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Table T1: Vegetation Communities / REs Transected by the Proposed Alignment Options

Vegetation Communities / REs		Status		Occurrence [^]	
RE Code	Description	EPBC	VMA	Survey Sites	Approx. KPs
11.3.4	<i>Eucalyptus tereticornis</i> and/or <i>Eucalyptus</i> spp. tall woodland on alluvial plains.		O	2A, 3A, 5J, 9J, 10J	13.2-13.4 14.5-14.6 14.9-15.0
11.3.11	Semi-evergreen vine thicket on alluvial plains.	E	E	4A	12.8-12.9
11.3.26	<i>Eucalyptus moluccana</i> or <i>E. microcarpa</i> woodland to open forest on margins of alluvial plains.		N	6A	12.5-12.8 12.9-13.2 13.4-14.5 15.0-15.2 17.4-17.5
11.11.3	<i>Corymbia citriodora</i> , <i>Eucalyptus crebra</i> , <i>E. acmenoides</i> open forest on old sedimentary rocks with varying degrees of metamorphism and folding. Coastal ranges.		N	1A, 8A, 4J, 6J	8.7-9.3 9.4-12.5 (with 11.11.4) 15.6-17.4 (with 11.11.15)
11.11.4	<i>Eucalyptus crebra</i> woodland on old sedimentary rocks with varying degrees of metamorphism and folding. Coastal ranges.		N	5A, 7A	9.4-12.5 (with 11.11.3) 18.0-18.9
11.11.15	<i>Eucalyptus crebra</i> woodland on deformed and metamorphosed sediments and interbedded volcanics. Undulating plains.		N		14.6-14.9 15.6-17.4 (with 11.11.3)
11.11.18	Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding. Lowlands.	E	E	8J	8.15-8.3
12.11.6	<i>Corymbia citriodora</i> , <i>Eucalyptus crebra</i> open forest on metamorphics ± interbedded volcanics.		N	1J, 7J, 11J	2.8-4.2
12.11.14	<i>Eucalyptus crebra</i> , <i>E. tereticornis</i> woodland on metamorphics ± interbedded volcanics		O	3J	4.4-4.8

E = Endangered under both EPBC Act and VM Act; OC = Of Concern; N = Not of Concern under the VM Act

[^] Refer Figure F2a, Figure F3 and Appendix A

Table T2: EVR Flora Species Potentially Occurring Within the Residue Pipeline Corridor and Wider Study Area

Family	Scientific Name (Common Name)	Conservation Status	Preferred Habitat	Preferred Habitat Present Along Alignment	Located During Field Survey	Source
Acanthaceae	<i>Graptophyllum excelsum</i>	R (Qld)	Restricted to Qld, extending from near Mt Larcom north to the Chillagoe- Mt Mungana area. Occurs on rocky hillsides in Semi-evergreen Vine Thickets. Also recorded growing in grassy eucalypt woodland (DNR, 1999).	Yes	No	2, 3
Apocynaceae	<i>Alyxia magnifolia</i>	R (Qld)	Remnant rainforest mainly north of Brisbane (Stanley and Ross, 1986).	No	No	2, 3
Apocynaceae	<i>Parsonsia larcomensis</i>	V (Aust) V (Qld)	Restricted to central east and south-east Qld, from three locations in the Rockhampton – Mt Perry area. Occurs in open heathland and shrubland at or near the summits of mountain peaks from 350 to 750 m elevation (DNR, 1999).	No	No	1, 2, 3
Apocynaceae	<i>Parsonsia lenticellata</i> (Narrow-leaved Parsonsia)	R (Qld)	Coastal districts in drier rainforests and transitional zone to open forest from Mackay to Port Douglas. Previous records of this species in SE Queensland are now considered <i>P. paulforsteri</i> (Forster, 1996; Stanley and Ross, 1986).	No	No	2
Aspleniaceae	<i>Asplenium pellucidum</i>	V (Aust) V (Qld)	Grows on mossy branches and rocks near waterfalls in rainforest.	No	No	2
Caesalpiniaceae	<i>Senna acclinis</i>	R (Qld)	Rainforest margins and adjacent open forest between 100 to 660m altitude and in association with <i>Pleiogynium timorense</i> , <i>Elattostachys</i> spp., <i>Eucalyptus grandis</i> and <i>Syncarpia glomulifera</i> (DNR, 1999).	No	No	3
Celastraceae	<i>Denhamia parvifolia</i>	V (Aust)	Vine thickets and softwood scrubs on	Yes	No	2

Family	Scientific Name (Common Name)	Conservation Status	Preferred Habitat	Preferred Habitat Present Along Alignment	Located During Field Survey	Source
		V (Qld)	hillslopes and crests, growing in brown or brownish-red loams and clay-loams (DNR, 1999).			
Combretaceae	<i>Dansiea elliptica</i>	R (Qld)	Sandy, granitic soils on rainforest margins in north-eastern Queensland, and in low elevation dry rainforest and semi evergreen vine thickets in south-eastern Queensland (DNR, 1999).	Yes	No	2, 3
Combretaceae	<i>Macropteranthes fitzalanii</i>	R (Qld)	Restricted to coastal areas of central Qld from the Proserpine area to Rockhampton. Occurs in notophyll and microphyll vine forests and littoral rainforests (DNR, 1999).	No	No	2, 3
Combretaceae	<i>Macropteranthes leiocaulis</i>	R (Qld)	Deciduous vine thickets, semi-evergreen vine thickets and araucarian microphyll vine forests on red euchrozems or sandstone talus (DNR, 1999).	No	No	2, 3
Cycadaceae	<i>Cycas megacarpa</i>	E (Aust) E (Qld)	Stony clay loams on hill tops and steep slopes. Commonly in spotted gum and ironbark open forest and woodland with a grassy understorey (DNR, 1999).	Yes	No	2, 3
Epacridaceae	<i>Leucopogon cuspidatus</i>	V (Aust)	Mainly on rocky slopes, cliffs and rocky outcrops. Commonly in woodland or open woodland and sometimes in heath or shrubland communities (M. Edginton, pers. comm.).	No	No	3
Euphorbiaceae	<i>Actephilia sessilifolia</i>	R (Qld)	Restricted range from Bowling Green Bay near Townsville, south to Mt Larcom near Gladstone. Occurs in notophyll / microphyll vine forests or vine thickets on red talus or granitic soils at 30 to 320 m altitude (DNR, 1999).	No	No	2, 3

Family	Scientific Name (Common Name)	Conservation Status	Preferred Habitat	Preferred Habitat Present Along Alignment	Located During Field Survey	Source
Fabaceae	<i>Indigofera baileyi</i>	R (Qld)	On clay soil derived from sandstone. Associated with <i>Eucalyptus crebra</i> (narrow leaved ironbark), <i>E. orgadophila</i> (mountain colibah) or <i>Corymbia erythrophloia</i> (gum topped bloodwood) (DNR, 1999).	Yes	No	2, 3
Hernandiaceae	<i>Hernandia bivalvis</i> (Grease Nut, Cudgerie)	R (Qld)	Vine forests on rocks with shallow soils (DNR, 1999).	No	No	2, 3
Mimosaceae	<i>Acacia storyi</i>	R (Qld)	On the Blackdown Tableland and adjacent lower land on the west side. Grows on sandstone plateau in open forest (Maslin, 2001).	No	No	2
Orchidaceae	<i>Bulbophyllum globuliforme</i> (Miniature Moss-orchid)	V (Aust) V (Qld)	Dry notophyll and microphyll vine forests, between 500 and 800 m, on old hoop pines (DNR, 1999).	No	No	2, 3
Poaceae	<i>Dichanthium setosum</i>	V (Aust) R (Qld)	Grassy woodland and open forest.	Yes	No	2, 3
Rutaceae	<i>Bosistoa transversa</i> (Three-leaved Bosistoa)	V (Aust)	Lowland rainforest (Stanley and Ross, 1983).	No	No	1, 2, 3
Rutaceae	<i>Zieria</i> sp. (Mt Larcom N.Gibson TOI8)	V (Qld)	Records of 5 specimens, all from various areas of Mt Larcom. Habitat details for a single specimen are as follows: "Mt Larcom, 5 km north-west of Yarwun. Summit, cliffines and exposed outcrops with scattered vegetation in open woodland / shrubland" (EPA, 2005).	No	No	2, 3
Sapindaceae	<i>Atalaya calcicola</i> (Rock White-wood)	R (Qld)	In dry rainforest and deciduous vine thicket on boulder-strewn slopes, and on hills with granite, limestone, sandstone and basaltic rock outcrops (Queensland Herbarium,	No	No	1, 2, 3

Family	Scientific Name (Common Name)	Conservation Status	Preferred Habitat	Preferred Habitat Present Along Alignment	Located During Field Survey	Source
			2005).			
Sapindaceae	<i>Atalaya collina</i>	E (Aust) E (Qld)	Grows on hillsides in remnant dry scrubs. Occurs together with <i>A. salicifolia</i> , but is not as common as that species (Reynolds, 1991).	Yes	No	1, 2, 3
Sapindaceae	<i>Atalaya rigida</i>	R (Qld)	Restricted to eastern Qld from Mt Aberdeen near Bowen, south to Mt Glastonbury south west of Gympie. Occurs in vine thicket and araucarian microphyll notophyll vineforest on red clay soil or black clay loam (DNR, 1999).	Yes	No	1
Sapindaceae	<i>Cupaniopsis shirleyana</i> (Wedge-leaf Tuckeroo)	V (Aust) V (Qld)	Depauperate rainforests from Brisbane to Bundaberg (Stanley and Ross, 1983).	Yes	No	1
Simaroubaceae	<i>Quassia bidwillii</i> (Quassia)	V (Aust) V (Qld)	Below 650 m in rainforests, open forest, woodland and mangroves (DNR, 1999).	Yes	No	1

Legislative status: E = Endangered; V = Vulnerable; R = Rare

Aust = Commonwealth Environment Protection and Biodiversity Conservation Act 1999; Qld = Queensland Nature Conservation (Wildlife) Regulation 2006.

^ Source of record: 1 = DEW Protected Matters Search; 2 = Wildnet database; 3 = HERBRECS database.

Table T3: Approximate Areas of Remnant Vegetation Impacted by Proposed Residue Pipeline**(a) Endangered REs**

RE Code	Approximate KPs within pipeline corridor (km)	Length within pipeline corridor (km)	Area within pipeline corridor (ha)	Area within 10 km buffer (ha)	% of buffer area impacted
11.3.11	12.8-12.9	0.1	0.4	36.9	1.08
11.11.18	8.15-8.3	0.15	0.45	390.8	0.12

(b) Of Concern REs

RE Code	Approximate KPs within pipeline corridor (km)	Length within pipeline corridor (km)	Area within pipeline corridor (ha)	Area within 10 km buffer (ha)	% of buffer area impacted
11.3.4	13.2-13.4, 14.5-14.6, 14.9-15.0	0.4	1.2	247.5	0.48
12.11.14	4.4-4.8	0.4	1.2	244.7	0.49

(c) Not Of Concern REs

RE Code	Approximate KPs within pipeline corridor (km)	Length within pipeline corridor (km)	Area within pipeline corridor (ha)	Area within 10 km buffer (ha)	% of buffer area impacted
11.3.26	12.5-12.8, 12.9-13.2, 13.4-14.5, 15.0-15.2, 17.4-17.5	2.0	6.0	1 120	0.54
11.11.3	8.7-9.3, 9.4-12.5 (with 11.11.4), 15.6-17.4 (with 11.11.15)	3.1	9.3	270.4	3.4
11.11.4	9.4-12.5 (with 11.11.3), 18.0-18.9	2.4	7.2	1 167	0.62
11.11.15	14.6-14.9, 15.6-17.4 (with 11.11.3)	1.2	3.6	908.2	0.40
12.11.6	2.8-4.2	1.4	4.2	2 921	0.14

Table T4: Fauna Species Recorded During Field Assessments (June and August 2007)

