Vegetation Assessment

Defence Housing Australia

4 elements

Revision History

Version	Purpose	Issued by	Date	Reviewer	Date
1	Draft	JC	16/03/32026	PT	16/03/2026
2	Final	JC	07/04/2026	PT	07/04/2026

4 Elements Consulting
169-171 Aumuller Street
Bungalow, QLD 4870
www.4elementsconsulting.com.au

Contents

Figures

Tables

1.0 Introduction

As part of the Lee Point Master-Planned Urban Development, Defence Housing Australia (DHA) will transfer land to the Casuarina Coastal Reserve (CCR) Conservation Zone in accordance with the Development Agreement between DHA and the Northern Territory Government. Northern Territory Parks and Wildlife is the nominated NT agency that will assume management of the site, and DHA must ensure that all remediation works, including stabilisation of eroded gullies, are completed prior to handover. Remediation works will include the selective clearing of vegetation where necessary to provide access for machinery and personnel to undertake gully stabilisation and infilling activities.

Four Elements Consulting (4E) was engaged by DHA to conduct a vegetation assessment within the proposed clearance area (**Figure 1**) to ensure compliance with Clause 3.2 – Clearing of Native Vegetation of the Northern Territory Planning Scheme (2020), and the Northern Territory Land Clearing Guidelines (2020). The survey methodology and results are outlined below.

2.0 Methodology

Vegetation within the proposed clearing footprint was mapped using the National Vegetation Information System (NVIS) dataset (DCCEW 2022 – **Figure 2**). Field surveys were conducted on the 17/02/2026 by a suitably qualified ecologist with experience conducting vegetation assessments in the Northern Territory. Surveys were conducted in accordance with the Northern Territory Guidelines and Field Methodology for Vegetation Survey and Mapping (2007), with quaternary surveys conducted throughout the site (per Neldner 2022) to ground-truth vegetation mapping, assess vegetation quality and condition, and determine presence/absence of significant and/or sensitive vegetation.

