



# 1. DETAILS

Forest Management Plan Details			
Name:	Perup		
Address	1055 Junction Road		
Locality:	Perup	Nearest town:	Manjimup
Local Government Authority:		Shire of Manjimup	
Local Fire Brigade:		Perup	

Owner's Details				
Name:	Cultura Australia Pty Ltd			
Primary Contact Number:				
Email:				
Address: Level 9, Mia Yellagonga		Tower 2, 5	Spring St, Perth	
Postcode:	6000	Country:	Australia	

Agent's Details				
Organisation:	Delta Forestry Pty Ltd			
Primary Contact Number:				
Email:	gsamsa@deltaforestry.com.au			
Address: 33 Headstay Cove, Geographe				
Postcode:	6280	Country:	Australia	



2.

## FOREST MANAGEMENT PLAN

## CODE OF PRACTICE PROTOCOL COMPLIANCE

Protocol Criteria	Recommended Content	Check
Plantation Map:	A map of the plantation should provide the following: • plantation manager details; • an area statement showing plantation categories and areas; • a locality plan and access roads; • cadastral information; • known environmental and OHS hazards; • improvements: • buildings; • roads, tracks, firebreaks, bridges, creek crossings; • fences, gates, utilities, water points; • natural features: • watercourses and wetlands; • areas of native vegetation; and • significant values.	Complies.
Establishment Plan:	<ul> <li>This should outline the following topics and how they are to be managed:</li> <li>areas of native vegetation and significant values;</li> <li>setback distances to watercourses, wetlands, reservoirs and significant values;</li> <li>statutory setback distances to dwellings and gazetted infrastructure;</li> <li>management of harvest residue;</li> <li>control of declared animals, declared plants and other pest plants;</li> <li>areas to be planted, compartment sizes;</li> <li>species to be planted;</li> </ul>	Complies.

<sup>&</sup>lt;sup>1</sup> The Code states "A plantation management plan is prepared to provide relevant information in respect of the way in which plantations are developed and managed, and to demonstrate the means by which the principles of environmental care, cultural, heritage social and economical management objectives are achieved. Plantation management plans are dynamic documents and may change from time to time as a result of new information, new or revised laws, or for strategic or operational imperatives. Plantation management plans are recommended content; however land managers/owners and/or plantation owners may have other requirements."



	<ul> <li>direction of planting lines in relation to contours and natural drainage;</li> <li>description of soil preparation methods;</li> <li>pest and weed control prescription;</li> <li>planting prescription;</li> <li>access and firebreaks</li> <li>fertilising prescription;</li> <li>sensitive neighbours;</li> <li>sensitive property; and security management</li> </ul>	
Maintenance Plan:	This should outline the following management activities to be conducted during the rotation of the plantation and how they intend to be managed: • native vegetation management; • pruning and thinning regimes; • control of declared animals, declared plants and other pest plants; • weed and pest control prescription; • fertilising prescription; • access and firebreak maintenance; • grazing strategy; • inventory; • bio-security issues; • infrastructure maintenance; and • significant feature management.	Complies.
Fire Management Plan:	The fire management plan should contain the following details: • Plantation manager's telephone numbers; • names and addresses of local fire control agencies; • locality plans showing access roads, firebreaks, water points etc.; • methods of access and firebreak maintenance; • specific measures to protect services (e.g. power lines and gas pipelines); • a fire fighting equipment register for the locality and details of cooperative arrangements; • direction indicators to water points, road signs and other features; • details of coordination and cooperation between plantation managers, local	Does not comply. Provided separately.



government authorities, local volunteer fire brigades, State agency in fire prevention, detection and suppression activities.; and

• a fuel reduction program, if applicable.

## 3. PURPOSE

The purpose of this forest management plan ("Plan") is to outline the key features and characteristics of the property and document the sustainable forest management practices to be utilised in undertaking the development and ongoing management.

## 4. SCOPE

The Plan has been developed in accordance with the Code of Practice for Timber Plantations in Western Australia ("Code") and the Department of Fire and Emergency services (DFES) Guidelines for Plantation Fire Protection ("Guidelines"). The Plan is specific for the property and any surrounding areas detailed within. The scope of use shall include but not limited to site preparation, plantation establishment, ongoing management, thinning and clear fell harvest of a softwood *Pinus radiata* pine plantation.