Common Name	Scientific Name	Status*	Time & Location of Surveys#
AMPHIBIANS			
Copper-backed Brood Frog	<i>Pseudophyrne raveni</i>	SEQ	(Jun) FA05 (Aug) FA07
Cane Toad^	<i>Bufo marinus</i>		(Aug) FA07
REPTILES			
Fence Skink	<i>Cryptoblepharus virgatus</i>		(Jun) FA11 (Aug) KP 13.9
Fine-spotted Mulch Skink	<i>Glaphyromorphus punctulatus</i>	SEQ	(Aug) FA04
Bynoe's Gecko	<i>Heteronotia binoei</i>		(Aug) FA09
BIRDS			
Fan-tailed Cuckoo	<i>Cacomantis flabelliformis</i>		(Jun) Opportunistic
Australian Bustard	<i>Ardeotis australis</i>	NT	(Aug) KP 13.1
Australian Magpie	<i>Gymnorhina tibicen</i>		(Jun) FA05, FA10 (Aug) FA07
Australian Wood Duck	<i>Chenonetta jubata</i>		(Jun) FA04
Barking Owl	<i>Ninox connivens</i>	SEQ, BBS	(Aug) FA04
Black Kite	<i>Milvus migrans</i>		(Jun) Opportunistic
Blue-faced Honeyeater	<i>Entomyzon cyanotis</i>		(Aug) FA09
Brown Honeyeater	<i>Lichmera indistincta</i>		(Jun) FA01, FA03, FA08, FA09 (Aug) FA01, FA02, FA03, FA06, FA07
Buff-rumped Thornbill	<i>Acanthiza reguloides</i>		(Jun) FA03
Double-barred Finch	<i>Taeniopygia bichenovii</i>		(Jun) FA10 (Aug) FA08
Forest Kingfisher	<i>Todiramphus macleayii</i>		(Jun) Opportunistic
Galah	<i>Eolophus roseicapilla</i>		(Aug) FA07

Common Name	Scientific Name	Status*	Time & Location of Surveys#
Golden-headed Cisticola	<i>Cisticola exilis</i>		(Jun) Opportunistic
Grey Fantail	<i>Rhipidura fuliginosa</i>		(Jun) FA02, FA10, FA11 (Aug) FA08
Grey Shrike-thrush	<i>Colluricincla harmonica</i>		(Aug) FA02, FA08
Intermediate Egret	<i>Ardea intermedia</i>		(Jun) FA05
Laughing Kookaburra	<i>Dacelo novaeguineae</i>		(Jun) FA06, FA07, FA11 (Aug) FA02, FA04
Lewin's Honeyeater	<i>Meliphaga lewinii</i>		(Aug) FA02, FA03, FA07
Little Friarbird	<i>Philemon citreogularis</i>		(Jun) FA03 (Aug) FA02, KP 16.0
Little Lorikeet	<i>Glossopsitta pusilla</i>		(Aug) FA02
Noisy Friarbird	<i>Philemon corniculatus</i>		(Jun) FA08 (Aug) FA01, FA05, FA06, FA07
Magpie-lark	<i>Grallina cyanoleuca</i>		(Jun) Opportunistic (Aug) Opportunistic
Mistletoebird	<i>Dicaeum hirundinaceum</i>		(Jun) FA07, FA08
Noisy Miner	<i>Manorina melanocephala</i>		(Jun) Opportunistic (Aug) FA01
Pacific Black Duck	<i>Anas superciliosa</i>		(Jun) Opportunistic
Pale-headed Rosella	<i>Platycercus adscitus</i>		(Aug) FA01
Peaceful Dove	<i>Geopelia striata</i>		(Jun) FA07, FA08 (Aug) KP 8.2
Pheasant Coucal	<i>Centropus phasianinus</i>		(Jun) Opportunistic
Pied Currawong	<i>Strepera graculina</i>		(Jun) Opportunistic
Pied Butcherbird	<i>Cracticus nigrogularis</i>		(Aug) FA05

Common Name	Scientific Name	Status*	Time & Location of Surveys#
Rainbow Bee-eater	<i>Merops ornatus</i>		(Jun) Opportunistic (Aug) FA01, FA02, FA05
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>		(Jun) FA01, FA08, FA11 (Aug) FA01, FA02, FA06, FA07
Red-backed Fairy-wren	<i>Malurus melanocephalus</i>		(Aug) FA04, FA08, FA09, KP 16.0
Rufous Whistler	<i>Pachycephala rufiventris</i>		(Jun) FA01, FA03 (Aug) FA02, FA08
Scaly-breasted Lorikeet	<i>Trichoglossus chlorolepidotus</i>		(Aug) FA07
Scarlet Honeyeater	<i>Myzomela sanguinolenta</i>		(Aug) FA01, FA06, KP 8.2
Striated Pardalote	<i>Pardalotus striatus</i>		(Jun) FA01, FA06, FA10, FA11 (Aug) FA01, FA02, FA03, FA07, FA08;
Wedge-tailed Eagle	<i>Aquila audax</i>		(Jun) Opportunistic
Whistling Kite	<i>Haliastur sphenurus</i>		(Aug) KP 9.3
White-throated Honeyeater	<i>Melithreptus albogularis</i>		(Jun) FA01, FA11
White-headed Sitella	<i>Daphoenositta chrysoptera leucocephala</i>		(Jun) FA01
White-winged Chough	<i>Corcorax melanorhamphos</i>		(Aug) FA04, HDD site
MAMMALS			
Whip-tailed Wallaby	<i>Macropus parryi</i>		(Jun) Opportunistic (Aug) FA01
Pig (tracks)^	<i>Sus scrofa</i>		(Jun) Opportunistic
Rabbit (burrows, scat)^	<i>Oryctolagus cuniculus</i>		(Jun) Opportunistic (Aug) FA09, KP 17.5, HDD site
Echidna (diggings)	<i>Tachyglossus aculeatus</i>		(Aug) FA04, KP 13.3
Bandicoot (diggings)	various genera		(Aug) FA06
Eastern Grey Kangaroo	<i>Macropus giganteus</i>		(Aug) FA07, KP16.0



Common Name	Scientific Name	Status*	Time & Location of Surveys#
Whip-tailed Wallaby	<i>Macropus parryi</i>		(Jun) Opportunistic (Aug) FA01

* STATUS: SEQ – Regionally Significant species in South East Queensland Bioregion; BBS – Regionally Significant species in Brigalow Belt South Bioregion; NT – Near Threatened species as listed by Garnett & Crowley (2000).

^ Introduced species.

HDD – Proposed lay down area for Horizontal Directional Drilling.

Table T5: Description of Broad Fauna Habitats Occurring Within the Proposed Alignments

Fauna Habitat	Description	Survey Sites	Approx. KPs
Riparian Woodland	Queensland Blue Gum (<i>Eucalyptus tereticornis</i>) woodland on broad alluvial plains, generally with a sparse grassy understorey. Other eucalypts may be present. Corresponds to RE 11.3.4.	FA10 (Jun)	13.2-13.4 14.5-14.6 14.9-15.0
Fringing Riparian Open Forest	Fringing open forest along creeks dominated by Queensland Blue Gum, Narrow-leaved Red Ironbark (<i>E. crebra</i>) and Moreton Bay Ash (<i>Corymbia tessellaris</i>). The lower layers may be dense and floristically diverse. Corresponds to RE 11.3.25 and gullies within Eucalypt Woodland on hills.	FA02 (Jun), FA04 (Jun), FA09 (Jun), FA02 (Aug), FA03 (Aug), FA07 (Aug)	4.3 10.9 12.0 12.9 14.9
Lemon-scented Gum and Ironbark Woodland on hills	Lemon-scented Gum (<i>Corymbia citriodora</i>) and Narrow-leaved Red Ironbark woodland on hills and lowlands. Other Eucalypts may be locally prominent and the understorey quite dense in patches. Corresponds to REs 11.11.3, 11.11.4, 11.11.15, 12.11.6 and 12.11.14.	FA01 (Jun), FA03 (Jun), FA06 (Jun), FA07 (Jun), FA11 (Jun), FA01 (Aug), FA05 (Aug), FA08 (Aug), FA09 (Aug)	2.8-4.2, 4.4-4.8 8.7-9.3, 9.4-12.5 14.6-14.9, 15.6-17.4 18.0-18.9
Eucalypt Woodland with Semi-evergreen Vine Thicket understorey.	Eucalypt woodland on hills and lowlands with an understorey approaching a semi-evergreen vine thicket structure and composition. Corresponds to RE 11.11.18 and 11.3.11.	FA08 (Jun), FA04 (Aug)	8.15-8.3
Farm Dam	Constructed dam within drainage line. Little to no aquatic plants or fringing vegetation. Does not correspond to any RE.	FA05 (Jun)	
Cleared land and non-remnant vegetation	Land cleared or mostly cleared of trees and other woody vegetation, for agriculture such as grazing or crops. Often includes occasional scattered 'paddock' trees, remaining as individuals or small stands.	–	Remainder
Gum-topped Box woodland	Gum-topped Box (<i>Eucalyptus moluccana</i>) woodland on alluvial plains, generally with a grassy understorey. Corresponds to RE 11.3.26.	FA06 (Aug),	12.5-12.8 12.9-13.2 13.4-14.5 15.0-15.2 17.4-17.5

Table T6: EVR Vertebrate Fauna Species Potentially Occurring Within the Residue Pipeline Corridor and Wider Study Area

Common Name	Scientific Name	Status**	Preferred habitats	Preferred habitats within Study Area	Source^
INVERTEBRATES					
Imperial Hairstreak (northern subspecies)	<i>Jalmenus evagoras eubulus</i>	VU ²	Only breeds in mature Acacia forest, generally Brigalow, which is the preferred food plant of the larvae. Has been observed feeding on other Acacia species.	N	2
REPTILES					
Short-necked Worm-skink	<i>Anomalopus brevicollis</i>	R ²	Fine soil under large rocks and fallen wood in subtropical dry sclerophyll forest, vine thicket and moist rainforest. Often found along edges e.g. watercourses or clearings.	Y	4
Loggerhead Turtle	<i>Caretta caretta</i> *	EN ^{1 and 2}	Tropical and warm temperature marine waters. Nests on beaches.	N	1, 2
Green Turtle	<i>Chelonia mydas</i> *	VU ^{1 and 2}	Tropical and warm subtropical seas of northern Australia. Nests on beaches, with breeding records south to South East Queensland.	N	1, 2
Estuarine Crocodile	<i>Crocodylus porosus</i>	VU ²	Tropical coastal rivers and swamps south to about Rockhampton, extending well inland via major rivers and billabongs.	N	1
Leatherback Turtle	<i>Dermochelys coriacea</i> *	VU ¹ / EN ²	Tropical and temperate marine waters, including estuaries and tidal river mouths. Limited nesting recorded on beaches between Fraser Is. and Mackay.	N	1
Ornamental Snake	<i>Denisonia maculata</i> *	VU ^{1 and 2}	Low-lying areas with cracking clay soils in open forests, woodlands and riparian habitats. Lives under fallen timber and bark and in soil cracks and forages for frogs at night.	N	1
Yakka Skink	<i>Egernia rugosa</i> *	VU ^{1 and 2}	Dry open forests or woodland with dense ground vegetation, rocky areas, fallen timber and other debris.	Y	1
Hawksbill Turtle	<i>Eretmochelys imbricata</i> *	VU ^{1 and 2}	Coastal marine waters south to NSW, breeding predominantly on beaches in the Gulf of Carpentaria and Great Barrier Reef islands.	N	1

Common Name	Scientific Name	Status**	Preferred habitats	Preferred habitats within Study Area	Source^
Dunmall's Snake	<i>Furina dunmalli</i> *	VU ^{1 and 2}	Dry sclerophyll forest and woodland and Brigalow scrub on floodplains of cracking clay soils.	N	1
Olive Ridley Turtle	<i>Lepidochelys olivacea</i> *	EN ^{1 and 2}	Marine waters, generally tropical. Scattered nesting records on beaches in Cape York and the Northern Territory.	N	1
Flatback Turtle	<i>Natator depressus</i> *	VU ^{1 and 2}	Inshore coastal waters of northern Australia. Breeds exclusively on Australian beaches, south to Bundaberg region in Qld.	N	1, 2
Cooloola Snake-skink	<i>Ophioscincus cooloolensis</i>	R ²	Coastal heaths, woodlands, SEVT and rainforests on white sands in Cooloola and Fraser Is areas of SE Qld. Also recorded from GSDA and Kroombit Tops.	N	2
Brigalow Scaly-foot	<i>Paradelma orientalis</i>	VU ^{1 and 2}	Eucalypt woodland, usually found under logs and debris. Also found climbing in rough Acacia trees.	Y	1, 2, 4
Fitzroy River turtle	<i>Rheodytes leukops</i>	VU ^{1 and 2}	Riverine species dependent upon shallow fast-flowing water (riffle zones).	N	1, 4
Rusty Monitor	<i>Varanus semiremex</i>	R ²	Poorly known. Hollow trees in mangrove forests fringing tidal estuaries, and melaleucas along freshwater streams and swamps, from Cape York to Gladstone.	N	2
BIRDS					
Grey Goshawk	<i>Accipiter novaehollandiae</i>	R ²	Heavy, humid forests and rainforests - utilises eucalypt and paperbark woodlands only where they are dense or form tall galleries along streams.	N	2, 3
Glossy Black Cockatoo	<i>Calyptorhynchus lathami</i>	VU ²	Coastal forest and open inland woodland. Feeds primarily on <i>Allocasuarina littoralis</i> or <i>Allocasuarina torulosa</i> .	N	2, 3
White-rumped Swiftlet	<i>Collocalia spodiopygius</i>	R ²	Aerial forager; coastal ranges/cliffs, grassland and islands.	Y	2
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>	R ²	Lakes, swamps, freshwater pools and mangroves. Nests in trees or large bushes, often over swamps.	N	2, 3
Carpentaria Yellow Chat	<i>Epthianura crocea macgregori</i>	CE ¹ / EN ²	Freshwater or saline drainage channels on coastal marine plains, connected to tidally influenced wetlands. Breeding habitat is rank vegetation (rushes, sedges, grasses) flanking wetlands, adjacent to muddy substrates used for foraging.	N	1
Beach Stone-curlew	<i>Esacus neglectus</i>	VU ²	Reefs, beaches and coastal mudflats.	N	2, 3

