Schedule A – Project (Variation submitted 14/2/2024)

The Project has been modified; this document replaces Schedule A from the original Funding Deed.

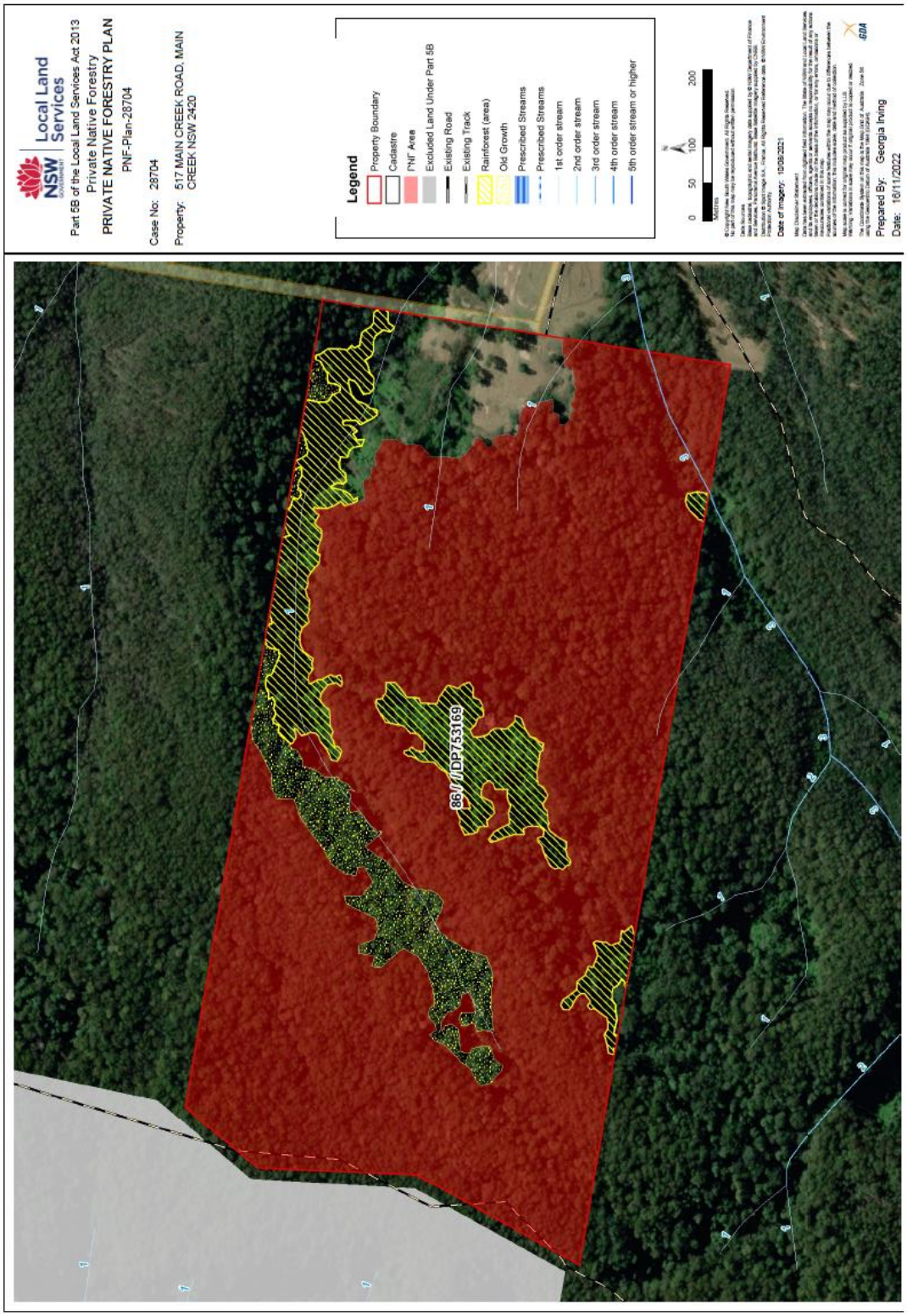
You must complete the activities set out in the updated Forest Plan, as summarised in the table below.

Any changes to the grant funding amount will modify the second instalment.