## 5. PROPSED DEVELOPMENT

The establishment and harvesting of a *P. radiata* softwood plantation to supply forest products to domestic and international markets. The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) reported in its 'Australian plantation statistics 2023 update', that Australia's total plantation area had decreased by 15% (304,200 hectares) between 2008–09 and 2021–22. Over the same period, Western Australia's plantation estate decreased by 134,469 hectares (contributing to 44% of the national decrease).

As a result of the reduction in plantation area and the under investment in plantation development reported by ABARES, the Australian Forest Products Association (AFPA) and Master Builders Australia (MBA) are predicting a 250,000



timber house frame supply gap by 2035<sup>2</sup>. Furthermore, in Western Australia, AFPA and MBA are expecting a supply gap of 40,855 timber house frames - the number of house frames to build a city the size of Bunbury. AFPA and MBA predict Australia will need to increase the area of plantations by 400,000 ha to meet the looming national supply deficit. The 400,000 ha represents one tenth of one percent of the land used for agriculture in Australia and is essentially replacing the plantation area which has been recently lost during the period between 2008–09 and 2021–22 reported by ABARES. The development will also contribute to Australia reducing greenhouse gas emissions by 43% below 2005 levels by 2030 and achieving net zero emissions by 2050 by sequestering carbon in trees, soil, and forest products.

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Planning		
Title Information:	Lot 1947 on Plan 124868, Volume 924 Folio 133	
	Lot 2885 on Plan 127908, Volume 1559 Folio 310	
	Lot 1617 on Plan 115292, Volume 1262 Folio 333	
	Lot 3914 on Plan 133085, Volume 1262 Folio 334	
	Lot 8922 on Plan 140478, Volume 1857 Folio 985	
	Lot 2231 on Plan 124874, Volume 1262 Folio 334	
Address:	1055 Junction Road, Perup	
Planning Scheme:	Shire of Manjimup Scheme No. 4	
Planning Zone:	General Agriculture	
Planning Overlays:	Nil.	
Existing Land Use:	Grazing livestock	
Proposed Use:	Plantation	

The plantation is located in the General Agriculture zone in the Shire of Manjimup and is surrounded by other extensive primary production land uses (see Attachment 1&5). The plantation setbacks are designed to minimise the risk of any adverse impact to surrounding land uses. In determining the setbacks in this Plan, we have considered the risk of bushfire, off-site movement in the use of chemicals/fertilisers, and encroachment of machinery into sensitive areas (refer

<sup>&</sup>lt;sup>2</sup> https://ausfpa.com.au/wp-

content/uploads/2022/08/220804\_250000\_house\_frames\_short\_by\_2035\_new\_report\_confirms\_looming\_cli ff\_without\_new\_plantings\_.pdf



Furthermore, there are additional measures which can be taken to minimise the risk of bushfire and any adverse impacts to surrounding land uses such as operational planning, standard operating procedures, training and competency assessments, supervision, and buffers.

Plantation Design Setbacks		
Public Roads:	15 m minimum	
Title Boundary:	15 m minimum	
Compartment Boundary:	6 m minimum	
Remnant Vegetation:	6 m minimum	
Watercourses:	6 m minimum	
Dwellings	100 m minimum	
Buildings	50 m minimum	
Powerlines 20 m minimum		

## 7. SITE DESCRIPTION

The property lies within a moderate rainfall area which combined with the flat to gentle slopes and soils found on the property gives the property a low-moderate erosion risk rating<sup>3</sup>. Planting and cultivation will be aligned off contour to slow the rate of fall and accumulation of water where required (refer Attachment 6a&b).

Site Features		
Mean Annual Rainfall:	647 mm	
Geology: Granite and gneiss		
Land Units:	Yerraminup gentle slopes and valley floor phases	
Soils: Sandy to loamy duplexes		
Topography: Flat to gentle slopes (3-15%)		
Catchment Warren		

**Biodiversity and Conservation Values** 

There are limited to no areas with biodiversity and conservation value (refer

<sup>&</sup>lt;sup>3</sup> 1A Method of Assessing Water Erosion Risk in Land Capability Studies – Swan Coastal Plain and Darling Range. Resource Management Technical Report No.73: 1998. Department of Agriculture Western Australia.