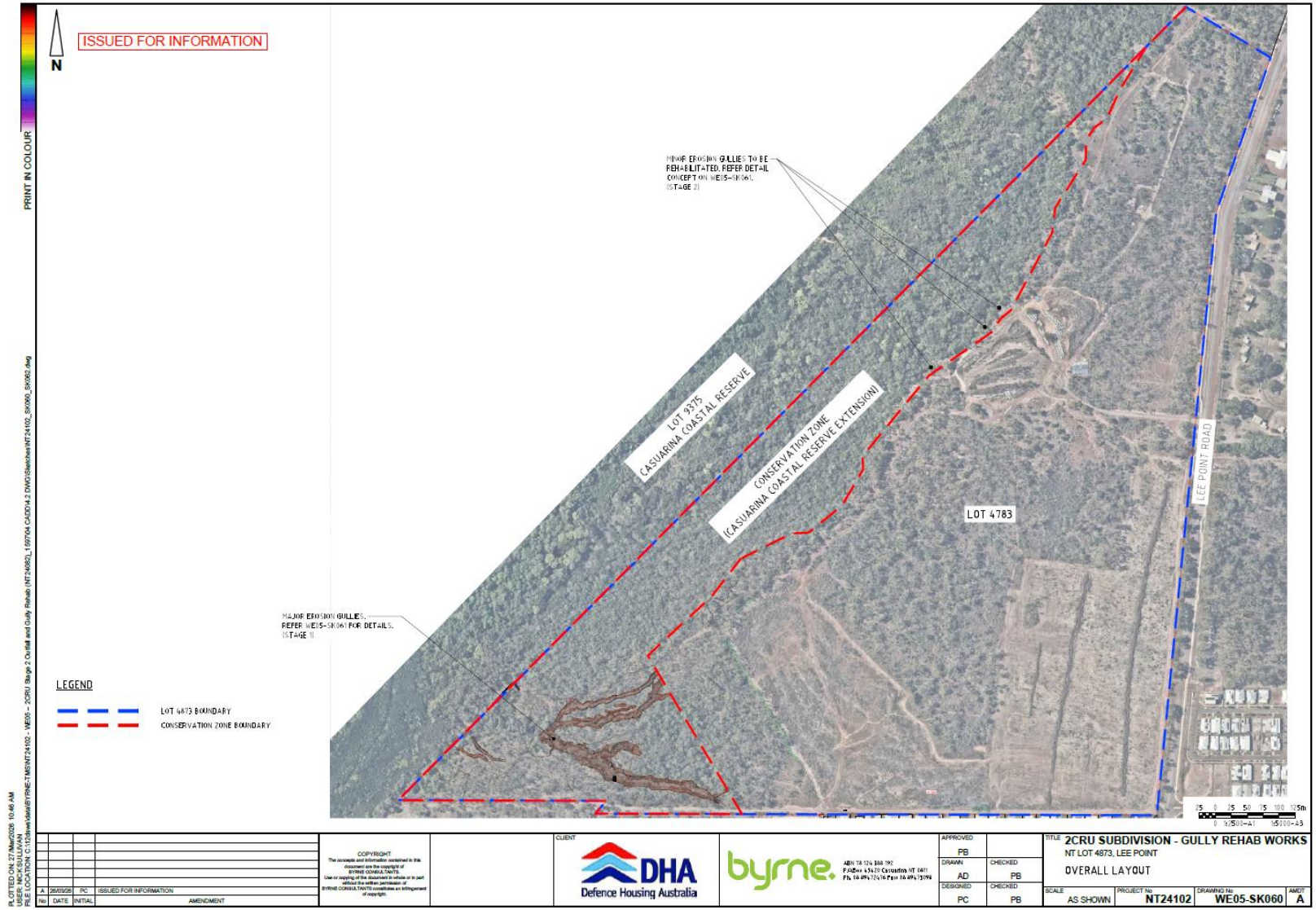

Figure 1 – Project Scope

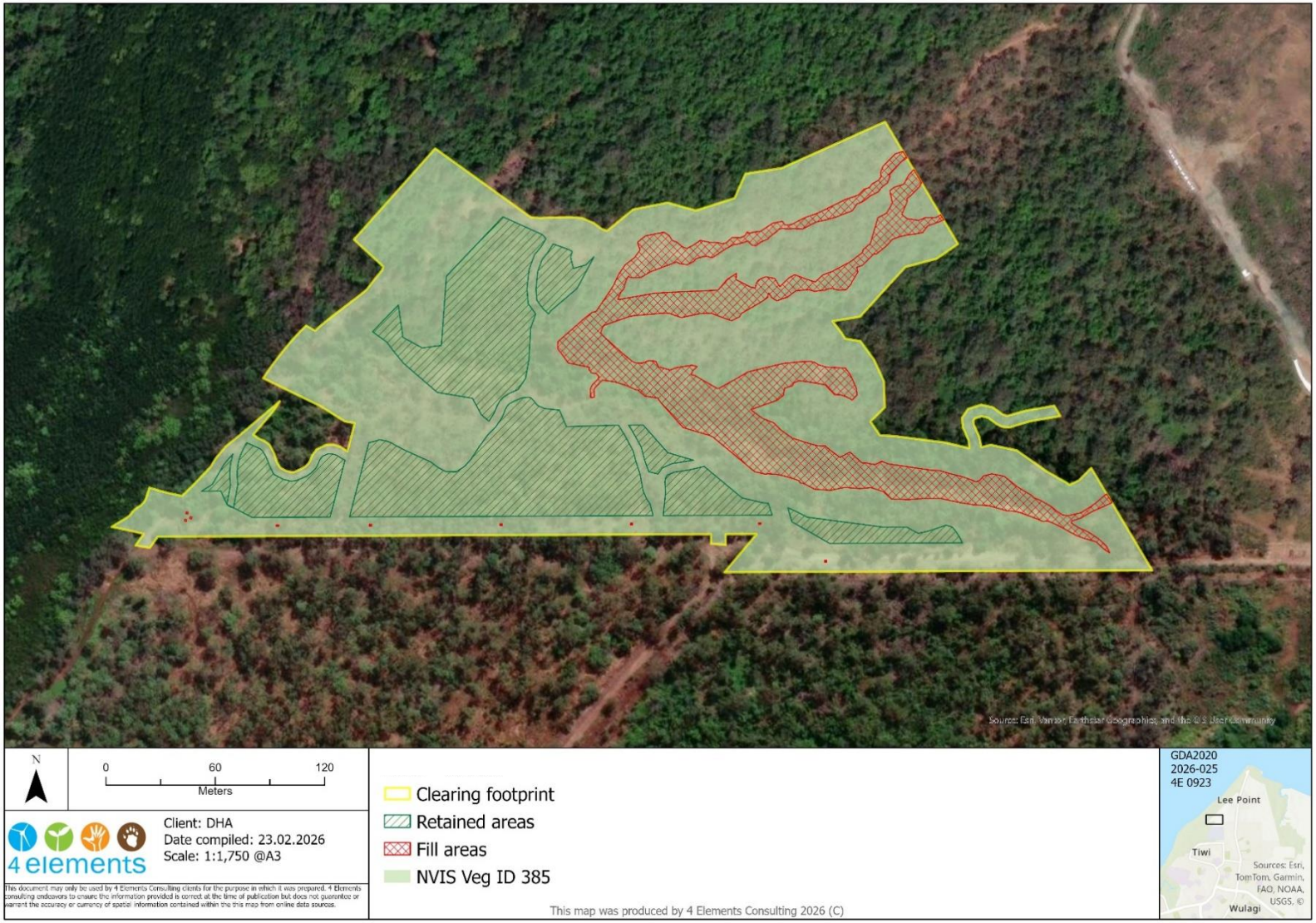

Figure 2 – NVIS Mapping

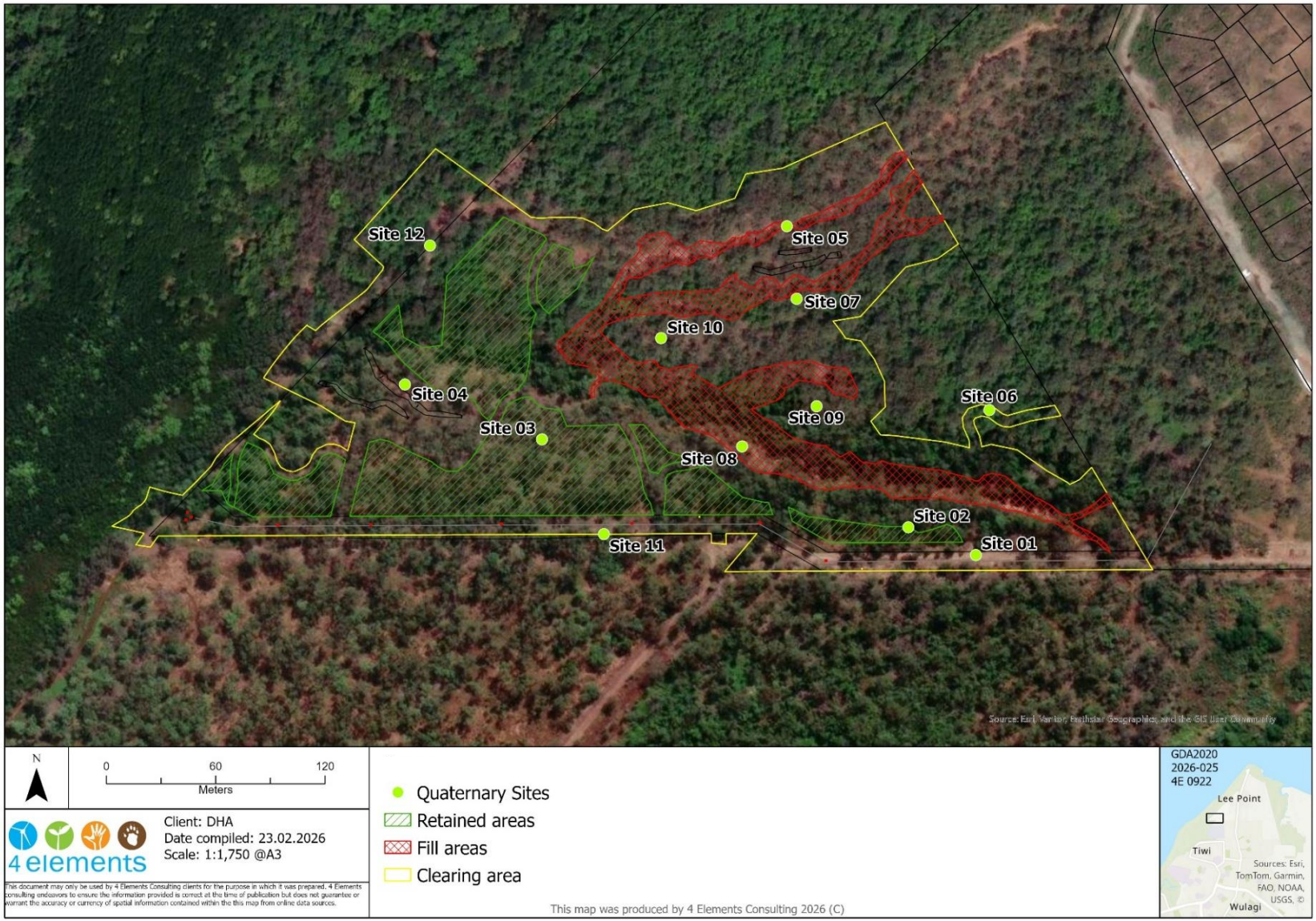

Figure 3 – Quaternary Survey Sites

3.0 Results

Quaternary surveys confirmed that vegetation within the proposed clearing footprint is broadly consistent with the NVIS mapping (Veg ID 385 - **Table 1**). Vegetation across all survey sites comprised *Eucalyptus tetrodonta* woodland, occurring either as remnant vegetation or high-value regrowth.

Table 1 – NVIS Vegetation Description

NVIS Veg ID	Class	Structural Formation	Common Species	Environmental Description
385	Woodland	Eucalyptus mid woodland	*Eucalyptus tetrodonta, Eucalyptus miniata, Corymbia bleeser, Livistona humilis, Planchonia careya, Brachychiton paradoxusshrub, Sorghum intrans, Heteropogon triticeus, Sorghum plumosum.*	Well drained rises and low hills, gently sloping plateaux or plains with well drained sandy and some lateritic red earth soils

Canopy structure was consistent across the site. *Eucalyptus tetrodonta*, *Corymbia arafurica*, and *Corymbia polycarpa* were the dominant species, with *Melaleuca leucadendra* occurring along drainage lines and in low-lying areas in the