Table - Activities			
Activities	**Details of Activities**	**Activity Period**	**Grant from LLS**
Stand management	You will conduct commercial and non-commercial thinning over 18ha.	12 months from Commencement Date	$10,000
Pest/weed control	You will undertake weed control over 9.35 ha.		$12,000
Fire management	You will undertake specified burning over 34.5 ha.		$5,000
Roads/ infrastructure	You will construct 1.3 km of new access road. You will install and upgrade drainage infrastructure.		$15,000
Ecosystem management	You will conduct a flora and fauna survey.		$13,000
Cultural heritage assessment	You will conduct a cultural heritage assessment.		$2,500
Education/ training	You will undertake specified course.		$2,500
Questionnaire	You will complete two 15-minute questionnaires, one after the Commencement Date and one after 12 months in the Project.	July 2023, and May 2024	-
Reporting	You will submit the Forest Plan Reporting and Expenditure table at completion of activities. This will include details of activities completed, related expenditure and supplementary evidence (photos, maps) to LLS' satisfaction.	prior to 15 June 2024	-
		Total	**$60,000**

Schedule B – Site Map/Plan (indicative)

This map is indicative in nature only.

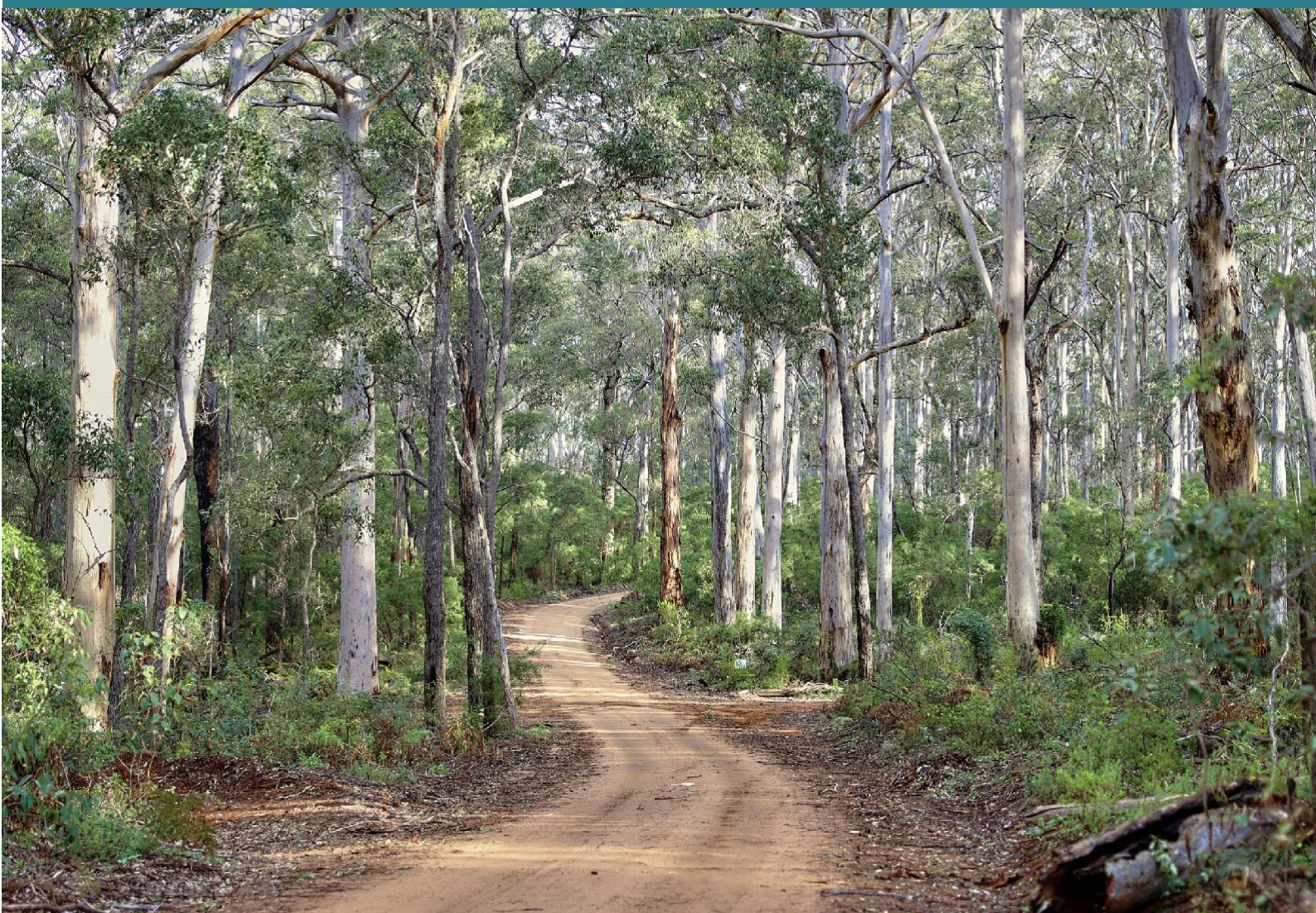


Schedule C – Forest Plan

Local Land Services

Forest Plan

Nick Cameron



1. Overview

This plan is intended to provide an ongoing record and reference point for landowners to use in the sustainable management of native forests on private land in NSW.