Common Name	Scientific Name	Status**	Preferred habitats	Preferred habitats within Study Area	Source^
Red Goshawk	<i>Erythrorhynchus radiatus</i>	VU ¹ / EN ²	Tropical open woodland, edges of rainforest and dense riverine vegetation. Nests in trees taller than 20 m and within 1 km of a permanent watercourse or wetland. Foraging usually occurs in open forests and gallery forests.	Y	1
Squatter Pigeon (southern subspecies)	<i>Geophaps scripta scripta</i>	VU ^{1 and 2}	Open grasslands often in eucalypt woodland. Preference for areas on sandy soil with low gravel ridges and nearby water.	Y	1, 2, 3
Sooty Oystercatcher	<i>Haematopus fuliginosus</i>	R ²	Coastal; prefers sandy beaches, tidal flats and estuaries.	N	2, 3
Square-tailed Kite	<i>Lophoictinia isura</i>	R ²	Sparsely distributed in open eucalypt forests, woodlands and sand plains.	Y	2, 3
Southern Giant-Petrel	<i>Macronectes giganteus</i>	EN ^{1 and 2}	Coastal and offshore waters, shorelines south of Rockhampton.	N	1
Black-chinned Honeyeater	<i>Meliphaga gularis</i>	R ²	Open eucalypt woodland in eastern and northern Australia, especially ironbarks and box, paperbarks, and tree-lined watercourses of arid areas.	Y	2
Cotton Pygmy-goose	<i>Nettion coromandelianus</i>	R ²	Freshwater lakes, swamps and impoundments.	Y	1, 2, 3
Powerful Owl	<i>Ninox strenua</i>	VU ²	Eucalypt forests along the Great Dividing Range, preferring tall wet sclerophyll forests, where 800-1000 ha territories centre on densely vegetated gullies.	Y	2
Eastern Curlew	<i>Numenius madagascariensis</i>	R ²	Summer non-breeding migrant to eastern and northern Australian coasts. Estuaries, mud flats and soft, sandy beaches.	N	2, 3
Kermadec Petrel (western)	<i>Pterodroma neglecta neglecta</i>	VU ¹	Pelagic; forages at sea in tropical and subtropical waters of the South Pacific; nests on high islands among rocks and vegetation.	N	1
Lewin's Rail	<i>Rallus pectoralis</i>	R ²	Brackish and freshwater marshes, wet heaths and swampy grasslands in coastal southern and eastern Australia.	N	2, 3
Australian Painted Snipe	<i>Rostratula australis</i>	VU ^{1 and 2}	Shallow muddy freshwater swamps and marshes.	N	1
Little Tern	<i>Sterna albibrons</i>	EN ²	Ocean beaches and coral reefs from Port Headland on WA coast along northern and eastern coasts to Bass Strait. It spreads along the coast to breed in spring and summer but returns north to breed in winter.	N	1, 2

Common Name	Scientific Name	Status**	Preferred habitats	Preferred habitats within Study Area	Source^
Black-breasted Button-quail	<i>Turnix melanogaster</i>	VU ¹ and ²	Semi-evergreen vine-thickets with a closed canopy and deep litter layer, or lantana thickets adjacent to semi-evergreen vine thickets.	Y	1, 2, 3
Radjah Shelduck	<i>Tadorna radjah</i>	R ²	Mainly brackish waters, mud banks and the mangrove fringed mouths and lower reaches of tropical rivers. Also lagoons and pools along rivers and swamps.	N	2, 3
MAMMALS					
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	VU ¹ / R ²	Dry forests and woodlands, moist eucalypt forests, caves and mine.	Y	1
Little Pied Bat	<i>Chalinolobus pictatus</i>	R ²	Dry sclerophyll forest, woodland and scrub. Roosts in caves, mineshafts, tree hollows	Y	2
Northern Quoll	<i>Dasyurus hallucatus</i>	EN ¹	Most abundant in rocky eucalypt woodlands but occurs in a variety of habitats, often near creeklines. Dens in tree hollows and rock crevices.	Y	1
Eastern Long-eared Bat	<i>Nyctophilus timoriensis</i> (South-eastern form)	VU ¹ and ²	River Red Gum forest, semi-arid woodlands and savannas. Appears to prefer semi-arid areas but can be found in high rainfall areas. Roosts in tree hollows, fissures in branches and under sheets of bark.	N	1, 2
Irrawaddy Dolphin	<i>Orcaella brevirostris</i>	R ²	Coastal and estuarine northern waters from Onslow, WA to Brisbane. Prefers muddy and brackish waters and will travel long distances up tropical rivers.	N	1
Indo-Pacific Humpback Dolphin	<i>Sousa chinensis</i>	R ²	Coastal tropical and warm temperate waters, including estuaries, tidal rivers and mangrove channels, from Exmouth in WA to Coffs Harbour in NSW.	N	1
False Water Rat	<i>Xeromys myoides</i>	VU ¹ and ²	Saline grassland, saltmarsh, mangroves, margins of freshwater swamps close to fore-dunes. Forages in the mangrove on low tides at night.	N	1

**Status: ¹: Commonwealth listed: CE = Critically Endangered; EN = Endangered; VU = Vulnerable.

²: State listed: EN = Endangered; VU = Vulnerable; R = Rare.

^Source: 1 = EPBC Protected Matters Report; 2 = WildNET; 3 = Ozbirds; 4 = Queensland Museum.

Table T7: Regionally Significant Vertebrate Fauna Species Potentially Occurring Within the Residue Pipeline Corridor and Wider Study Area

Common Name	Scientific Name	AP Status*	Non-EVR Priority Taxon*	Preferred habitats	Preferred habitats within Study Area	Source
FISH						
Agassiz's Glassfish	<i>Ambassis agassizii</i>	R		Billabongs and larger tropical rivers to desert waterholes and creeks.	N	2
Jungle Perch	<i>Kuhlia rupestris</i>		SEQ	Fast flowing streams with overhanging vegetation providing shade.	N	2
AMPHIBIANS						
Salmon-striped Frog	<i>Limnodynastes salmini</i>		SEQ, BBS	Spends much of it's time underground, only emerging after rain. Uses temporary marshes and ditches for breeding.	Y	4
Chirping Froglet	<i>Crinia deserticola</i>		SEQ	Creek beds and clay pans associated with broad river channels in semi-arid areas.	N	2
Superb Collared Frog	<i>Cyclorana brevipes</i>		SEQ	Dry savannah woodland and clay pans.	N	2
Eastern Snapping Frog	<i>Cyclorana novaehollandiae</i>		SEQ	Woodland and associated grassland and clay pans.	Y	2
Bumpy Rocketfrog	<i>Litoria inermis</i>		SEQ	Flood plains, woodlands and monsoonal forests.	Y	2, 4
Emerald Spotted Treefrog	<i>Litoria peronii</i>		SEQ	Forested habitats including adjacent grassland and other open areas.	Y	2
Northern Laughing Treefrog	<i>Litoria rothii</i>		SEQ	Varied tropical and sub-tropical habitats around trees close to water.	Y	2, 4
Great Brown Broodfrog	<i>Pseudophryne major</i>		SEQ	Damp or boggy areas in forest or heathland.	Y	2
Copper Backed Broodfrog	<i>Pseudophryne raveni</i>		SEQ	Varied habitats including open forest and swamps.	Y	2
Dusky Gungan	<i>Uperoleia fusca</i>		BBS	Open eucalypt forest, shrubland, grassland.	Y	2
REPTILES						
Cone-eared Calyptotis	<i>Calyptotis lepidorostrum</i>		SEQ	Rainforest, wet and dry sclerophyll forests and heaths of SEQ and coastal Central Qld.	Y	2

Common Name	Scientific Name	AP Status*	Non-EVR Priority Taxon*	Preferred habitats	Preferred habitats within Study Area	Source
Open-litter Rainbow-skink	<i>Carlia pectoralis</i>		SEQ	Dry sclerophyll forests, woodlands and heaths in coastal and adjacent inland regions.	Y	2, 4
Tommy Roundhead	<i>Diporiphora australis</i>		SEQ	Heaths, dry forests and woodlands of coastal and adjacent inland environs.	Y	2, 4
Fine-spotted Mulch-skink	<i>Glaphyromorphus punctulatus</i>		SEQ	Woodlands, vine thickets, rock outcrops in coastal areas south of the Wet Tropics to northern SEQ.	Y	2, 4
Common Dwarf Skink	<i>Menetia greyii</i>		SEQ	Varied habitats tending towards drier sites.	Y	2
Dwarf Litter-skink	<i>Menetia timlowi</i>		SEQ	Varied habitats from closed semi-evergreen vine thickets to open woodlands and heath / Spinifex.	Y	2, 4
South-eastern Morethia Skink	<i>Morethia boulengeri</i>		SEQ	Lightly timbered areas usually in association with heavy soils.	Y	2, 4
Fire-tailed Skink	<i>Morethia taeniopleura</i>		SEQ	Ranges and well-drained coastal areas, often associated with rock outcrops.	Y	2, 4
Eastern Small-eyed Snake	<i>Cryptophis nigrescens</i>		SEQ	Varied forested habitats including rainforests to moist sites within dry forests.	Y	2
Black-striped Snake	<i>Cryptophis nigrostriatus</i>		SEQ	Dry forest, woodlands and rock outcrops of coastal environs.	Y	2
Pink-tongued Lizard	<i>Cyclodomorphus gerrardii</i>		BBS	Rainforests, wet forests and gullies in eastern Australia from Sydney to Cairns	Y	2
Carpentaria Whip Snake	<i>Cryptophis boschmai</i>		BBS	Dry forests and woodlands in eastern Qld, often on deep cracking soils	Y	2
Bandy-bandy	<i>Vermicella annulata</i>	R / IK		Varied habitats from cool upland rainforest to sandy deserts, tropical woodland.	Y	2
BIRDS						
Australian Bustard	<i>Ardeotis australis</i>	NT		Grasslands, open dry woodlands, mulga, mallee, heath.	Y	2, 3
Black-faced Woodswallow	<i>Artamus cinereus</i>		SEQ	Aerial species, drier woodlands, mulga, Spinifex, gibber plains, samphire; avoids denser forests.	Y	2, 3
Little Wattlebird	<i>Anthochaera chrysoptera</i>		SEQ	Forest, woodlands, banksia heath, gardens.	Y	3

