poaceae	Poaceae sp.
Poaceae	Poaceae sp.
Poaceae	<i>Rytidosperma acerosum</i>
Poaceae	<i>Rytidosperma caespitosum</i>
Poaceae	<i>Spartochloa scirpoidea</i>
Poaceae	<i>Thyridolepis mitchelliana</i>
Poaceae	<i>Tripogon loliiformis</i>
Polygalaceae	<i>Comesperma integerrimum</i>

Family	Taxon
Polygalaceae	<i>Comesperma scoparium</i>
Polygalaceae	<i>Comesperma spinosum</i>
Polygonaceae	* <i>Rumex hypogaeus</i> Declared
Polygonaceae	* <i>Rumex crispus</i>
Portulacaceae	<i>Calandrinia eremaea</i>
Portulacaceae	<i>Calandrinia</i> sp.
Portulacaceae	<i>Calandrinia</i> sp.
Portulacaceae	<i>Calandrinia</i> sp.
Portulacaceae	<i>Calandrinia</i> sp.
Proteaceae	<i>Adenanthos cygnorum</i>
Proteaceae	<i>Banksia benthamiana</i> P4
Proteaceae	<i>Banksia bipinnatifida</i> subsp. <i>multifida</i>
Proteaceae	<i>Banksia dallanneyi</i> var. <i>dallanneyi</i>
Proteaceae	<i>Banksia fraseri</i> var. <i>fraseri</i>
Proteaceae	<i>Banksia prionotes</i>
Proteaceae	<i>Banksia serratuloides</i> subsp. <i>serratuloides</i> T (S3 VU)
Proteaceae	<i>Banksia sessilis</i>
Proteaceae	<i>Grevillea acacioides</i>
Proteaceae	<i>Grevillea asparagoides</i> P3
Proteaceae	<i>Grevillea biternata</i>
Proteaceae	<i>Grevillea didymobotrya</i> subsp. <i>didymobotrya</i>
Proteaceae	<i>Grevillea eriostachya</i>
Proteaceae	<i>Grevillea eryngioides</i>
Proteaceae	<i>Grevillea excelsior</i>
Proteaceae	<i>Grevillea huegelii</i>
Proteaceae	<i>Grevillea paniculata</i>
Proteaceae	<i>Grevillea paradoxa</i>
Proteaceae	<i>Grevillea petrophiloides</i>
Proteaceae	<i>Grevillea petrophiloides</i> subsp. <i>petrophiloides</i>
Proteaceae	<i>Grevillea pilulifera</i>
Proteaceae	<i>Grevillea pterosperma</i>
Proteaceae	<i>Grevillea synapheae</i> subsp. <i>synapheae</i>
Proteaceae	<i>Grevillea teretifolia</i>
Proteaceae	<i>Hakea cygna</i> subsp. <i>cygna</i>
Proteaceae	<i>Hakea erecta</i>
Proteaceae	<i>Hakea francisiana</i>
Proteaceae	<i>Hakea incrassata</i>
Proteaceae	<i>Hakea invaginata</i>
Proteaceae	<i>Hakea lissocarpha</i>
Proteaceae	<i>Hakea preissii</i>
Proteaceae	<i>Hakea recurva</i>
Proteaceae	<i>Hakea scoparia</i>
Proteaceae	<i>Hakea scoparia</i> subsp. <i>scoparia</i>

Family	Taxon
Proteaceae	<i>Hakea sp.</i>
Proteaceae	<i>Hakea stenocarpa</i>
Proteaceae	<i>Persoonia ? quinquenervis</i>
Proteaceae	<i>Persoonia coriacea</i>
Proteaceae	<i>Persoonia quinquenervis</i>
Proteaceae	<i>Persoonia rufiflora</i>
Proteaceae	<i>Persoonia sulcata</i> P4
Proteaceae	<i>Persoonia trinervis</i>
Proteaceae	<i>Petrophile incurvata</i>
Proteaceae	<i>Petrophile shuttleworthiana</i>
Proteaceae	<i>Synaphea interioris</i>
Proteaceae	<i>Synaphea rangiferops</i> P2
Pteridaceae	<i>Cheilanthes sieberi</i>
Pteridaceae	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>
Ranunculaceae	<i>Ranunculus colonorum</i>
Restionaceae	<i>Desmocladus asper</i>
Restionaceae	<i>Lepidobolus preissianus</i>
Restionaceae	Restionaceae sp.
Rhamnaceae	<i>Cryptandra apetala</i>
Rhamnaceae	<i>Cryptandra apetala</i> var. <i>apetala</i>
Rhamnaceae	<i>Cryptandra nutans</i>
Rhamnaceae	<i>Cryptandra wilsonii</i>
Rhamnaceae	<i>Stenanthemum pomaderroides</i>
Rhamnaceae	<i>Trymalium ledifolium</i> var. <i>lineare</i>
Rhamnaceae	<i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>
Rhamnaceae	<i>Trymalium urceolare</i>
Rubiaceae	<i>Opercularia vaginata</i>
Rutaceae	<i>Drummondita hassellii</i>
Rutaceae	<i>Microcybe ambigua</i>
Rutaceae	<i>Microcybe multiflora</i> subsp. <i>multiflora</i>
Rutaceae	<i>Phebalium tuberculosum</i>
Rutaceae	Rutaceae sp.
Santalaceae	<i>Exocarpos aphyllus</i>
Santalaceae	<i>Exocarpos sparteus</i>
Santalaceae	<i>Santalum acuminatum</i>
Sapindaceae	<i>Dodonaea bursariifolia</i>
Sapindaceae	<i>Dodonaea divaricata</i>
Sapindaceae	<i>Dodonaea inaequifolia</i>
Sapindaceae	<i>Dodonaea pinifolia</i>
Scrophulariaceae	<i>Eremophila clarkei</i>
Scrophulariaceae	<i>Eremophila decipiens</i>
Scrophulariaceae	<i>Eremophila drummondii</i>
Scrophulariaceae	<i>Eremophila latrobei</i>