Landowners identify the forest management strategy for delivering their identified forest outcomes. This plan will develop cascading activities aligned with delivering the forest outcomes.

The landowner is responsible for ensuring that this plan is prepared prior to the commencement of the activities within the Forest Stewardship Pilot.

Local Land Services will provide extension support in the development of this plan with the landowner, to ensure that the forest management activities proposed align to the desired forest management goals.

2. Property Information

Property details
PNF Case: 28704 Lot/DP: 86/753169

Site specific information
The property is located on the eastern fall of the Killarney range approximately 10km north-northeast of Dungog within the Dungog LGA. The lot is predominantly forested and approximates a rectangle in shape, being 650 metres wide and 1.3 kilometres in length with the long boundary roughly aligned east-west. The property boundary was originally fenced but only remnants of the fence remain. Elevation ranges from 160 metres ASL on the eastern boundary to 460m ASL on the western boundary. The property's western boundary adjoins Killarney Nature Reserve and roughly follows the watershed which divides Carowiry Creek catchment and the Williams River catchment. The property ranges from gentle to steeply sloping with an east-south-east aspect. Slopes are punctuated by level shelfs and rocky escarpments. The terrain in the upper western third of the property is mostly gently sloping and accessible. The terrain in the middle third of the property is more variable and includes a deeply incised drainage line, a narrow ridge, a rocky escarpment, and a shelf. The terrain in

the lower eastern third of the property is more consistent, dominated by spurs and gullies which are moderate to steeply sloping.

The deeply incised main drainage line begins at about 400m ASL close to the property's south-west corner and flows in a north east direction for about 700 metres before veering east just before meeting the property's northern boundary. It then flows east close to the eastern boundary for a further 650 metres, dropping over a cliff as a waterfall before exiting the property close to its north east corner.

The property is accessed by a well-constructed 4wd vehicle track that winds its way up from the cleared lower slopes on the eastern boundary to the upper slopes on the western boundary traversing spurs and several shelfs.

Soil regolith

State-wide land and soil mapping (Accessed through eSPADE website):

R3: High coherence, high sediment delivery

R1: High coherence, low sediment delivery

Annual average rainfall

1,300 mm

Other activities (grazing, mixed farming etc)

Beef cattle grazing occurs outside the PNF Plan area on the cleared foot slopes which adjoin the property's eastern boundary.

3. Forest Information

PNF area (ha)

71.73

Forest description

Most of the forest on the property is tall semi-moist mixed hardwood (Figures 1., 4., and 5.). This forest is dominated by even-aged regrowth. With a few exceptions, the regrowth is younger and smaller (spar and pole sized) on the lower slopes than it is on the upper slopes (pole-sized and early mature).

Tall moist hardwood forest, dominated by Sydney blue gum, occupies the more sheltered mid slopes and shelves (figure 2.) and the less accessible drainage features in the middle section of the property. The trees in this forest are older than elsewhere with early mature and mature trees being the most common growth

stage. Some old growth forest still exists on the steep slopes adjoining the upper reaches of the main drainage line (refer map).

Rainforest is present along the lower reaches of the main drainage line and on the most sheltered shelf sites below the rocky escarpment. On the shelf in the middle of the property there are remnant stands of tall moist hardwood forest which have failed to regenerate following harvesting and are now dominated by vines. These stands have been (incorrectly) mapped as rainforest.

The more exposed hilltops and rocky ridges support mixed age dry sclerophyll forest.

Figure 1: Spar and pole sized even-aged regrowth on steeper lower slopes - *Eucalyptus propinqua* (small-fruited grey gum) and *Eucalyptus microcorys* (tallowwood).

Figure 2: Tall-moist eucalypt forest, *Eucalyptus saligna* (Sydney blue gum) and *Eucalyptus microcorys* (tallowwood), located on a sheltered shelf below a rocky escarpment in the middle of the property.