western portion of the site. Common sub-canopy species across the clearing footprint included *Terminalia ferdinandiana*, *Acacia auriculiformis*, *Brachychiton diversifolius*, and *Buchanania obovata*. The shrub layer was diverse and varied between survey sites, with common species including *Santalum lanceolatum*, *Erythrophleum chlorostachys*, *Acacia spicata*, *Grewia sp.*, and *Livistona humilis*. A grassy ground layer was present across the clearance footprint, dominated by *Sarga sp. and Heteropogon sp.* In some drainage lines, an emerging dry coastal vine thicket understorey is present; however, the canopy remains dominated by *Eucalyptus sp. and Corymbias sp.* Quaternary survey results are summarised in **Table 2** below, with a full species list in **Appendix A**.

Weeds were recorded throughout the proposed clearing footprint, occurring predominantly along tracks and in previously disturbed areas. Gamba grass (*Andropogyn gayanus*) was the most common species and is present in isolated patches across the site, with heavier infestations in disturbed areas. Weed cover was generally sparse within remnant vegetation.

No significant or sensitive vegetation was observed within the clearance footprint. The Darwin cycad (*Cycas armstrongii*), which is listed as Vulnerable under the TWPC Act, is present throughout the survey site (**Plate 1** and **Plate 2**).

Plate 1 Mature Darwin Cycad (*Cycas armstrongii*)

Plate 2 Mature Darwin Cycad (*Cycas armstrongii*)

Site	NVIS	Canopy Layer	Sub-canopy	Shrub Layer	Ground Layer	Description	Site Photo
1	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	**Height:** 6-10m **Cover:** <20% **Dominant species:** *T. ferdinandiana*, *A. auriculiformis*, *B. diversifolius*, *B. obovate*, canopy associates.	**Height:** 1-2m **Cover:** <10% **Dominant species:** *A. dunni*, *S. lucida*, *C. fraseri.*	**Height:** 1m **Cover:** 80% **Dominant species:** *Sarga. sp.*	Eucalypt woodland community with grassy understorey. Sparse sub-canopy and shrub layer.	
2	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	**Height:** 6-10m **Cover:** <20% **Dominant species:** *T. ferdinandiana*, *A. auriculiformis*, *B. diversifolius*, *B. obovate*, canopy associates.	**Height:** 1-2m **Cover:** <10% **Dominant species:** *A. dunni*, *S. lucida*, *C. fraseri.*	**Height:** 1m **Cover:** 80% **Dominant species:** *Sarga. sp.*	Eucalypt woodland community with grassy understorey. Sparse sub-canopy and shrub layer.	