The property resides in the Warren River catchment which is a highly degraded river in poor health. The Warren River has high salinity due to extensive clearing for agriculture. 60% of the salt load entering the Warren Rivers comes from the Perup River and Tone River subcatchments<sup>4</sup>. The establishment of a plantation in the Perup River subcatchment will help improve the salinity and water quality of the Warren River and aid in its recovery plan.

Biodiversity and Conservation Features		
Vegetation Types: Medium to tall marri, jarrah and wandoo forests		
Threatened Species:	Brush tailed phascogale, red and white-tailed cockatoo, numbat	
TEC⁵:	Nil	
Vegetation Condition: Good to poor		

#### Water Management

The property resides in the Perup River subcatchment which feeds into the Warren River. Surface water interception and water usage by a deep-rooted, multi-rotation plantation forest (including firebreaks, buffers and setbacks) will be commensurate with the native vegetation which previously occupied the site. The clearing of the land for agriculture has increased the level of surface water that reaches the waterways. While there are some benefits of increased flow rates with land clearing, it comes with trade-offs such as elevation of water tables, salinisation, erosion and the runoff of sediment, nutrients and other pollutants into waterways and rivers (see footnote).

Carefully prepared and managed, the plantation will moderate surface water flow towards waterway systems via drainage or cultivation which will fall at 1:100 or 1% (refer Attachment 4).

<sup>&</sup>lt;sup>4</sup> 2006 Salinity Situation Statement: Warren River, Western Australia Department of Water, Water Resource Technical Series No . WRT 32

<sup>&</sup>lt;sup>5</sup> Threatened ecological community.



#### Cultural Heritage

Cultural Heritage Features		
Representatives:	South West Aboriginal Land and Sea Council	
ILUA <sup>6</sup> :	Wagyl Kaip	
Regional Corporation:	Wagyl Kaip Southern Noongar	

#### Cultural Heritage Sites

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Site ID 17126	Muir Highway Ethnographic Site 2 (Historic)

The historic place 17126 Muir Highway Ethnographic Site 2 includes the Perup River which splits the property ease to west. The site is not culturally sensitive, has no gender or initiation restrictions, and is not a restricted place. Refer Attachment 8 for site location. Carefully managed in accordance with the Plan, the development of a plantation will not have any direct impact on the site.

#### Stakeholders and Land Use

Neighbouring stakeholders are listed below. Delta Forestry maintains a database of neighbours which will be used for the communication and management of sensitive operations (e.g., aerial spraying, vermin control, harvesting). For privacy reasons, names and contact details of private residence have been omitted.

<sup>&</sup>lt;sup>6</sup> Indigenous Land Use Agreement



Stakeholders		
Property identification	Contact	Land use
927 Junction Road		Grazing
Lot 3421 Junction Road		Grazing
Lot 3461 Junction Road		Grazing
Lot 534 Junction Road		Grazing
Lot 7385 Junction Road		Grazing
Lot 2718 Ashley Road		Plantation
Lot 3753 Ashley Road	DBCA Warren 08 9771 7988	State Forest
Lot 8921 Junction Road		
Not Applicable	DBCA Warren 08 9771 7988	Nature Reserve

### **Forest Description**

Forest Area Statement (ha)	
Plantation:	206
Native Vegetation:	73
Buffers and Water Courses:	12
Firebreaks and Tracks:	22
Dams:	4
Wet Areas:	2
Total:	319

# 8. SILVICULTURE AND MANAGEMENT REGIME

Regime		
Measure	<b>Un-thinned</b>	Thinned
Type:	Pulp/house frame	House frame
Species:	P. radiata	P. radiata
Initial Stocking:	800 stems/ha	1,100 stems/ha
Thinning Year:	None.	10-14
Clear Fell Year:	25-30	20-30

Many management activities are reactive and therefore not determined by a prescriptive schedule in a long-term forest management plan (as described in the following management plan). To cope with the reactive nature of operations,



planning is broken down into the following categories:

- long-term or strategic plans (20+ years horizon);
- tactical plans (3-5 year horizon); and
- operational plans (1 year horizon).