Figure 3: Dry sclerophyll forest, *Eucalyptus acmenoides* (white mahogany) and *Corymbia maculate* (spotted gum), growing on the rocky escarpment in the middle of the property.

Figure 4: Regrowth on gentle upper slopes - *Eucalyptus maculata* (spotted gum).

Figure 5: Larger regrowth on upper slopes - *Eucalyptus propinqua* (small-fruited grey gum).

Species composition

The forest canopy includes the following eucalypt species (grouped by abundance):

Most common

- Small-fruited grey gum (*Eucalyptus propinqua*),
- White mahogany *(Eucalyptus acmenoides),*

Next most common

- Tallowwood *(Eucalyptus microcorys*),
- Spotted gum *(Corymbia maculata*),
- Sydney blue gum *(Eucalyptus saligna)*,

Less common

- Ironbark (*Eucalyptus placita* and *Eucalyptus siderophloia*)
- Turpentine *(Syncarpia glomulifera),*
- Brush Box *(Lophostemon confertus).*

Forest type

State Vegetation type map (accessed through Trees near me app)

– (8 Predicted, Plant Community Types), notably:

Lower North Spotted Gum-Mahogany-Ironbark Sheltered Forest (3244)

Northern Hinterland White Mahogany Moist Grassy Forest (3170)

Lower North White Mahogany-Spotted Gum Moist Forest (3241)

Northern Hinterland Tallowwood-Forest Oak Grassy Forest (3254)

Understorey/ground cover composition

The forest understorey and ground cover is well developed in most places with multiple layers and a large variety of native species (figure 6). An inventory of understorey species is yet to occur. Ferns and orchids are a notable feature in rocky areas (figure 7.).
Lantana camara is prominent in areas that have been subject to past disturbance (figure 8).

Figure 6 – well developed mesic understory is common on the property.

Figure 7 – Ferns and orchids are common understorey species where there are rocky outcrops.

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Figure 8 – *Lantana* dominates the understory in previously harvested stands of Sydney blue gum and along either side of the main access tracks on the lower slopes

Previous

The dominance of regrowth and lack of old mature trees on the property's upper and lower slopes indicates that much of the property was previously cleared. Further investigation is required to determine the age of the regrowth but there is local knowledge of cleared land and cattle grazing on the now forested upper slopes in the 1950s. Most regrowth looks to be between 40 and 70 years old.

Evidence of selective harvesting may be found in the more mature blue gum forests in middle of the property with the most recent event likely to have occurred around

30-40 years go. Further investigation is needed to piece together the harvesting history which includes more than one event.

There is no indication of fire being used as a management tool with the understory now well developed and multi-layered. There is also no evidence of any wildfire in the last thirty years.

Current condition

The regrowth on the property is moderate to highly stocked (figure 9) with a large proportion of the trees having long straight boles and healthy crowns. Competition between trees is strong and is now controlling canopy development and diameter growth. Overall, the condition is good however there is an opportunity to improve the timber producing capacity by reducing inter-tree competition.

The condition of the tall moist forest in the middle of the property may be described as fair to good. Sydney blue gum is the dominant species followed by tallowwood and white mahogany. These forests contain some very well-formed early-mature and mature trees as well as large remnant overmature trees, however, they are not fully stocked (figures 8 and 10.). Gaps in the canopy exist where trees have been harvested or have died and not regrown. *Lantana* and vine now dominate these gaps and in the absence of fire is preventing the natural regeneration of these areas with canopy species.

Figure 9 – Example of highly stocked spotted gum regrowth

Figure 10 – Example of a remnant well-formed mature Sydney blue gum surrounded by vine and *Lantana* where regeneration has failed.

4. Forest Management Objectives

A forest can be managed for many objectives, these may change over time and can be achieved through the application of a number of differing forest management activities.

It is important for forest managers to identify the forest under management, its underlying features (species mix, dominant forest type, age classes, condition etc). Each of these features can be managed utilising differing techniques, the technique applied should be aligned to generate the identified forest management goal.

As a forest grows and changes overtime, management may also have to change to suit the needs of the forest and to ensure forest management remains aligned to the goal.

The Forest Stewardship Pilot provides direct support for six broad areas of forest management these are:

- Education and training
- Roads and Infrastructure
- Stand management
- Pest/weed control
- Ecosystem management
- Fire management
- Cultural heritage assessment

Operational activities related to these areas will be detailed in this document, activity records will be kept as supporting documentation for record and learning purposes. Activity specific detail will be captured within the activity records.