Common Name	Scientific Name	AP Status*	Non-EVR Priority Taxon*	Preferred habitats	Preferred habitats within Study Area	Source
Bush Stone-curlew	<i>Burhinus grallarius</i>	NT	SEQ, BBS	Open forest, woodland, mallee, mulga. Avoids dense forests.	Y	2, 3
Large-tailed Nightjar	<i>Caprimulgus macrurus</i>		SEQ	Margins of rainforest, monsoon and vine forest, mangroves and adjoining tropical woodland.	N	2, 3
Blue-winged Kookaburra	<i>Dacelo leachii</i>		SEQ	Open forest, semi-arid woodland, tropical woodlands, tree-line rivers.	Y	2, 3
Fairy Gerygone	<i>Gerygone palpebrosa</i>		SEQ	Lowland rainforest, monsoon, riparian forests, mangroves and adjacent eucalypt woodland.	Y	2, 3
Musk Lorikeet	<i>Glossopsitta concinna</i>		SEQ	Woodland, open forest, mallee, cleared country with trees along watercourses.	Y	2
Yellow-tufted Honeyeater	<i>Lichenostomus melanops</i>		SEQ	Eucalypt forest and woodland with shrub undergrowth, also mallee, brigalow and cypress.	Y	2
Shining Flycatcher	<i>Myiagra alecto</i>		SEQ	Forest and woodland, mangroves, coastal heath; avoids rainforest.	Y	2
Dusky Honeyeater	<i>Myzomela obscura</i>		SEQ	Rainforest, paperbarks, mangroves, watercourse thickets, nearby woodland.	Y	2, 3
Yellow-bellied Sunbird	<i>Nectarinia jugularis</i>		SEQ	Rainforest, plantations, gardens and watercourse vegetation, mangroves and coastal scrub.	Y	2, 3
Rose-crowned Fruit-dove	<i>Ptilinopus regina</i>		SEQ	Rainforest, monsoon forest, vine scrub, mangroves, swampy woodlands.	N	2, 3
Paradise Riflebird	<i>Ptiloris paradiseus</i>		SEQ	Subtropical, temperate rainforest, nearby paperbark swamps, wet eucalypt forest.	N	2
Brown Treecreeper	<i>Climacteris picumnus</i>		BBS	Eucalypt forests and woodlands, scrubs of drier regions, river-edges, timbered paddocks.	Y	2, 3
Grey-crowned Babbler	<i>Pomatostomus temporalis</i>		BBS	Open forests and woodlands.	Y	2, 3
Green Pygmy-goose	<i>Nettapus pulchellus</i>		SEQ	Deep permanent freshwater lakes, dams and lagoons with abundant aquatic vegetation.	N	3
Barking Owl	<i>Ninox connivens</i>		SEQ, BBS	Open country with stands of trees, tree-lined watercourses and paperbark swamps.	Y	2, 3

Common Name	Scientific Name	AP Status*	Non-EVR Priority Taxon*	Preferred habitats	Preferred habitats within Study Area	Source
Little Curlew	<i>Numenius minutus</i>		SEQ	Dry grassland of clay and black soil plains, river floodplains, woodland with grassy understorey.	Y	1
MAMMALS						
Rufous Bettong	<i>Aepyprymnus rufescens</i>		BBS	Eucalypt forests and woodlands with sparse or grassy understoreys between Cooktown to coastal mid-NSW.	Y	2
Hoary Wattled Bat	<i>Chalinolobus nigrogriseus</i>		BBS	Varied habitats including vine forest, tropical savannah, dry sclerophyll forest and coastal scrub.	Y	2
Northern Quoll	<i>Dasyurus hallucatus</i>		BBS	Most abundant in rocky eucalypt woodlands but occurs in a variety of habitats, often near creeklines. Dens in tree hollows and rock crevices.	Y	1
Northern Brown Bandicoot	<i>Isodon macrourus</i>		BBS	Wet tropical and subtropical forest, woodland, grassland, gardens in northern Australia.	Y	2
Agile Wallaby	<i>Macropus agilis</i>		SEQ	Varied habitats including grassy forests and woodlands predominantly in flatter areas.	Y	2
Black-striped Wallaby	<i>Macropus dorsalis</i>		BBS	Rainforests, brigalow, vine thicket, eucalypt forest and woodland with a dense shrub layer.	Y	2, 4
Little Bent-wing Bat	<i>Miniopterus australis</i>		BBS	Lowland rainforest, wet and dry sclerophyll forest, paperbark swamps. Roosts in caves and tunnels.	Y	2
Eastern Bent-wing Bat	<i>Miniopterus schreibersii oceanensis</i>		BBS	Roosts in colonies in caves, old mines. Populations centred on areas with suitable cave roosts in N and E Australia.	Y	2
East Coast Freetail Bat	<i>Mormopterus norfolkensis</i>	DD	SEQ	Dry and wet sclerophyll forests, coastal woodlands from Brisbane to the Illawarra in NSW.	N	2
Large-footed Myotis	<i>Myotis macropus</i>		SEQ	Coastal and sub-coastal regions in northern and eastern Australia.	Y	2
Long-nosed Bandicoot	<i>Perameles nasuta</i>		BBS	Rainforest, wet and dry sclerophyll forest, woodlands, scrub.	Y	2
Common Ringtail Possum	<i>Pseudocheirus peregrinus</i>		BBS	Open and closed forests, coastal scrub, gardens.	Y	2

Common Name	Scientific Name	AP Status*	Non-EVR Priority Taxon*	Preferred habitats	Preferred habitats within Study Area	Source
Greater Glider	<i>Petauroides volans</i>		SEQ, BBS	Wet and damp sclerophyll forest on ranges and coastal plains of eastern Australia.	Y	2
Squirrel Glider	<i>Petaurus norfolcensis</i>		SEQ, BBS	Dry sclerophyll forest, riparian forest, damp coastal eucalypt and banksia forest in eastern Australia	Y	2
Herbert's Rock-wallaby	<i>Petrogale herberti</i>		SEQ	Rock piles and cliffs with numerous crevices and ledges.	N	2
Koala	<i>Phascolarctos cinereus</i>		BBS	Sclerophyll forest and woodland in eastern Australia.	Y	2
Little Red Flying-fox	<i>Pteropus scapulatus</i>		SEQ	Varied habitats in coastal and sub-coastal environs.	Y	2
Delicate Mouse	<i>Pseudomys delicatulus</i>		SEQ	Open country in tropical coastal and sub-coastal environs.	Y	4
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>		SEQ	Coastal eastern Australia in tall wet forests and into drier forests along gullies.	Y	2
South-eastern Broad-nosed Bat	<i>Scotorepens orion</i>		SEQ	Confined to Great Dividing Range and adjacent coastal plains from SEQ to Melbourne, Vic.	N	2
Broad-nose Bat (undescribed)	<i>Scotorepens</i> sp.	DD		Known from coastal NE NSW and SEQ in dry sclerophyll forest and coastal woodland.	Y	2
Common Dunnart	<i>Sminthopsis murina</i>		SEQ	Variety of heathy dry forests and mallee heath.	Y	2, 4
Common Sheathtail Bat	<i>Taphozous georgianus</i>		SEQ	Varied habitats in northern Australia.	Y	2
Common Brushtail Possum	<i>Trichosurus vulpecula</i>		BBS	Forests, woodlands, farmland, gardens, towns and cities.	Y	2
Red-legged Pademelon	<i>Thylogale stigmatica</i>		SEQ	Rainforest in coastal environs from Cape York to Tamworth, NSW.	N	2
Common Rock Rat	<i>Zyomys argurus</i>		BBS	Rocky outcrops and scree slopes in northern Australia, usually within vine thicket, monsoon and riparian forest, woodland.	N	4

**Status: Action Plan: VU = Vulnerable, R = Rare, NT = Near Threatened, IK = Insufficiently Known, R / IK = Rare or Insufficiently Known, CD = Conservation Dependent, DD = Data Deficient.

Non-EVR Priority Taxon: BBS = Listed as a Non-EVR Priority Taxa for the Brigalow Belt South Bioregion by EPA (2003b), SEQ = Listed as a Non-EVR Priority Taxa for the South East Queensland Bioregion by EPA (2005). ^Source: 1 = EPBC Protected Matters Report; 2 = WildNET; 3 = Ozbirds; 4 = Qld Museum

Table T8: Fauna Species Listed as Migratory Protected Species and / or Marine Protected Species Potentially Occurring Within the Residue Pipeline Corridor and Wider Study Area

(Note: Marine-restricted species (sea snakes and whales) have been omitted from this table).

Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
REPTILES					
Estuarine Crocodile	<i>Crocodylus porosus</i>	Mi / Ma	Tropical coastal rivers and swamps south to about Rockhampton, extending well inland via major rivers and billabongs.	N	1
BIRDS					
Collared Sparrowhawk	<i>Accipiter cirrhocephalus</i>	Mi	Forests and woodlands throughout Australia; tree lines along watercourses of arid interior; coastal forests.	Y	2, 3
Brown Goshawk	<i>Accipiter fasciatus</i>	Mi / Ma	Temperate and tropical forest, woodlands, dry scrub and farms.	Y	2, 3
Grey Goshawk	<i>Accipiter novaehollandiae</i>	Mi	Rainforest, gallery forest, mangroves, eucalypt forest, woodland and riparian forest.	N	2, 3
Clamorous Reed-warbler	<i>Acrocephalus stentoreus</i>	Mi / Ma	Wetlands, lakes and rivers with stands of reeds; lantana, bamboo and tall crops beside water.	N	2, 3
Common Sandpiper	<i>Actitis hypoleucos</i>	Mi / Ma	Muddy edges of billabongs, waterholes, mangroves, rocky beaches.	Y	2, 3
Chestnut Teal	<i>Anas castanea</i>	Mi	Salt and brackish coastal estuaries, lakes, salt marshes, tidal mudflats and coastal islands.	N	2, 3
Grey Teal	<i>Anas gracilis</i>	Mi	Diverse habitats including most wetlands.	Y	2, 3
Australasian Shoveler	<i>Anas rhynchos</i>	Mi	Prefers permanent lakes or swamps with abundant cover.	N	2, 3
Pacific Black Duck	<i>Anas superciliosa</i>	Mi	Almost any wetland habitat including fresh and marine environs.	Y	2, 3
Magpie Goose	<i>Anseranas semipalmata</i>	Ma	Open wetlands, swamps, farmlands and major watercourses.	N	1, 2, 3
Richard's Pipit	<i>Anthus novaeseelandiae</i>	Ma	Grasslands, grassy woodlands, forest clearings, grassy roadsides.	Y	2, 3
Fork-tailed Swift	<i>Apus pacificus</i>	Mi / Ma	Varied; airspace over habitat ranging from rainforest to semi-desert.	Y	1, 2, 3
Wedge-tailed Eagle	<i>Aquila audax</i>	Mi	Diverse habitats including, forest, woodland, scrub, alpine, mallee, coastline, wetlands and farmland.	Y	2, 3
Great Egret	<i>Ardea alba</i>	Mi / Ma	Floodwater, rivers, shallows of wetlands, intertidal mudflats.	N	1, 2, 3

Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
Cattle Egret	<i>Ardea ibis</i>	Mi / Ma	Pasture, shallows of freshwater wetlands.	Y	1, 2, 3
Intermediate Egret	<i>Ardea intermedia</i>	Ma	Floodwater, rivers, shallows of wetlands, intertidal mudflats.	Y	2, 3
Ruddy Turnstone	<i>Arenaria interpres</i>	Mi / Ma	Rocky shores, exposed rocky reefs and platforms, mudflats.	N	2, 3
Pacific Baza	<i>Aviceda subcristata</i>	Mi	Margins of gallery forest, monsoon forest, swamp forest, rainforest and tropical and subtropical open forests often near water.	Y	2, 3
Hardhead	<i>Aythya australis</i>	Mi	Lakes and swamps with abundant aquatic vegetation; also on creeks, floodplain pools.	N	2, 3
Fan-tailed Cuckoo	<i>Cacomantis flabelliformis</i>	Ma	Wet eucalypt forests, rainforest edges and open forests including river gum forests, in S and E Australia.	N	2, 3
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	Mi / Ma	Fresh or salt wetlands, muddy edges of swamps, lagoons, lakes, dams.	Y	2, 3
Sanderling	<i>Calidris alba</i>	Mi / Ma	Open sandy beaches exposed to oceanic swells.	N	3
Red knot	<i>Calidris canutus</i>	Mi / Ma	Sheltered coastal mudflats and sandbars of estuaries, inlets, lagoons, mangroves and swamps.	N	2, 3
Curlew Sandpiper	<i>Calidris ferruginea</i>	Mi / Ma	Coastal mudflats, estuaries, lagoons, mangrove channels, lakes, dams, floodwaters.	N	2, 3
Red-necked Stint	<i>Calidris ruficollis</i>	Mi / Ma	Diverse wetlands including mudflats, saltmarshes, beaches, floodwaters, inland waters.	N	2, 3
Great Knot	<i>Calidris tenuirostris</i>	Mi / Ma	Sheltered coastal mudflats of estuaries, inlets, lagoons and mangroves.	N	2, 3
Greater Sand Plover	<i>Charadrius leschenaultii</i>	Mi / Ma	Coastal: intertidal mudflats and sandbanks, rarely saltmarsh.	N	2
Lesser Sand Plover	<i>Charadrius mongolus</i>	Mi / Ma	Non-breeding summer migrant found along coastal areas, beaches and estuaries.	N	2, 3
Red-capped Plover	<i>Charadrius ruficapillus</i>	Mi / Ma	Estuaries, saltmarsh, lagoons, inland waterways, salt lakes, brackish lagoons. Sedentary or nomadic.	N	2, 3
Whiskered Tern	<i>Chlidonias hybridus</i>	Ma	Shallow inland wetlands, swamps, lakes, claypans, floodwaters, irrigated pastures.	N	3
Horsfield's Bronze Cuckoo	<i>Chrysococcyx basalis</i>	Ma	Rainforest, open forests, woodlands, roadside trees, mallee, mulga, farmland, mangroves, gardens.	Y	2, 3

Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
Shining Bronze-cuckoo	<i>Chrysococcyx lucidus</i>	Ma	Dense wet rainforests, eucalypt forests and woodlands, gardens.	Y	2, 3
Little Bronze-cuckoo	<i>Chrysococcyx minutillus</i>	Ma	Dense wet vegetation, rainforest, monsoon forest, mangroves, paperbark swamps, lush gardens in N and NE Australia.	N	2, 3
Rufous Songlark	<i>Cincloramphus mathewsi</i>	Mi	Open grassland and grassy open woodland..	Y	2
Spotted Harrier	<i>Circus assimilis</i>	Mi	Grassland, Spinifex, open shrubland, saltbush, very open woodland, crops; mostly inland vegetation.	N	2, 3
Golden-headed Cisticola	<i>Cisticola exilis</i>	Mi	Edges of wetlands, swamps, irrigated pastures, wet grass, samphire, roadsides	N	2, 3
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	Ma	Rainforests, eucalypt forests and woodlands, tree-lined watercourses of the interior, farmland, gardens.	Y	2, 3
White-bellied Cuckoo-shrike	<i>Coracina papuensis</i>	Ma	Eucalypt forests and woodlands, mangroves, riparian forests, gallery forests.	Y	2, 3
Cicadabird	<i>Coracina tenuirostris</i>	Ma	Rainforests, eucalypt forests, woodlands, paperbark swamps and mangroves.	Y	2, 3
Stubble Quail	<i>Coturnix pectoralis</i>	Ma	Grassland, spinifex, saltbush, stubble, pasture, crops	Y	2, 3
Pallid Cuckoo	<i>Cuculus pallidus</i>	Ma	Open forests, woodlands, scrublands, roadsides, farmlands	Y	2, 3
Oriental Cuckoo	<i>Cuculus saturatus</i>	Mi / Ma	Rainforest margins, vine thicket, wet sclerophyll forest, paperbark swamp, mangroves.	Y	2
Black Swan	<i>Cygnus atratus</i>	Mi	Diverse habitats including lakes, estuaries, rivers, temporary wetlands of arid interior.	N	2, 3
Wandering Whistling-duck	<i>Dendrocygna arcuata</i>	Mi / Ma	Wetlands with permanent water and aquatic vegetation in N & NE Australia, such as billabongs, dams, lagoons, swamps, tidal creeks.	N	2, 3
Plumed Whistling-duck	<i>Dendrocygna eytoni</i>	Mi	Grasslands and margins of wetlands.	N	2, 3
Spangled Drongo	<i>Dicrurus bracteatus</i>	Ma	Woodlands, rainforest margins, mangroves and paperbark swamps, riverside thickets, gardens.	Y	2, 3
Little Egret	<i>Egretta garzetta</i>	Ma	Fresh and saltwater wetlands - swamps, billabongs, floodplains, mangroves, mudflats.	N	2, 3
Eastern Reef Egret	<i>Egretta sacra</i>	Mi / Ma	Coasts, islands, estuarine mudflats, roosts in trees and shrubs.	N	2, 3
Black-shouldered Kite	<i>Elanus axillaris</i>	Mi	Coastal regions; rare in semi-arid, arid regions.	Y	2

Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
Black-fronted Dotterel	<i>Elseyornis melanops</i>	Mi	Usually shallow muddy-bottomed freshwater swamps and wetlands, billabongs, edges of lakes and dams. Rarely on tidal mudflats or other shore habitats.	Y	2, 3
Red Goshawk	<i>Erythroriorchis radiatus</i> *	Mi	Tropical open woodland, edges of rainforest and dense riverine vegetation. Nests in trees taller than 20 m and within 1 km of a permanent watercourse or wetland. Foraging usually occurs in open forests and gallery forests.	N	1
Common Koel	<i>Eudynamis scolopacea</i>	Ma	Rainforests, wet sclerophyll forests, woodlands, farmlands and gardens.	Y	2, 3
White-throated Nightjar	<i>Eurostopodus mystacalis</i>	Ma	Forests, woodlands and heathlands, often among rocks, leaves and fallen timber.	Y	2
Dollarbird	<i>Eurystomus orientalis</i>	Ma	Woodlands, forest edges, inland watercourse trees, farmlands	Y	2, 3
Brown Falcon	<i>Falco berigora</i>	Mi	Widespread throughout woodlands, farmland, mulga scrub, watercourses, heath and coastal dunes.	Y	2, 3
Nankeen Kestrel	<i>Falco cenchroides</i>	Mi / Ma	Open woodlands, grasslands, farmland, heathlands.	Y	2, 3
Australian Hobby	<i>Falco longipennis</i>	Mi	Woodland, open forest, surrounds of swamps and lakes, tree-lined watercourses in interior, scrub, heath, farmland.	Y	2, 3
Latham's Snipe	<i>Gallinago hardwickii</i> *	Mi / Ma	Breeds in Japan. Low rank vegetation around shallows of wetlands, reeds, sedges, saltmarsh. Summer migrant.	N	1
Magpie-lark	<i>Grallina cyanoleuca</i>	Ma	Varies, almost anywhere with trees and water, coastal to semi-arid.	Y	2, 3
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	Mi / Ma	Coastal seas, islands, estuaries and inlets. Follows major rivers and wetlands far inland. Huge nests of sticks, usually in tall trees.	Y	1, 2, 3
Brahiminy Kite	<i>Haliastur indus</i>	Mi / Ma	Tropical and subtropical Australian coasts, estuaries, mudflats, travels inland along rivers.	Y	2, 3
Whistling Kite	<i>Haliastur sphenurus</i>	Mi / Ma	Open woodlands, scrublands, farmlands, wetlands.	Y	2, 3
Grey-tailed Tattler	<i>Heteroscelus brevipes</i>	Mi / Ma	Estuarine mudflats, beaches, shallows, intertidal pools, rocky coasts and reefs.	N	2, 3

Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
Little Eagle	<i>Hieraaetus morphnoides</i>	Mi	Diverse habitats including coastal forest, woodland, open scrub, tree-lined watercourses of interior, lower slopes of hills.	Y	2
Black-winged Stilt	<i>Himantopus himantopus</i>	Mi / Ma	Shallow freshwater wetlands, swamps, dams, lakes, estuaries, mudflats.	Y	2, 3
White-throated Needletail	<i>Hirundapus caudacutus</i>	Mi / Ma	Variety of habitats. Aerial forager. Breeds in northern hemisphere, nests in tree hollows.	Y	2, 3, 1
Welcome Swallow	<i>Hirundo neoxena</i>	Ma	Diverse, most habitats except densest forests and most arid deserts.	Y	2, 3
Tree Martin	<i>Hirundo nigricans</i>	Ma	Open woodlands and farmlands near lakes and rivers.	Y	2, 3
Barn Swallow	<i>Hirundo rustica</i>	Mi / Ma	Forages in open country and cultivated lands. Most populations breed in Asia but some southern populations appear sedentary.	Y	1
Silver Gull	<i>Larus novaehollandiae</i>	Ma	Diverse: ocean coasts, inland rivers, lakes, floodwaters, farmlands, coastal towns, rubbish dumps.	N	2, 3
Broad-billed Sandpiper	<i>Limicola falcinellus</i>	Mi / Ma	Sheltered coastal estuaries and lagoon with mudflats, muddy coastal creeks and swamps.	N	2, 3
Bar-tailed Godwit	<i>Limosa lapponica</i>	Mi / Ma	Coastal tidal mudflats, estuaries, saltmarsh.	N	2, 3
Square-tailed Kite	<i>Lophoictinia isura</i>	Mi	Sparsely distributed in open eucalypt forests, woodlands and sand plains.	Y	2, 3
Southern Giant-Petrel	<i>Macronectes giganteus</i>	Mi / Ma	Marine environs including open seas and inshore waters.	N	1
Tawny Grassbird	<i>Megalurus timoriensis</i>	Mi	Inhabits bulrushes, adjoining lush, wet grass, cumbungi swamps.	N	2, 3
Rainbow Bee-eater	<i>Merops ornatus</i>	Mi / Ma	Open country, most vegetation types, sand dunes, banks.	Y	1, 2, 3
Black Kite	<i>Milvus migrans</i>	Mi	Woodland, scrub, tree-lined watercourses, mangroves, mudflats, swamps.	Y	2, 3
Black-faced Monarch	<i>Monarcha melanopsis</i>	Mi / Ma	Rainforests, mangroves and their fringes, eucalypt forests.	Y	1, 2, 3
Spectacled Monarch	<i>Monarcha trivirgatus</i>	Mi / Ma	Rainforests, mangroves, dense gullies in wet forests.	N	1, 2, 3
Satin Flycatcher	<i>Myiagra cyanoleuca</i>	Mi / Ma	All wet eucalypt forests in gullies, plains and tablelands of coastal eastern Australia and nearby ranges.	Y	1, 2, 3

Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
Cotton Pygmy-goose	<i>Nettapus coromandelianus</i>	Mi	Freshwater lakes, swamps and impoundments.	N	1, 2, 3
Green Pygmy-goose	<i>Nettapus pulchellus</i>	Mi / Ma	Deep freshwater lakes, lagoons, and dams, with abundant vegetation.	N	3
Southern Boobook	<i>Ninox novaeseelandiae</i>	Ma	Almost anywhere with trees - forests, open forests and woodlands, farmland with scattered trees, parks and gardens.	Y	2, 3
Eastern Curlew	<i>Numenius madagascariensis</i>	Mi / Ma	Bare dry subcoastal plains, floodplains, billabongs, freshwater swamps, sports fields and lawns.	N	2, 3
Little Curlew	<i>Numenius minutus</i>	Mi / Ma	Bare dry subcoastal plains, floodplains, billabongs, freshwater swamps, sports fields and lawns.	N	1
Whimbrel	<i>Numenius phaeopus</i>	Mi / Ma	Mudflats, estuaries, lagoons, mangroves.	N	2, 3
Nankeen Night Heron	<i>Nycticorax caledonicus</i>	Ma	Shallow margins of swamps, lakes, mangroves and rivers. Roosts in dense vegetation.	N	2, 3
Osprey	<i>Pandion haliaetus</i>	Mi / Ma	Coastal waters and estuaries, follows major rivers far inland	Y	2, 3
Australian Pelican	<i>Pelecanus conspicillatus</i>	Ma	Large shallow waters both coastal and inland, islands, mudflats, arid temporary lakes.	N	2, 3
Glossy Ibis	<i>Plegadis falcinellus</i>	Mi / Ma	Shallows of swamps, floodwaters, irrigated pastures.	N	2, 3
Pacific Golden Plover	<i>Pluvialis fulva</i>	Mi / Ma	Beaches, estuaries, mudflats, saltmarshes, shallow inland swamps.	N	2, 3
Grey plover	<i>Pluvialis squatarola</i>	Mi / Ma	Coastal: mudflats, beaches, rocky coasts, coastal lakes and swamps.	N	2, 3
Purple Swampphen	<i>Porphyrio porphyrio</i>	Ma	Margins of swamps, lakes and shallow rivers will cover of rushes or reeds.	N	2, 3
Red-necked Avocet	<i>Recurvirostra novaehollandiae</i>	Mi / Ma	Salt and freshwater wetlands, salt lakes, freshwater swamps and lakes, floodwaters, claypans, dams.	N	2, 3
Rufous Fantail	<i>Rhipidura rufifrons</i>	Mi / Ma	Rainforest, dense wet eucalypt forest, paperbark and mangrove swamps, riparian vegetation.	N	1, 2, 3
Painted Snipe	<i>Rostratula australis</i>	Mi / Ma	Dense vegetation around swamps.	N	1
Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	Ma	Rainforest, open forest, woodland, swamp woodland.	Y	2, 3

Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
Little Tern	<i>Sterna albifrons</i>	Mi / Ma	Ocean beaches and coral reefs from Port Headland on WA coast along northern and eastern coasts to Bass Strait. It spreads along the coast to breed in spring and summer but returns north to breed in winter.	N	1, 2
Lesser Crested Tern	<i>Sterna bengalensis</i>	Ma	Coastal seas, sandy shores, mudflats, creek channels.	N	2, 3
Crested Tern	<i>Sterna bergii</i>	Ma	Coastal lagoons, estuaries, inland on major rivers, ocean beaches, offshore islands, pelagic waters	N	2, 3
Caspian Tern	<i>Sterna caspia</i>	Mi / Ma	Estuaries, inlets, lagoons with muddy shores; also well inland on lakes, rivers, floodwaters.	N	2, 3
Gull-billed Tern	<i>Sterna nilotica</i>	Ma	Inland and coastal waters, floodplains, lagoons, saltmarshes, mudflats, salt pans.	N	2, 3
Brown Booby	<i>Sula leucogaster</i>	Ma	Marine: deep waters and inshore shallows, mostly tropical.	N	2, 3
Radjah Shelduck	<i>Tadorna radjah</i>	Mi / Ma	Mainly brackish waters, mud banks and the mangrove fringed mouths and lower reaches of tropical rivers. Also lagoons and pools along rivers and swamps.	N	2, 3
Australian White Ibis	<i>Threskiornis molucca</i>	Ma	Shallow fresh and tidal wetlands, pastures, parks and gardens, rubbish tips	Y	2, 3
Straw-necked Ibis	<i>Threskiornis spinicollis</i>	Ma	Swamps, irrigated pastures, wet or dry grasslands.	Y	2, 3
Forest kingfisher	<i>Todiramphus macleayii</i>	Ma	Open forests, woodlands, margins of rivers, swamps and billabongs, mangroves, farmlands	Y	2, 3
Sacred Kingfisher	<i>Todiramphus sanctus</i>	Ma	Open forests, woodlands, semi-arid scrublands, mangroves.	Y	2, 3
Common Greenshank	<i>Tringa nebularia</i>	Mi / Ma	Permanent and temporary wetlands: swamps, lakes, dams, irrigated crops, estuaries, tidal mudflats and mangroves. Summer migrant	N	2, 3
Marsh Sandpiper	<i>Tringa stagnatilis</i>	Mi / Ma	Coastal and inland wetlands: estuaries, mudflats, mangroves, beaches, swamps, lakes, dams, floodwaters. Summer migrant.	N	2, 3
Masked Lapwing	<i>Vanellus miles novaehollandiae</i>	Mi	Varied habitats including open, short-grassed sites	Y	2
Terek Sandpiper	<i>Xenus cinereus</i>	Mi / Ma	Coastal mudflats, estuaries, lagoons, sandbars, coastal swamps.	N	2, 3



Common Name	Scientific Name	Status*	Preferred habitat	Preferred habitat with the Study Area	Source^
Silvereye	<i>Zosterops lateralis</i>	Ma	Diverse: woodlands and forests, heath, mallee, mangroves, farmland, gardens.	Y	2, 3

* Status under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*:: Mi = Migratory Protected Species; Ma = Marine Protected Species, Mi / Ma = both.

Table T9: EVR Fauna Potentially Impacted by the Proposed Residue Pipeline Route

Common Name	Scientific Name	Ecology and Preferred Habitats	HMT*	Potential Impacts
REPTILES				
Short-necked Worm Skink	<i>Anomalopus brevicollis</i>	Burrowing skink, dependent on rocks, logs and ground debris for shelter. Recorded in Gladstone area and potentially present in riparian woodland and vine thickets.		Habitat loss (vegetation, logs), trench fall.
Brigalow Scaly-foot	<i>Paradelma orientalis</i>	Eucalypt woodland, usually found under logs and debris. Also found climbing on rough Acacia trees. Potentially present within remnant vegetation along the alignment.		Habitat loss (vegetation, logs),
Yakka Skink	<i>Egernia rugosa</i>	Ground-dwelling, reliant on logs and ground debris for shelter. Widespread but rare, potentially present in eucalypt woodland, particularly in rocky areas.		Habitat loss (vegetation, ground debris), trench fall
BIRDS				
White-rumped Swiftlet	<i>Collocalia spodiopygius</i>	Aerial forager; coastal ranges/cliffs, grassland and islands. Found along the coast from northern NSW to Cape York Peninsula.	✓	No significant impact
Red Goshawk	<i>Erythrorhynchus radiatus</i>	Very rare raptor. Habitat is generally undisturbed forest or woodland with mosaic of mixed vegetation, especially near water. Mt. Stowe State Forest provides generally undisturbed habitat for this species.	✓	No significant impact
Squatter Pigeon (southern subspecies)	<i>Geophaps scripta scripta</i>	Open grasslands often in eucalypt woodland. Preference for areas on sandy soil with low gravel ridges and nearby water. Many records of this species from the Gladstone area.	✓	No significant impact
Square-tailed Kite	<i>Lophoictinia isura</i>	Sparsely distributed in open eucalypt forests, woodlands and sand plains. Records are from throughout Queensland.	✓	No significant impact
Black-chinned Honeyeater	<i>Meliphaga gularis</i>	Forests, woodlands of eucalypts, paperbarks, inland riparian vegetation along watercourses. Potentially present throughout the alignment.	✓	No significant impact

Common Name	Scientific Name	Ecology and Preferred Habitats	HMT*	Potential Impacts
Cotton Pygmy-goose	<i>Nettapus coromandelianus</i>	Freshwater lakes, swamps and impoundments. Has been found along the coast at Gladstone and adjacent inland areas. The farm dam may provide seasonal habitat for this species.	✓	No significant impact
Powerful Owl	<i>Ninox strenua</i>	Eucalypt forests, tall wet sclerophyll forests and densely vegetated gullies. Potentially present within all woodland communities adjacent to Mt. Stowe State Forest.	✓	No significant impact
Black-breasted Button-quail	<i>Turnix melanogaster</i>	Semi-evergreen vine thickets with deep litter and lantana thickets adjacent to vine thickets. Potentially present in vine thickets along Boyle's Road.		Habitat loss (shelter, foraging resources)
MAMMALS				
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Dry forests and woodlands, moist eucalypt forests, caves and mine. No roosting sites for this species occur within the proposed residue pipeline.		Habitat loss (foraging resources)
Northern Quoll	<i>Dasyurus hallucatus</i>	Most abundant in rocky Eucalypt Woodland but occurs in a range of vegetation types. Potentially present along the alignment.		Habitat loss (vegetation), trench fall

* HMT = High Mobility Taxon as designated by the South East Queensland Fauna Expert Panel Report (EPA 2004). It describes those species which are highly mobile within the landscape.

Table T10: Fauna Mitigation and Rehabilitation Recommendations for Proposed Residue Pipeline

Relevant KP	Issue	Mitigation and Rehabilitation Recommendation
Full route	Removal of mature vegetation	The Alignment 2 option has the potential to cause less disturbance to mature vegetation and fauna habitats than other alignments by the use of HDD under Mt. Stowe State Forest. However, additional impacts associated with the entry and exit points are likely to occur. These areas were unable to be assessed at the time of the survey. As outlined in Section 4.3.6, Alignment 3 is likely to result in a greater impact at various locations along the route. Therefore, Alignment 1 is the preferred option in terms of minimising impacts on mature vegetation and fauna habitats. However, this option includes clearing of a thin strip of vegetation along a road reserve from KP 13.2-15.6, which may result in further fragmentation of habitat patches. To retain habitat connectivity, the proposed alignment could be moved to the east and south to cleared pastureland. Within all remnant vegetation and fauna habitats the clearance footprint should be the minimum width required to safely construct the pipeline. This will minimise the amount of open space to be crossed by fauna, thus maintaining connectivity.
Full route	Fauna trapped in the open pipeline trench	Trenching should occur progressively to minimise the period of time the trench is open and the length of open trench. The length of open trench at any one time should be the minimum practicable. Construction should be timed to take place in the coolest and driest months (e.g. April to September), when reptiles and amphibians are least active and when conditions are most favourable for minimising mortality in the trench. Ramps and trench plugs with slopes of no greater than 50% (APIA, 2005) should be located at least every 500 m to assist escape for some species. Where possible, trench plugs should coincide with stock and wildlife trails. Small frogs, lizards, snakes and mammals (the species most likely to be impacted in this way) are; however, unlikely to travel such large distances (Doody <i>et al.</i>, 2003). Depending on weather, either heat and desiccation or drowning are the most likely cause of mortality for these small animals. Therefore, some form of cool insulated cover is needed in the trench, which also allows fauna to climb above any accumulated water. Following the method employed during construction of the North Queensland Gas Pipeline (Wilson and Swan, 2004), sawdust-filled hessian sacks used to support pipes prior to laying-in should be soaked in water and placed in pairs at approximately 250 m intervals. Branches, ramped gangplanks or similar should also be used to create 'ladders' at regular intervals to assist small fauna to exit the trench (APIA, 2005). Consideration should be given to the use of temporary fencing to exclude access to the trench by livestock and larger native wildlife (APIA, 2005). Qualified fauna spotters and handlers should be employed to survey the open

Relevant KP	Issue	Mitigation and Rehabilitation Recommendation
		trench and remove any trapped fauna species. Such surveillance should occur along the entire length of the trench and not merely those areas described as fauna habitats or sensitive areas, as trench fall can entrap significant numbers of fauna along any part of the trench (Doody <i>et al.</i> , 2003). Fauna searches should be conducted at least daily. Fauna spotters and handlers should be qualified or appropriately trained to assess and handle any injuries to native fauna that may occur due to trenchfall. Qualified veterinarian staff should be available to assess and treat or euthanase (as necessary) any large native vertebrates.
Full route	Clearing of hollow-bearing trees	Hollow-bearing trees are potential nesting and roosting habitat for significant and common birds and arboreal fauna species. All trees that contain hollows should be retained wherever practicable. Where such trees cannot be retained the hollow should be plugged with a cloth or hessian bag and carefully removed from the tree with a chainsaw. The hollow should be affixed to a retained tree or left on the ground adjacent to the cleared corridor to provide habitat for ground-dwelling fauna.
KP 9.4 and full route	Construction near wetland and within catchment	Alignment 3 has the potential to impact on a large farm dam located near KP 9.4 depending upon the proposed site of the HDD exit point. The farm dam provides a permanent water source for a variety of common and significant fauna including Cotton Pygmy-goose. Erosion and sediment control devices (e.g. pollutant traps, swales, sediment fencing) should be installed where there is potential for construction works to impact on this dam. The proposed pipeline is within the catchment of the Port Curtis Wetlands, which is listed in the Directory of Important Wetlands in Australia, and provides wetland habitat for EVR fauna species and listed Migratory birds. The pipeline construction has the potential to cause some downstream impacts to the wetland such as increasing sediment load, turbidity and introduction of pollutants. Erosion and sediment control devices and structures should be installed where there is potential for construction works to create downstream impacts.
Full route, in particular KP 10.3-11.5, 13.4 & 17.5	Fringing riparian vegetation along watercourses	Riparian vegetation generally provides a higher diversity of plant species and therefore feeding resources for fauna. In addition, these areas often support mature vegetation and therefore tree hollows. All watercourses with fringing riparian woodland should be crossed at right angles to minimise the distance transected. Clearing widths should be the minimum practicable within this habitat and minor route changes considered to avoid mature trees with hollows and permanent waterholes and billabongs. Construction should occur during the dry season to avoid interruption of drainage.
KP 8.2 & KP 12.8	Semi-evergreen vine thicket vegetation	Two patches of vegetation containing semi-evergreen vine thicket species are traversed by the alignment. This vegetation provides habitat for EVR species such as Black-breasted Button-quail and Short-necked Worm Skink. However, if the alignment is limited to the road reserve, no clearing of these patches should be required.
Full route	Revegetating corridor (post construction)	Where possible, native shrubs should be allowed to regenerate at the edge of the construction corridor to reduce the barrier to fauna movement, especially by small ground-dwelling fauna. Spreading of logs, hollows and dead timber across any disturbed areas within woodland habitats should be carried out to facilitate small ground fauna



Relevant KP	Issue	Mitigation and Rehabilitation Recommendation
		movement.
Full route	Pest fauna species breeding grounds	Equipment and materials used during construction should be stored in a manner that prevents retention of water. Drainage systems should be protected during construction to prevent surface water retention wherever possible. Natural drainage patterns should be protected during construction where possible and reinstated immediately following construction.