3	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	Absent	**Height:** 1-2m **Cover:** <10% **Dominant species:** *C. exstipulate, G. decurrens*	**Height:** <1m **Cover:** 20-40% **Dominant species:** *Sarga. sp.*	Eucalypt woodland community on gravelly soils. No sub-canopy, mid-dense shrub layer and generally sparse vegetation cover.	
4	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	Absent	**Height:** 1-4m **Cover:** 20-40% **Dominant species:** *S. lucida, E. chlorastachys, A. spicata, Grewia sp., Livistona humilis.*	**Height:** 1m **Cover:** 40% **Dominant species:** *Sarga. sp*	Eucalypt woodland community with diverse shrub layer and mosaic ground layer.	

5	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	Absent	**Height:** 1-4m **Cover:** 20-40% **Dominant species:** *S. lucida, E. chlorastachys, A. spicata, Grewia sp., Livistona humilis.*	**Height:** 1m **Cover:** 20-40% **Dominant species:** *Sarga. sp*	Eucalypt woodland community with diverse shrub layer and mosaic ground layer.	
6	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	**Height:** 6-10m **Cover:** <20% **Dominant species:** *T. ferdinandiana*, *A. auriculiformis*, *B. diversifolius*, *B. obovate,*	**Height:** 1-4m **Cover:** 40% **Dominant species:** *S. lucida, E. chlorastachys, A. spicata, Grewia sp., Livistona humilis.*	Absent	Eucalypt woodland community with emerging dry rainforest understorey.	

7	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	Absent	**Height:** 1-2m **Cover:** <10% **Dominant species:** *C. exstipulate, G. decurrens*	**Height:** 1m **Cover:** 40% **Dominant species:** *Sarga. sp.*	Woodland community on gravelly soils. No sub-canopy, mid-dense shrub layer and generally sparse vegetation cover.	
8	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	Absent	**Height:** 1-4m **Cover:** 20-40% **Dominant species:** *S. lucida, E. chlorastachys, A. spicata, Grewia sp., Livistona humilis.*	**Height:** 1m **Cover:** 40% **Dominant species:** *Sarga. sp*	Eucalypt woodland community with diverse shrub layer and mosaic ground layer.	

9	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	Absent	**Height:** 1-4m **Cover:** 20-40% **Dominant species:** *S. lucida, E. chlorastachys, A. spicata, Grewia sp., Livistona humilis.*	**Height:** 1m **Cover:** 40% **Dominant species:** *Sarga. sp*	Woodland community with diverse shrub layer and mosaic ground layer.	
10	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	Absent	**Height:** 1-4m **Cover:** 20-40% **Dominant species:** *S. lucida, E. chlorastachys, A. spicata, Grewia sp., Livistona humilis.*	**Height:** 1m **Cover:** 40% **Dominant species:** *Sarga sp., Heteropogon sp.,*	Woodland community with diverse shrub layer and mosaic ground layer.	

11	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*	**Height:** 6-10m **Cover:** <20% **Dominant species:** *T. ferdinandiana*, *A. auriculiformis*, *B. diversifolius*, *B. obovate*, canopy associates.	**Height:** 1-2m **Cover:** <10% **Dominant species:** *A. dunni, S. lucida, C. fraseri.*	**Height:** <1m **Cover:** 80% **Dominant species:** *Sarga. sp.*	Woodland community with grassy understorey. Sparse sub-canopy and shrub layer.	
12	385	**Height:** 8-15m **Cover:** 20-40% **Dominant species:** *E. tetrodonta*, *C. arafurica*, *C. polycarpa*, *Me. leucadendra*	**Height:** 6-10m **Cover:** <20% **Dominant species:** *T. ferdinandiana*, *A. auriculiformis*, *B. diversifolius*, *B. obovate*, canopy associates.	**Height:** 1-4m **Cover:** 20-40% **Dominant species:** *S. lucida, E. chlorastachys, A. spicata, Grewia sp., Livistona humilis.*	**Height:** <1m **Cover:** 40% **Dominant species:** *Sarga. sp*	Woodland community with diverse shrub layer and mosaic ground layer.	

4.0 References

Brocklehurst, P., Lewis, D., Napier, D. & Lynch, D. 2007, *Northern Territory Guidelines and Field Methodology for Vegetation Survey and Mapping*, Technical Report No. 02/2007D, Department of Natural Resources, Environment and the Arts, Northern Territory Government, Palmerston, NT. https://hdl.handle.net/10070/635994.