This document aims to capture

- the condition of the forest on commencement
- the goal/s of forest management
- the activities carried out, aligned to the identified goal
- the results of the activity with reference to the goal
- the change of the forest over time

5. Silviculture/Stand Management

Management aim
Stand structure and composition Even aged regrowth on upper and lower slopes • To reduce stocking and competition to promote health and diameter growth on trees with the best formed stems and crowns. Multi-age tall moist forest • To harvest trees that have reached commercial maturity

Forest area to be treated			
Forest type & condition	Area (ha)	Management aim/proposed treatment	Actions & outcomes
1. Even-aged spotted gum dominated regrowth on upper slopes	5 ha	To reduce stocking and competition to promote health and diameter growth on trees with the best formed stems and crowns. Treat by non-commercial thinning from below.	• Randomly select six plots across the treatment area. • Measure stocking density and basal area. • Determine target basal area and spacing. • Tree mark for the removal of poorly performing stems. • Chemically treat tree stems marked for removal. • Leave dead treated stems to waste or remove as firewood.
2. Even-aged grey-gum dominated regrowth on upper slopes	13 ha	To reduce stocking and competition to promote health and diameter growth on trees with the best formed stems and crowns.	• Randomly select six plots across the treatment area. • Measure stocking density and basal area. • Determine target basal area and spacing. • Tree mark for the removal of poorly performing stems. • Harvest merchantable trees for pulpwood, firewood, fence posts and small sawlog.

		Treat by commercial thinning and supplement with non-commercial thinning.	• Chemically treat sub-merchantable trees. • Leave dead treated stems to waste or remove as firewood.
Total Area	18 ha		

Additional management notes

Refer to figures 11 and 12 for treatment locations.

Figure 11 – 1. Spotted gum dominated regrowth on upper slopes proposed for chemical treatment of sub-merchantable stems. Note, boundary and extent is indicative.

Figure 12 – 2. Grey gum dominated regrowth on upper slopes proposed for commercial thinning with chemical treatment of sub-merchantable stems. Note, boundary and extent is indicative.

6. Weed Control/Pest Management

Management aim
Forest health and management
• To enable forest regeneration. • To help protect biodiversity. • To aid access through the forest.
Biosecurity/regulatory
• Management of the spread of *Lantana camara* is encouraged within the Hunter LLS Region (Regional priority weed).

Forest area to be treated			
Forest type & condition	Area (ha)	Management aim/proposed treatment	Actions & outcomes
3. Semi-moist, tall moist and dry forest types	6.75 ha (4,500 metres of track x 15 metres width)	To maintain access and prevent weed proliferation into forested areas by spraying weed infested areas.	Chemical spraying of *Lantana* and other regional priority or general biosecurity duty weeds along and within 50 metres of access roads and tracks within the property.
4. Semi-moist, tall moist and dry forest types	2.6 ha (1,300 meters of new track x 20 meters width)	To maintain access and prevent weed proliferation into forested areas by spraying weed infested areas.	Chemical spraying of *Lantana* and other regional priority or general biosecurity duty weeds along and within 50 metres of access roads and tracks within the property.
Total Area	7.1 ha		

Additional management notes

Refer to figure 13 for (item 3) treatment locations. Refer to figure 14 for new road locations in red.

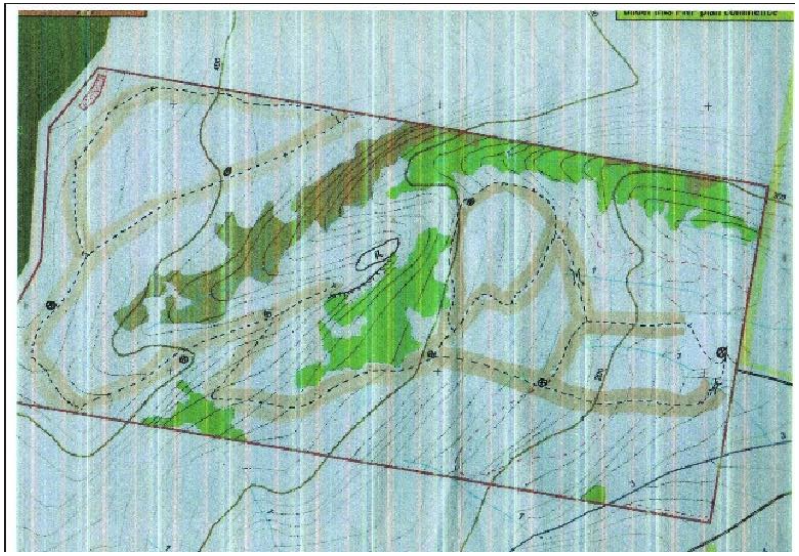

Figure 13 – Location of proposed roadside based spraying of lantana and other introduced weeds shown in light brown