Family	Taxon
Scrophulariaceae	<i>Eremophila</i> sp. South Wubin (R. Davis 10648)
Solanaceae	* <i>Lycium ferocissimum</i> Declared, WoNS
Solanaceae	<i>Solanum lasiophyllum</i>
Solanaceae	<i>Solanum nigrum</i>
Stylidiaceae	<i>Stylidium limbatum</i>
Stylidiaceae	<i>Stylidium repens</i>
Typhaceae	* <i>Typha orientalis</i>
Xanthorrhoeaceae	<i>Xanthorrhoea preissii</i>
Zamiaceae	<i>Macrozamia riedlei</i>
Unknown	Dicotyledon herb

Appendix 9
Conservation significant
flora recorded in the
study area
(Calingiri - 1 of 3)

Study area

Priority 2

Acacia browniana var.
glaucescens

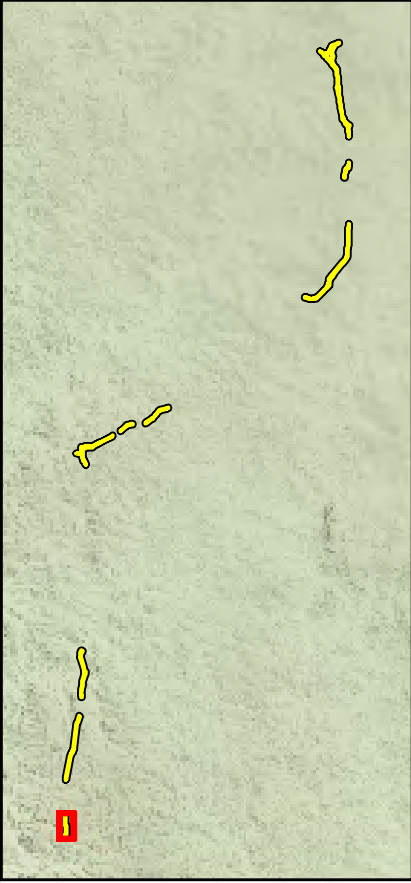
Priority 3

Acacia drummondii
subsp. *affinis*

0 75 150 300 Metres
1:10,000

Client: Jacobs
Project: Great Northern Highway –
Muchea to Wubin
(Stage 2) Upgrades
Author: K. Wyatt
Date: 17-Jun-16

Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator
Datum: GDA 1994



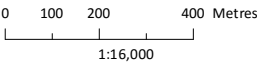
Appendix 9
Conservation significant
flora recorded in the
study area
(Calingiri - 2 of 3)

 Study area

Priority 4

 *Hibbertia miniata*

 *Persoonia sulcata*



Client: Jacobs
Project: Great Northern Highway –
Muchea to Wubin
(Stage 2) Upgrades
Author: K. Wyatt
Date: 17-Jun-16

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Projection: Transverse Mercator
Datum: GDA 1994



Appendix 9
Conservation significant
flora recorded in the
study area
(Calingiri - 3 of 3)

Study area

Threatened

*Banksia
serratuloides* subsp.
serratuloides

Priority 2

*Synaphea
rangiferops*

Priority 4

*Calothamnus
pachystachyus*

0 125 250 500 Metres
1:20,000

Client: Jacobs
Project: Great Northern Highway –
Muehea to Wubin
(Stage 2) Upgrades
Author: K. Wyatt
Date: 17-Jun-16

Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator
Datum: GDA 1994

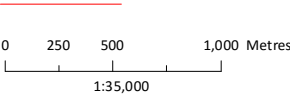


Appendix 9
Conservation significant
flora recorded in the
study area
(Pithara)

 Study area

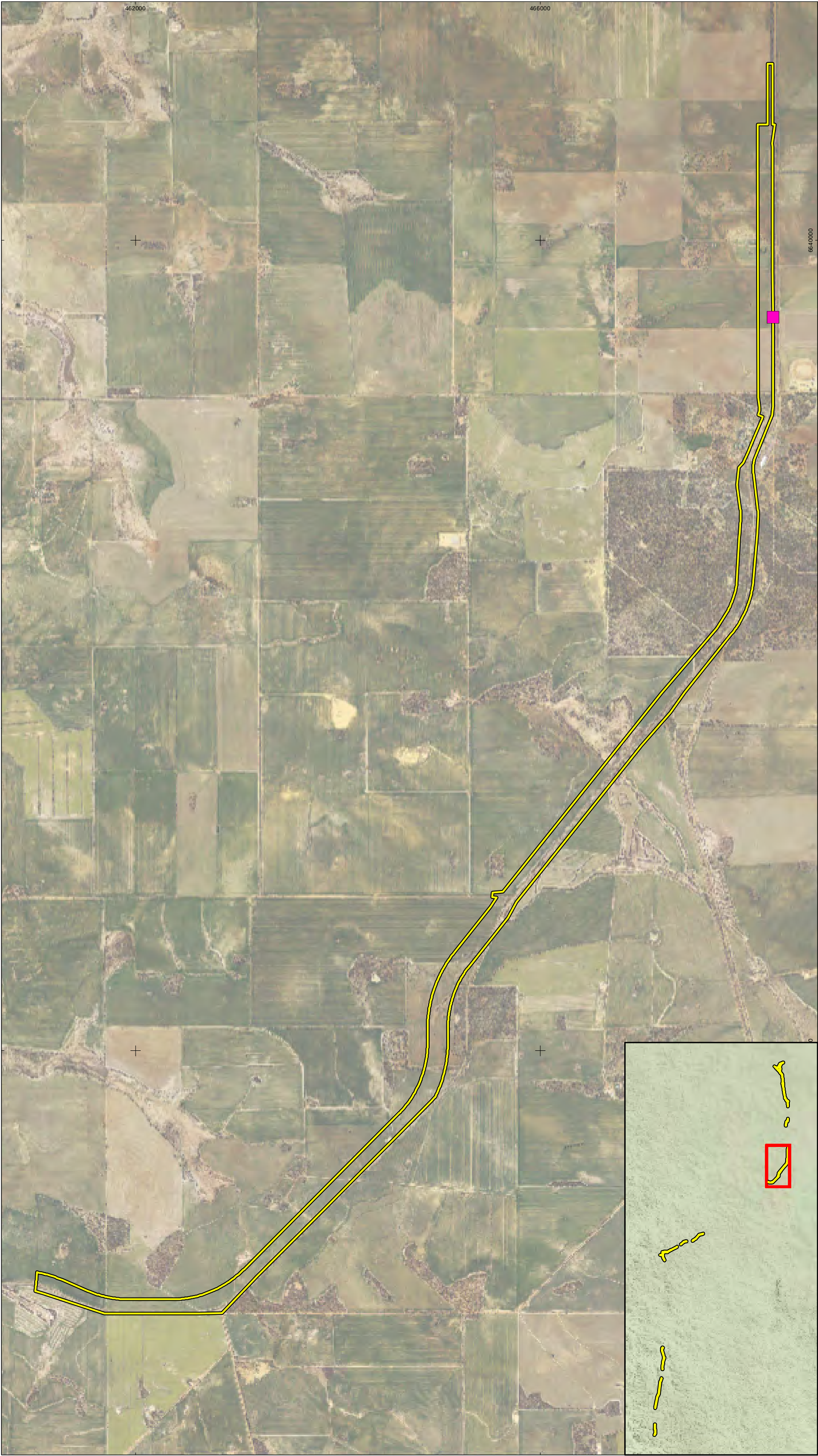
Priority 3

 *Acacia isoneura* subsp.
nimia



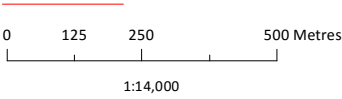
Client: Jacobs
Project: Great Northern Highway –
Muchea to Wubin
(Stage 2) Upgrades
Author: K. Wyatt
Date: 17-Jun-16

Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator
Datum: GDA 1994



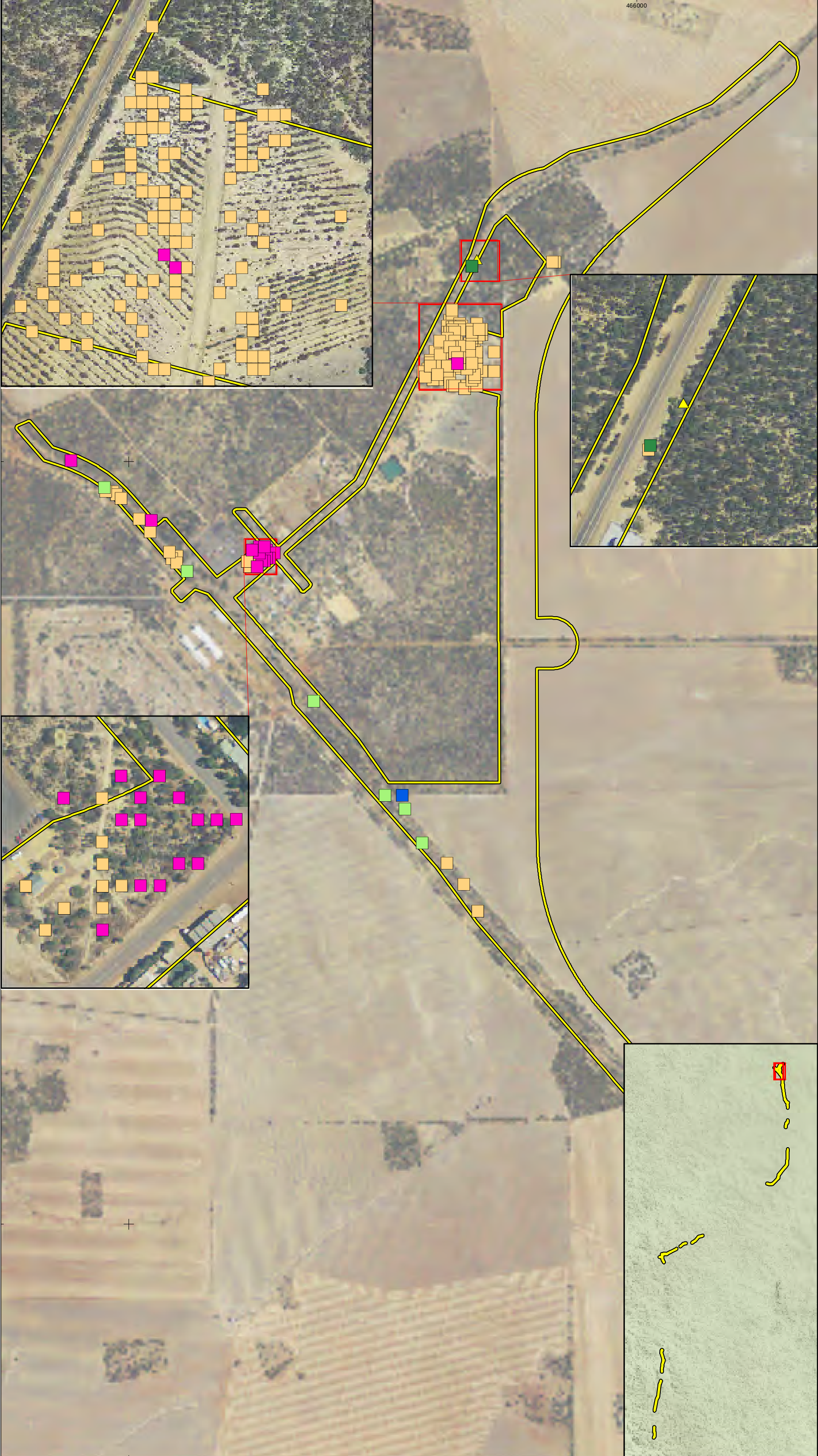
Appendix 9
Conservation significant
flora recorded in the
study area
(Nugadong to Wubin - 2 of 2)

- Study area
- Priority 3
- Acacia isoneura* subsp. *nimia*
- Acacia scalena*
- Daviesia debilior* subsp. *sinuans*
- Grevillea asparagoides*
- Verticordia venusta*
- Priority 4
- Banksia benthamiana*



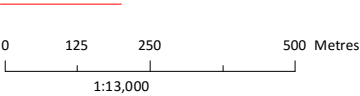
Client: Jacobs
Project: Great Northern Highway –
Muchea to Wubin
(Stage 2) Upgrades
Author: K. Wyatt
Date: 17-Jun-16

Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator
Datum: GDA 1994



Appendix 9
Conservation significant
flora recorded in the
study area
(Nugadong to Wubin - 1 of 2)

- Study area
- Priority 3
- Acacia scalena*
- Grevillea asparagoides*



Client: Jacobs
Project: Great Northern Highway –
Muchea to Wubin
(Stage 2) Upgrades
Author: K. Wyatt
Date: 17-Jun-16

Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator
Datum: GDA 1994