Department of Climate Change, Energy, the Environment and Water 2022, *National Vegetation Information System (NVIS)*, Australian Government, Canberra, viewed 10 February 2026, https://www.dcceew.gov.au/environment/land/native-vegetation/national-vegetation-information-system.

Neldner, V.J., Addicott, E.P., Appelman, C.N., Butler, D.W., Dillewaard, H.A., McDonald, W.J.F., Richter, D., Ryan, T.S. & Wilson, B.A. 2022, *Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland*, Version 6.0, Department of Environment and Science, Queensland Government, Brisbane. http://nla.gov.au/nla.obj-3069553315.

Northern Territory Government 2020, *Land Clearing Guidelines – Northern Territory Planning Scheme 2020*, Northern Territory Government, Darwin. https://nt.gov.au/property/land-planning-and-development/our-planning-system/nt-planning-scheme/referenced-documents-guidelines.

Northern Territory Government 2020, *Northern Territory Planning Scheme 2020*, Department of Infrastructure, Planning and Logistics, Darwin. https://nt.gov.au/property/land-planning-and-development/our-planning-system/nt-planning-scheme.

Appendix A Species List

Common Name	Scientific Name	EPBC Listing	TWPC Listing
Ear-pod wattle	*Acacia auriculiformis*	-	-
Dunn's wattle	*Acacia dunnii*	-	-
Strap wattle	*Acacia holosericea*	-	-
Northern milkwood	*Alstonia actinophylla*	-	-
Chain fruit	*Alyxia spicata*	-	-
Gamba grass	*Andropogon gayanus***	-	-
Cotton tree	*Bombax ceiba*	-	-
Northern kurrajong	*Brachychiton diversifolius*	-	-
-	*Breynia cernua*	-	-
-	*Buchanania obovata*	-	-
Pink turkey bush	*Calytrix exstipulata*	-	-
White beech	*Canarium australianum*	-	-
Carpentaria palm	*Carpentaria acuminata*	-	-
Elegant marsh plant	*Cartonema spicatum*	-	-
-	*Cassytha filiformis*	-	-
-	*Chloris barbata*	-	-
Blue pea	*Clitoria ternatea*	-	-
Kapok	*Cochlospermum fraseri*	-	-
Arafura bloodwood	*Corymbia arafurica*	-	-
Long-fruited bloodwood	*Corymbia polycarpa*	-	-
-	*Crotalaria retusa*	-	-
-	*Crotalaria montana*	-	-
Darwin cycad	*Cycas armstrongii*	-	Vulnerable
Egyptian crowfoot	*Dactyloctenium aegyptium**	-	-
Blackthorn	*Denhamia obscura*	-	-
-	*Dolichandrone filiformis*	-	-
Cooktown ironwood	*Erythrophleum chlorostachys*	-	-
Darwin stringybark	*Eucalyptus tetrodonta*	-	-
Broad-leaved native cherry	*Exocarpos latifolius*	-	-
-	*Flacourtia territorialis*	-	-
-	*Flagellaria indica*	-	-
Clothes peg tree	*Grevillea decurrens*	-	-
Dryandra grevillea	*Grevillea dryandri*	-	-
-	*Grewia mesomischa*	-	-
-	*Grona triflora*	-	-
Sea hibiscus	*Hibiscus tiliaceus*	-	-
-	*Ichnocarpus frutescens*	-	-

-	*Ipomoea abrupta*	-	-
Lantana	*Lantana camara***	-	-
-	*Leucaena leucocephala**	-	-
Sand palm	*Livistona humilis*	-	-
Weeping paperbark	*Melaleuca leucadendra*	-	-
Cocky apple	*Planchonia careya*	-	-
Atlantic milkwort	*Polygala orbicularis*	-	-
-	*Sarga intrans*	-	-
Pigeon grass	*Setaria apiculata*	-	-
-	*Smilax australis*	-	-
-	*Spermacoce leptoloba**	-	-
-	*Strychnos lucida*	-	-
Native apple	*Syzygium eucalyptoides*	-	-
Iodine plant	*Tabernaemontana orientalis*	-	-
-	*Tacca leontopetaloides*	-	-
Kakadu plum	*Terminalia ferdinandiana*	-	-
Damson plum	*Terminalia microcarpa*	-	-
-	*Tinospora smilacina*	-	-
Poison peach	*Trema tomentosum*	-	-
-	*Urochloa sp.*	-	-
*Invasive **NT Declared Weeds			