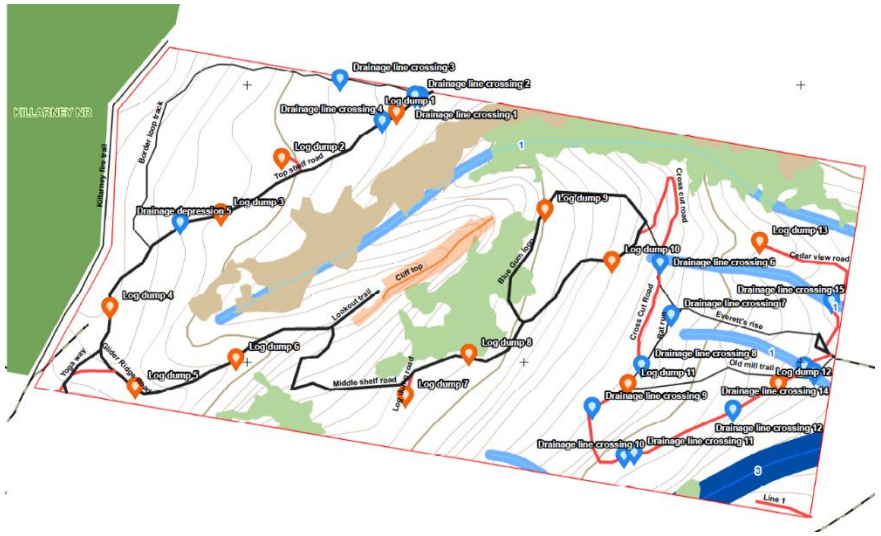

Figure 14 – Location of proposed (new) roads in red. Roadside spraying to be implemented in this vicinity.

7. Fire Management

Management aim
Silvicultural health
• To support eucalypt tree health by mitigating soil pathogens and reducing understory competition. • To control weeds that impact on eucalypt health and productivity
Fuel/hazard reduction
• To aid the containment of fire and prevent it from escaping from the property. • To mitigate damage to standing timber assets and other forest values in the event of a wildfire.
Ecological/environmental
• To protect rainforest, hollow-bearing trees, old growth forest, ferns, and epiphytes from high intensity wildfire • To control weeds that inhibit the movement of native animals
Regeneration
• To aid eucalypt regeneration in canopy gaps.
Safety/Management
• To maintain and provide for safe forest access.

Forest area to be treated			
Forest type & condition	Area (ha)	Management aim / proposed treatment	Actions & outcomes
5. N/a	1.5 ha (4,500 m x 3.5 m)	To aid the containment of fire by using existing tracks as firebreaks / Removal of flammable vegetation on existing tracks.	Mechanical removal of flammable vegetation growing on existing tracks to so they can function effectively as fire containment lines.

6. Semi-moist and dry sclerophyll forest	16.25 ha (3,250 m x 50 m)	To aid management and containment of fire / establishing low fuel zones adjoining existing tracks.	Strip burning along track edges when conditions permit to reduce risk of fires escaping from the property.
7. Semi-moist forest	0.02 ha (500m x 50cm)	To aid the containment of fire by creating a new temporary firebreaks / Removal of flammable vegetation.	Hand construction of 50cm wide mineral-earth breaks using brush-hook and rake-hoe to act as a temporary fire control line that can be burned from.
8. Tall moist forest	0.25 ha (heaps)	To remove weeds and enable eucalypt regeneration in canopy gaps / Burning *Lantana* that has been heaped in canopy gaps.	Setting fire to dry heaps of *Lantana* to create a nutrient rich eucalypt seed bed that is free of weed competition and soil pathogens.
9. Semi-moist forest that has been thinned	18 ha	Fuel hazard reduction / Post harvest burning of felled tree heads	Burning of harvested tree heads to reduce fuel hazard
Total Area	36.02 ha		

Additional management notes

The location of proposed fire management activities is shown at figure 15.