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Figures



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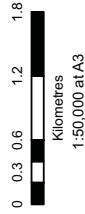
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DATE September 2007
DRAWN CS
VERSION A

Legend

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- Alignment 1
- Alignment 2
- Alignment 3
- RSF Boundary
- Yarwun Refinery



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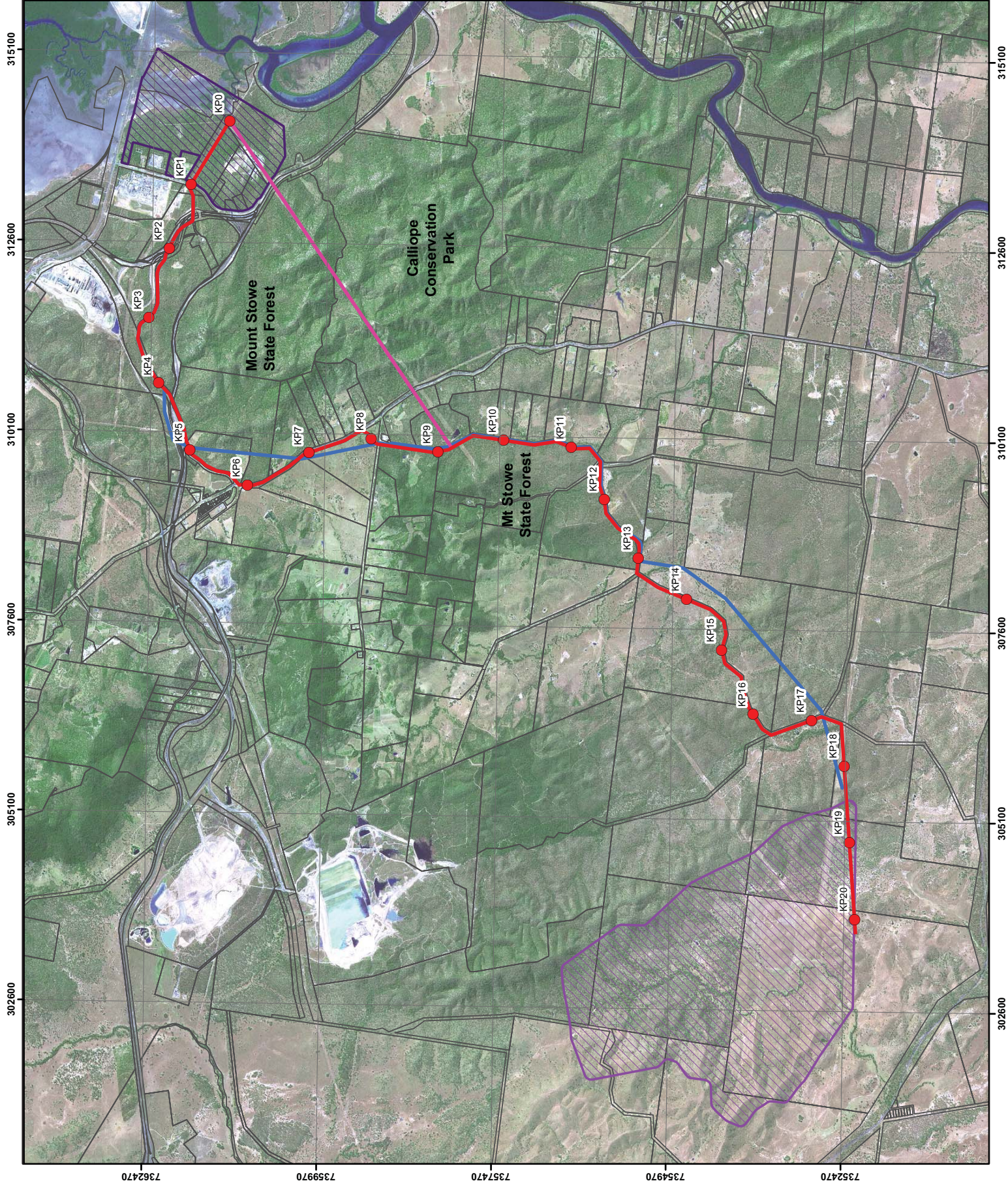


Source:
Alternate Residue Yarwun, Yarwun Refinery,
RSF Boundary & imagery supplied by
RLMS, 2007. (c) RLMS, 2007.
DCDB sourced from the Department of
Natural Resources & Water, 2005.
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**Proposed Alternate Residue
Pipeline Site Locality**
RLMS
Alternate Residue Pipeline Route
Gladstone



Figure
F1



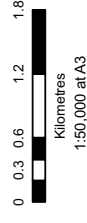
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- ▲ Flora Survey Sites
- Alignment 1
- ▨ RSF Boundary
- ▨ Yarwun Refinery



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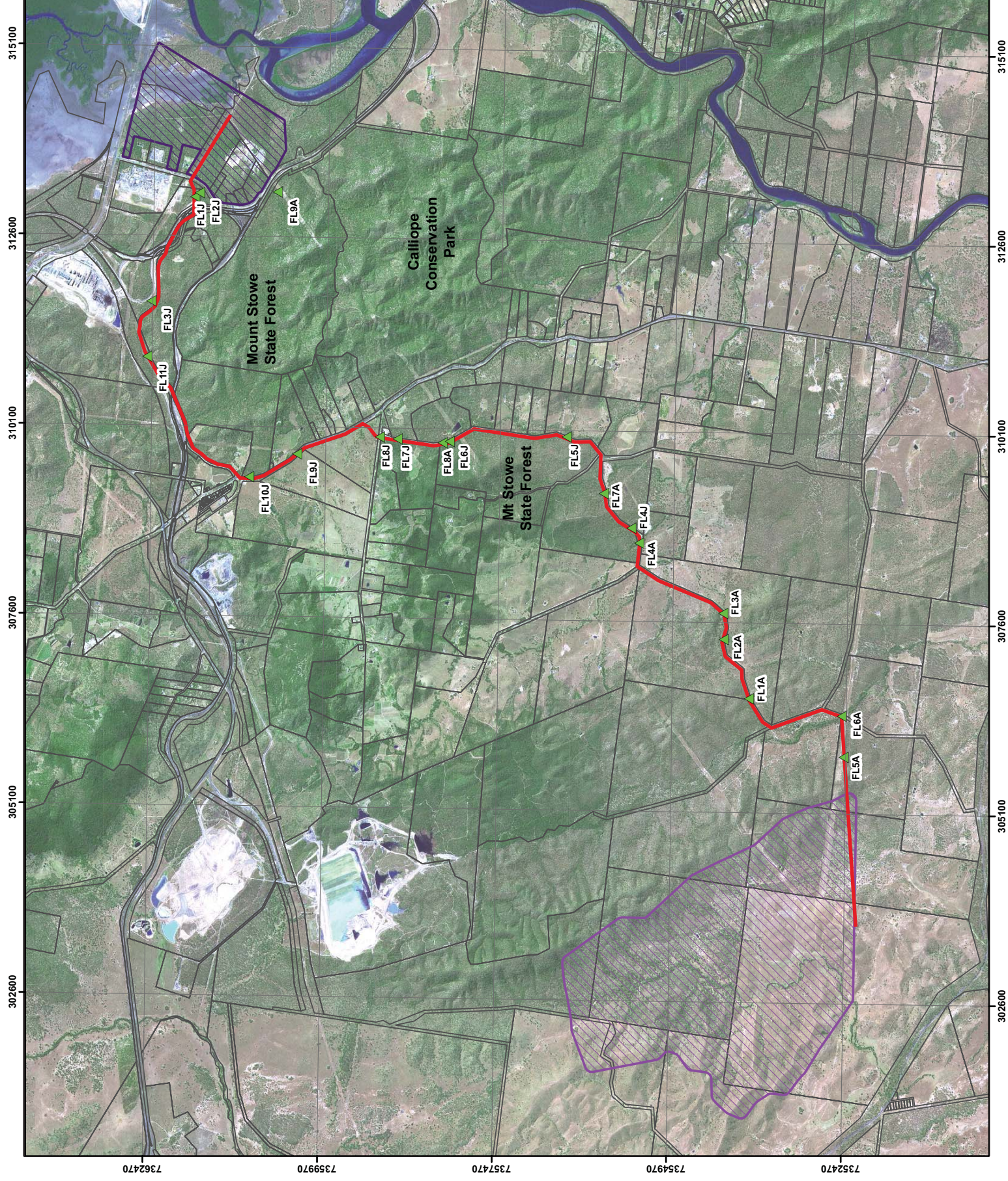
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**Proposed Alternate Residue
 Pipeline Flora Survey Sites**
 RLMS
 Alternative Residue Pipeline Route
 Gladstone



Figure

F2a



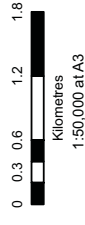
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 DATE September 2007
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-  Fauna Survey Sites
-  Alignment 1
-  RSF Boundary
-  Yarwun Refinery



Datum GDA94 56s



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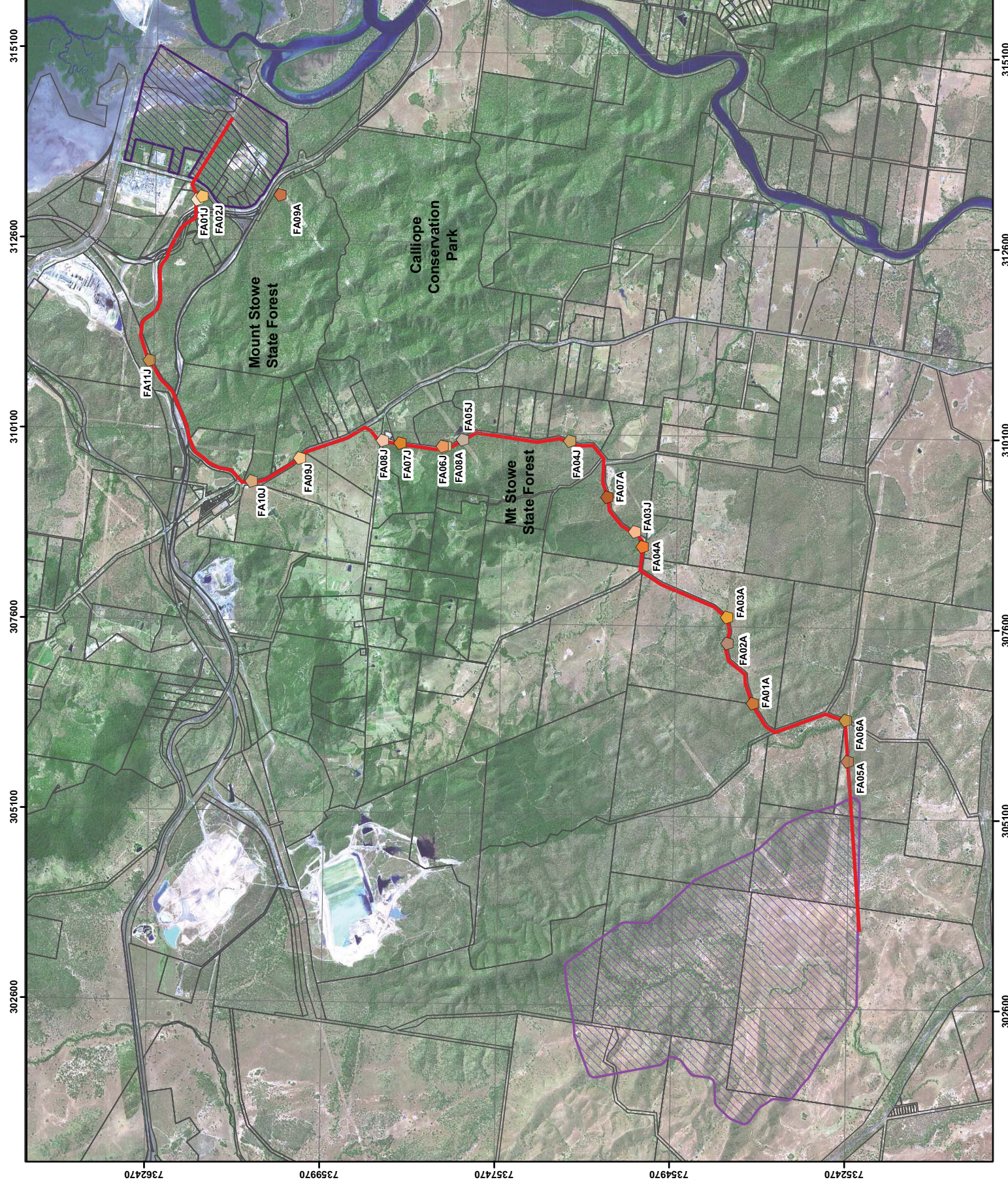
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 RLMS, 2007. (c) RLMS, 2007.
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**Proposed Alternate Residue
 Pipeline Fauna Survey Sites**
RLMS
 Alternate Residue Pipeline Route
 Gladstone