The level of detail in operational planning increases as the planning horizon becomes less. The Plan is considered a long-term or strategic plan and does not have the specificity of an operational plan.

Management schedule		
Activity	Year	Description
Road Infrastructure:	<1	Where possible, existing access points and roads will be used to minimise disturbance. Where required, new access points and roads will be established to allow for the safe access and egress through the plantation.
Weed Management:	<2	Generally, occurs in the first 18 months of plantation establishment, weeds will be managed to minimise competition within the tree crop using appropriately qualified organisations and operators and will comply with the Australian Pesticides and Veterinary Medicines Authority regulations. Firebreaks may be sprayed annually using the same techniques.
Site Preparation:	<1	Planting lines will be designed to follow closely to the contour at 4 m intervals using either rip/mound or straight rip soil amelioration techniques. Site preparation is required to optimise tree growth.
Planting:	<1	Seedlings will be planted by hand using spades or planting tubes during the winter period.
Pest Management:	As required	Undertaken where plantation damage is occurring that will lead to economic loss. Applications will be ground based.
Monitoring:	<6 months weekly and at least quarterly thereafter	Access, hazards, weeds, pests and diseases, survival, firebreaks, and water points.
Nutrition:	As required	Based on precision forestry principles the nutrition status will be monitored and any



		economic imbalances remedied by the application of fertiliser.
Road Maintenance:	As required	Roads will be inspected and maintained to ensure access and to minimise any adverse impacts (e.g., erosion, poor drainage).
Firebreak Maintenance:	Annual	Firebreaks will be maintained in accordance with this Plan and the relevant firebreak and fuel reduction notice published by the Local Government Authority.
Declared Plants and Animals:	As required	Declared plants and animals will be identified through monitoring and declarations and control will be in accordance with the Biosecurity and Agricultural Management Act 2007.
Inventory:	>10	Undertaken to monitor plantation performance and forward planning.



## **Standard Prescriptions**

Standard Prescriptions	
Pre-Plant Broad Spray:	2-5 L/ha glyphosate (Roundup), 5-15 g/ha metsulfuron methyl (Brush Off) plus suitable wetting agent. Applied to pasture after autumn break.
Site Preparation:	Rip-mound to 1 m, rip only to 1 m, no mound or rip. Prescription tailored to soil and topography. Mounds usually orientated along contour with a 1:100 fall to minimise risk of erosion.
Pre-Plant Strip Spray:	1.6 – 2.2 kg/ha atrazine (Gesaprim). Applied to planting strip at least two weeks prior to planting.
Post-Plant Spray:	11-15 L/ha hexazinone (Velpar). Applied to planting strip or broad sprayed one month after planting. Only applied if there is a spring flush of competitive weeds along the strip spray lines.
Establishment Fertiliser:	100-150 g/seedling diammonium phosphate granules or compound blend depending on foliar or soil analysis buried within 10 cm of planted seedling. Generally, not required on fertile ex- pastured sites.
Maintenance Fertiliser:	100-300 kg/ha diammonium phosphate or urea or compound blend depending on foliar or soil analysis. Can occur at anytime not less than 10 years prior to harvest. Generally, not required on fertile ex-pastured sites.
Firebreaks:	2-5 L/ha glyphosate (Roundup), 5-15 g/ha metsulfuron methyl (Brush Off) plus suitable wetting agent. Applied to pasture after autumn break. Mechanical grading.
Vermin Control	Trapping, baiting and professional shooting.
Grazing:	None after establishment.
Fencing:	Internal fencing removed and external fences maintained. Expenses shared with neighbours.
Access and Security:	Permits or licences. Locked gates. Cameras.



#### Water Supplies and Use

The property is in a proclaimed area under the *Rights and Water Irrigation Act 1914.* The Surface Water Licence 63438 is excluded from the property. The property's remaining water points are strategically located for the purpose of watering livestock. Furthermore, it appears water points are not located on a watercourse or wetland. The water points are estimated to have capacity of 10,000 kilolitres in total. There is also a 150,000L water tank located on the property.

The Owner's use of the water supply will be restricted to limited quantities for ordinary and domestic purposes (<5,000 L/annum over the life of the plantation), and fire-fighting.