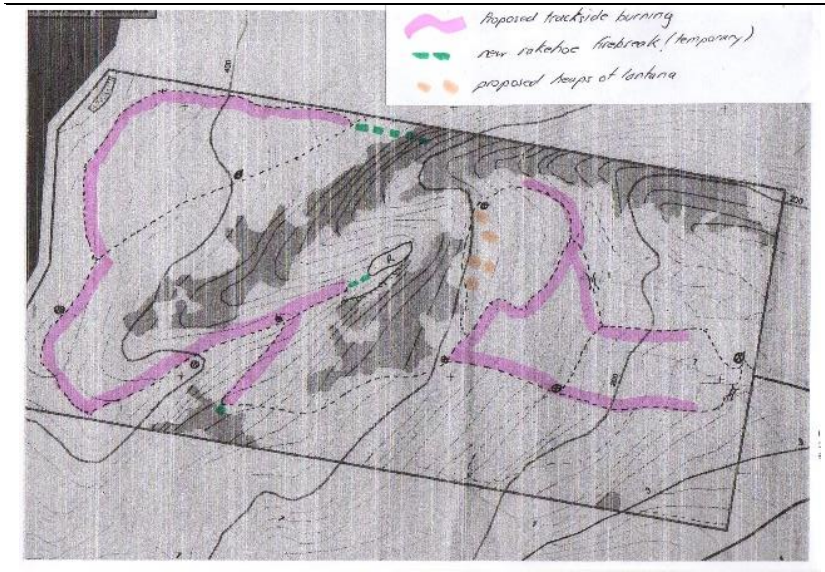

Figure 15 – Proposed fire management activities

8. Road/Infrastructure

Management aim
Maintenance/Upgrade of existing forest roads
• To enable truck access and reduce track erosion.
New forest road construction
• To enable truck access and timber extraction.
New forest infrastructure
• To provide dry shelter and dry storage for forestry equipment.

Road/infrastructure			
Infrastructure and condition	Length (metres)	Management aim/proposed treatment	Actions & outcomes
10. Existing forest roads in fair to good condition	4,500 m	To enable truck access and reduce track erosion / install additional drainage structures.	Install additional mitre drains, replace some rollovers with piped culverts, and armour drainage feature crossings to ensure compliance with PNF Code.
11. New forest access roads	1,300 m	To enable truck access and timber extraction / construct new roads using piped culverts, table drains and mitre drains.	Construct four permanent access tracks at grades suitable for use by trucks as shown at figure 16. Install pipe culverts, table drains, mitre drains and armour drainage feature crossings to ensure compliance with PNF Code.
12. New forest management shelter	16 x 8 m	To provide a dry shelter and dry storage for forestry equipment including tractor and portable mill / erection of an open shed approx.	**This activity is not funded by Forest Stewardship grant.** Erect steel shed on level ground within an existing clearing in central location that is well hidden from view.
Total Length	5,816 m		
Additional management notes			
The location of existing and new access tracks and the steel shed is shown at Figure 16.			

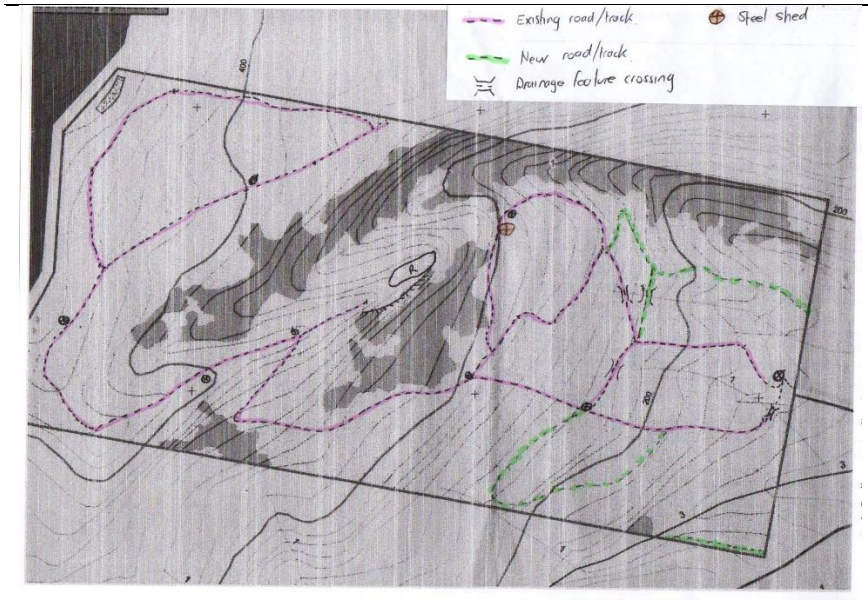

Figure 16 – location of existing and proposed access roads/tracks and new shed.