Figure

F2b



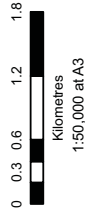
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- Yarwun Refinery



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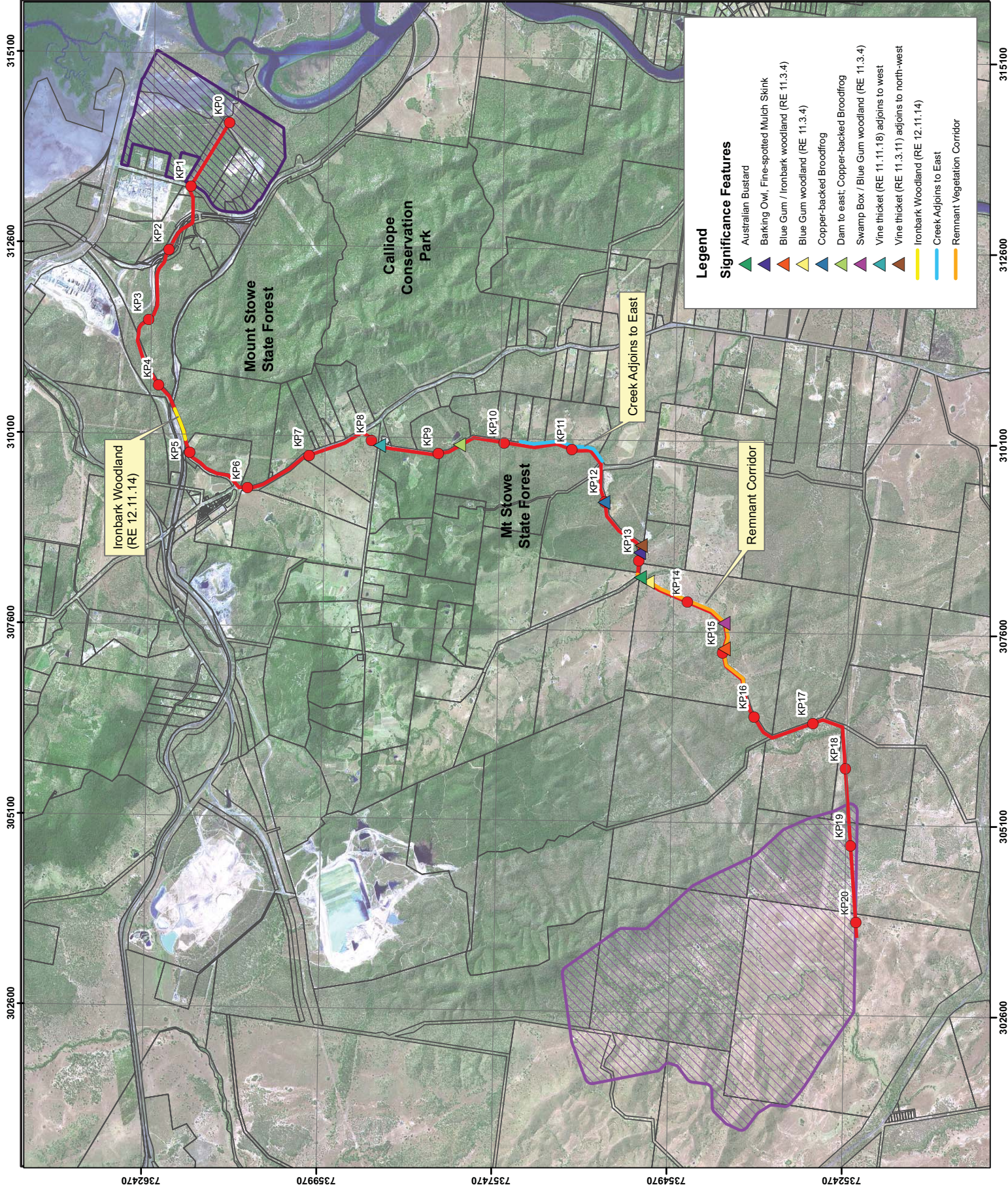


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Alternate Residue Yarwun, Yarwun Refinery,
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Proposed Alternate Residue
Pipeline Ecological Constraints
RLMS
Alternate Residue Pipeline Route
Gladstone



Figure
F4





Appendix A: Location of Flora and Fauna Assessment Sites



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Latitude	Longitude	Route	Date	Flora site	Fauna Site	Significant feature	Dominant flora species	RE
-23.84358329	151.16503553	Alternative Residue 1	June	FL1J	FA01J		<i>E. crebra</i> , <i>E. exerta</i> , <i>C. tessellaris</i>	12.11.6
-23.84418930	151.16549511	Alternative Residue 1	June	FL2J	FA02J	Bloodwood woodland (RE 12.3.3) 100m to south	<i>C. clarksoniana</i>	12.3.3
-23.83790128	151.15154888	Alternative Residue 1	June	FL3J			<i>E. crebra</i> , <i>C. tessellaris</i>	12.11.14
-23.90093897	151.12003502	Alternative Residue 1	June				<i>E. moluccana</i>	11.3.26
-23.89997237	151.12211214	Alternative Residue 1	June	FL4J	FA03J		<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.89805602	151.12346155	Alternative Residue 1	June				<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.89585309	151.13190263	Alternative Residue 1	June				<i>E. tereticornis</i> , <i>E. crebra</i>	11.3.4 / 11.3.25
-23.89159793	151.13385745	Alternative Residue 1	June	FL5J	FA04J		<i>E. tereticornis</i> , <i>E. crebra</i>	11.3.4 / 11.3.25
-23.88533346	151.13417563	Alternative Residue 1	June				<i>E. tereticornis</i> , <i>E. crebra</i>	11.3.4 / 11.3.25
-23.88248613	151.13459255	Alternative Residue 1	June				<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.87990350	151.13514433	Alternative Residue 1	June				<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.87779042	151.13403138	Alternative Residue 1	June		FA05J	Copper-backed Broodfrog	<i>Not recorded</i>	NR
-23.87650363	151.13331992	Alternative Residue 1	June	FL6J			<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.87541700	151.13314424	Alternative Residue 1	June		FA06J		<i>Not recorded</i>	NR
-23.86974371	151.13365721	Alternative Residue 1	June	FL7J	FA07J		<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6
-23.86747314	151.13392929	Alternative Residue 1	June	FL8J	FA08J	Vine thicket (RE 11.11.18) adjoins to west	<i>E. citriodora</i> , vine thicket species	12.11.6 / 11.11.18
-23.85675360	151.13169576	Alternative Residue 1	June	FL9J	FA09J		<i>E. tereticornis</i> , <i>E. crebra</i>	11.3.4 / 11.3.25
-23.87484267	151.13293653	Alternative Residue 1	June				<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.86478984	151.13535899	Alternative Residue 1	June				<i>clear</i>	<i>clear</i>
-23.85057304	151.12874357	Alternative Residue 1	June	FL10J	FA10J		<i>E. tereticornis</i> , <i>E. crebra</i>	11.3.4 / 11.3.25
-23.83699528	151.14407960	Alternative Residue 1	June				<i>Not recorded</i>	NR
-23.83736383	151.14434062	Alternative Residue 1	June	FL11J	FA11J		<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6

Latitude	Longitude	Route	Date	Flora site	Fauna Site	Significant feature	Dominant flora species	RE
-23.83778553	151.14307495	Alternative Residue 1	June				<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6
-23.84074450	151.13671074	Alternative Residue 2	June				<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6
-23.83963985	151.14071142	Alternative Residue 2	June				<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6
-23.91518880	151.10002264	Alternate Residue 1	August	FL1A	FA01A		<i>C. citriodora</i>	11.11.3
-23.91480222	151.10167706	Alternate Residue 1	August				<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.91445756	151.10259337	Alternate Residue 1	August				clear	clear
-23.91222127	151.10562435	Alternate Residue 1	August				<i>E. moluccana</i>	11.3.26
-23.91192078	151.10771606	Alternate Residue 1	August	FL2A	FA02A	Blue Gum / Ironbark woodland (RE 11.3.4)	<i>E. crebra</i> , <i>C. citriodora</i> , <i>E. tereticornis</i>	11.3.4
-23.91217902	151.10914475	Alternate Residue 1	August				<i>E. crebra</i>	11.11.15
-23.91187451	151.11108910	Alternate Residue 1	August	FL3A	FA03A	Swamp Box / Blue Gum woodland (RE 11.3.4)	<i>Lophostemon suavelolens</i> , <i>E. crebra</i>	11.3.4
-23.91022151	151.11248679	Alternate Residue 1	August				<i>E. moluccana</i>	11.3.26
-23.90849593	151.11343176	Alternate Residue 1	August				<i>E. moluccana</i>	11.3.26
-23.90207062	151.11633651	Alternate Residue 1	August			Blue Gum woodland (RE 11.3.4)	<i>E. tereticornis</i>	11.3.4
-23.90109630	151.11692475	Alternate Residue 1	August			Australian Bustard	<i>E. tereticornis</i>	11.3.4
-23.90072247	151.11919725	Alternate Residue 1	August				<i>E. moluccana</i>	11.3.26
-23.90082138	151.11983185	Alternate Residue 1	August				<i>E. moluccana</i>	11.3.26
-23.90098927	151.12020015	Alternate Residue 1	August	FL4A	FA04A	Barking Owl, Fine-spotted Mulch Skink	<i>E. moluccana</i> , vine thicket species	11.3.26 / 11.3.11
-23.91678195	151.09755049	Alternate Residue 1	August				<i>E. crebra</i>	11.11.15
-23.91876720	151.09474003	Alternate Residue 1	August				<i>E. moluccana</i>	11.3.26
-23.92742277	151.09242135	Alternate Residue 1	August	FL5A	FA05A		<i>E. crebra</i> , <i>E. citriodora</i>	11.11.4
-23.92717760	151.09776104	Alternate Residue 1	August	FL6A	FA06A		<i>E. moluccana</i> , <i>E. tereticornis</i>	11.3.26
-23.90120963	151.12104555	Alternate Residue 1	August			Vine thicket (RE 11.3.11) adjoins to north-west	<i>E. moluccana</i> , vine thicket species	11.3.26 / 11.3.11
-23.90069062	151.12081856	Alternate Residue 1	August				<i>E. moluccana</i> , vine thicket species	11.3.26 / 11.3.11
-23.90047973	151.12039830	Alternate Residue 1	August				<i>E. moluccana</i> , vine thicket species	11.3.26 / 11.3.11
-23.89712554	151.12467919	Alternate Residue 1	August				<i>E. crebra</i>	11.11.4

Latitude	Longitude	Route	Date	Flora site	Fauna Site	Significant feature	Dominant flora species	RE
-23.89640328	151.12661641	Alternate Residue 1	August	FL7A	FA07A	Copper-backed Broodfrog	<i>E. crebra</i> , <i>E. tereticornis</i>	11.11.4
-23.89298019	151.13348940	Alternate Residue 1	August				<i>E. crebra</i>	11.11.4
-23.88058956	151.13500183	Alternate Residue 1	August				<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.87766059	151.13396139	Alternate Residue 1	August				clear	clear
-23.87556838	151.13313376	Alternate Residue 1	August	FL8A	FA08A	Dam to east	<i>C. citriodora</i> , <i>E. crebra</i>	11.11.3
-23.87235082	151.13327055	Alternate Residue 1	August				<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6 or 11.11.3
-23.87073236	151.13346275	Alternate Residue 1	August				clear	clear
-23.86885540	151.13381085	Alternate Residue 1	August				clear	clear
-23.86469504	151.13527131	Alternate Residue 1	August				clear	clear
-23.86310273	151.13452968	Alternate Residue 1	August				clear	clear
-23.85926491	151.13320283	Alternate Residue 1	August				<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6 or 11.11.3
-23.84741885	151.12993388	Alternate Residue 1	August				<i>E. crebra</i>	12.11.14 or 11.11.4
-23.84482658	151.13074249	Alternate Residue 1	August				clear	clear
-23.84339696	151.13189324	Alternate Residue 1	August				clear	clear
-23.84263177	151.13265247	Alternate Residue 1	August				clear	clear
-23.84217471	151.13407329	Alternate Residue 1	August				clear	clear
-23.84157825	151.13643489	Alternate Residue 1	August				<i>E. crebra</i>	12.11.14
-23.87229550	151.14133495	HDD	August				clear	clear
-23.85385984	151.16655157	HDD	August				clear	clear
-23.85426485	151.16559394	HDD	August	FL9A	FA09A		<i>C. citriodora</i> , <i>E. crebra</i>	12.11.6