9. Ecosystem Management

Management aim
Enhance and support ecological functions of the forest area • To determine what plants and animal species are present on the property.

Disturbance activities for improving ecosystem function (thinning, fire, competition control etc)
• To control weeds that prevent eucalypt regeneration and inhibit the movement of native animals. • To protect rainforest, hollow-bearing trees, old growth forest, ferns, and epiphytes from high intensity wildfire.

Ecosystem function			
Forest ecosystem aspect and condition	Type	Management aim/proposed treatment	Actions & outcomes
13. Eucalypt forest biodiversity, condition to be assessed.	Semi-moist, moist, and dry mixed eucalypt forests	To determine what plants and animal species are present / fauna and flora survey	A survey of flora and fauna in the lower, middle, and upper sections of the property. The survey will provide knowledge and insight on species mix and biodiversity condition, including species listed as threatened.
14. Understorey degraded by exotic weeds	Semi-moist and moist mixed hardwood forests	To control exotic weeds that prevent eucalypt regeneration and inhibit the movement of native animals / refer proposed treatments detailed above under *Weed Control/Pest Management* items 4. And 5.	Refer actions and outcomes detailed above under *Weed Control/Pest Management* items 4. and 5..

15. Intact protected ecosystems	Rainforest, Dry sclerophyll forest on rocky outcrops, mapped old growth.	To protect rainforest, hollow-bearing trees, old growth forest, ferns, and epiphytes from high intensity wildfire / refer proposed treatments detailed above under *Fire Management* items 6., 7. 8., and 10..	Refer actions and outcomes detailed above under under *Fire Management* items 6., 7. 8., and 10..

Additional management notes
Nil.

10. Cultural Heritage Assessment

Management aim
Understand specific cultural heritage aspects of the forest
• To research and understand how the land has been managed in the past.
Identify and map cultural heritage
• To document research findings.
Develop cultural heritage management plan
• To incorporate research findings into the property's management plan where appropriate.

Cultural heritage			
Cultural heritage aspect and condition	Type	Management aim/proposed treatment	Actions & outcomes
Historic land-use practices	European and indigenous	To research and understand how the land has been managed in the past, to document the findings and to incorporate them into the property's management plan where appropriate / investigate historic records and undertake field assessment.	Interrogate historic records held by Council, Historic Society, NPWS and FCNSW. Undertake opportunistic field assessment examining evidence of past activity and Indigenous occupation (e.g. artefacts and rock markings). Document the findings.

Additional management notes
Opportunities to replicate Indigenous cultural burning practices may be investigated and pursed in the future.

11. Education and training

Course details
FWP30322 Certificate III in Timber and Wood Products Operations

Education/training needs		
Education/training need	Management aim	Actions & outcomes
Training in sawing logs, dressing boards and timber, and kiln drying.	Optimising the value of timber that is grown and processed on the property	Complete course and apply timber processing knowledge on the property.

Additional management notes
Nil

Reporting and Expenditure

Activity Report	
Did you complete the activities set out in the Funding Deed? If not, why not?	
Are you satisfied with the results or outcomes? Why?	
What did you contribute to the activities (cash and in kind)? *-Number of days of your time provided for labour, project management, supervision etc.* *-Other resources provided, machinery (# of days), equipment (# of days), consumables etc.* *-Additional cash.*	
What are your learnings – would you do something differently next time?	
Stand Management • *What was done?* • *What was the approximate area treated?* • *What component of the stand is currently merchantable (%)?*	
Pest/weed control • *What was done?* • *What was the approximate area treated?* • *Will you be undertaking any follow up? Please provide details.*	
Fire Management • *What was done?* • *What was the actual length of firebreak constructed?*	

Road/ Infrastructure • *What was done?* • *What was the length (approx. km) of road developed/maintained/upgraded?* • *What additional area (approx. ha) of land is now accessible?*	
Ecosystem Management • *What was done?* • *What was the approximate area treated?*	
Cultural Heritage Assessment • *What was done?* • *What was the survey area (approx.) (ha)?*	
Education & training • *Which course/s have you attended?* • *Provide brief description of your key learning and if and how you will apply these?*	

Expenditure	
Goods/Service	Cost