There is no requirement for a water licence for the planned sources and uses of water. There is no requirement for a bed and banks permit to undertake the development.

#### Harvest

The intent is to deploy a cut-to-length harvest system to produce logs for delivery to local and export markets. Prior to any harvest operations a harvest management plan will be developed for endorsement by the local government authority and communication to stakeholders. The harvest management plan shall include appropriate water, dust and noise management plans to adequately manage potential adverse impacts to the environment and stakeholders.

Around the final clear-felling of the plantation an assessment will be made on the future use of the property including the appropriate management of harvest residue.

## 9. HAULAGE AND MARKET INFORMATION

The property has direct access to Junction Road allowing for the efficient haulage of logs to key markets via the preferred haulage route found in Attachment 7. Prior to any haulage operations a haulage and traffic management plan will be developed for endorsement by the Local Government Authority and communication to stakeholders.

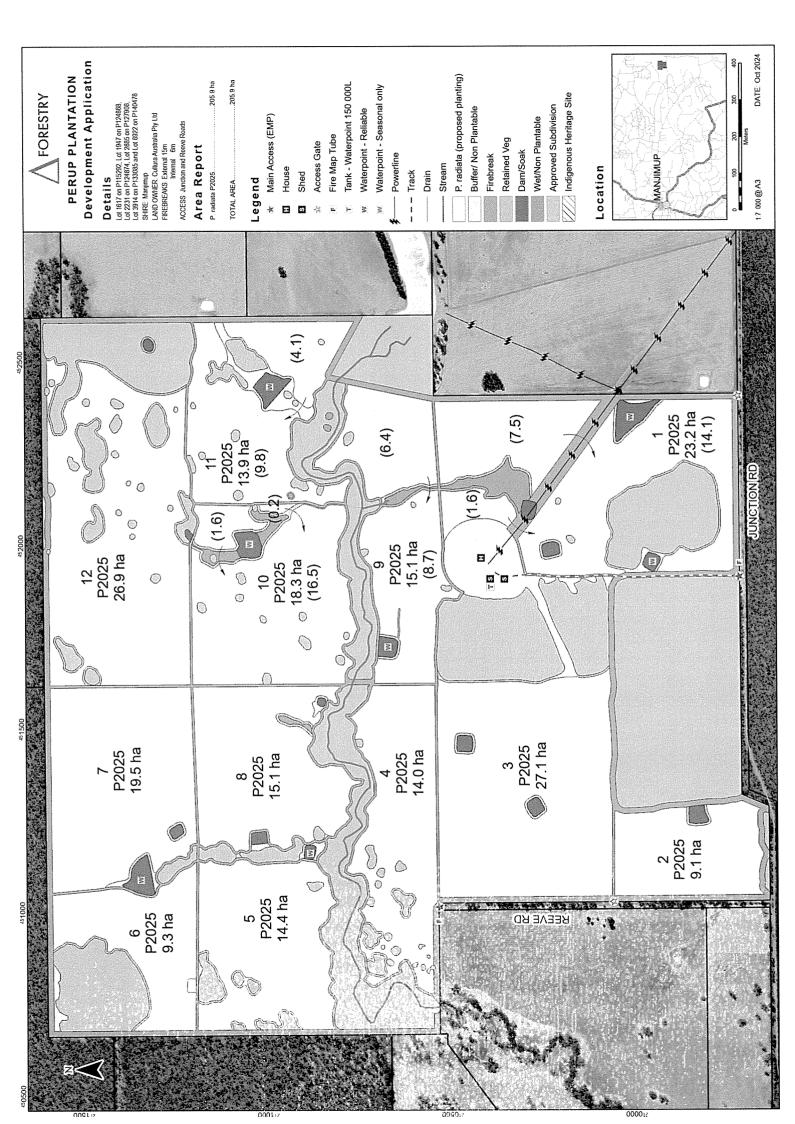


Forest Products	Destination
Environmental Credits:	ACCU Scheme, voluntary markets
Fence Posts:	Timber Treaters Bridgetown
Pulplogs:	Laminex Dardanup, Bunbury Port
Sawlogs:	Wespine Dardanup, Local Sawmillers
Power Poles:	Koppers Dardanup

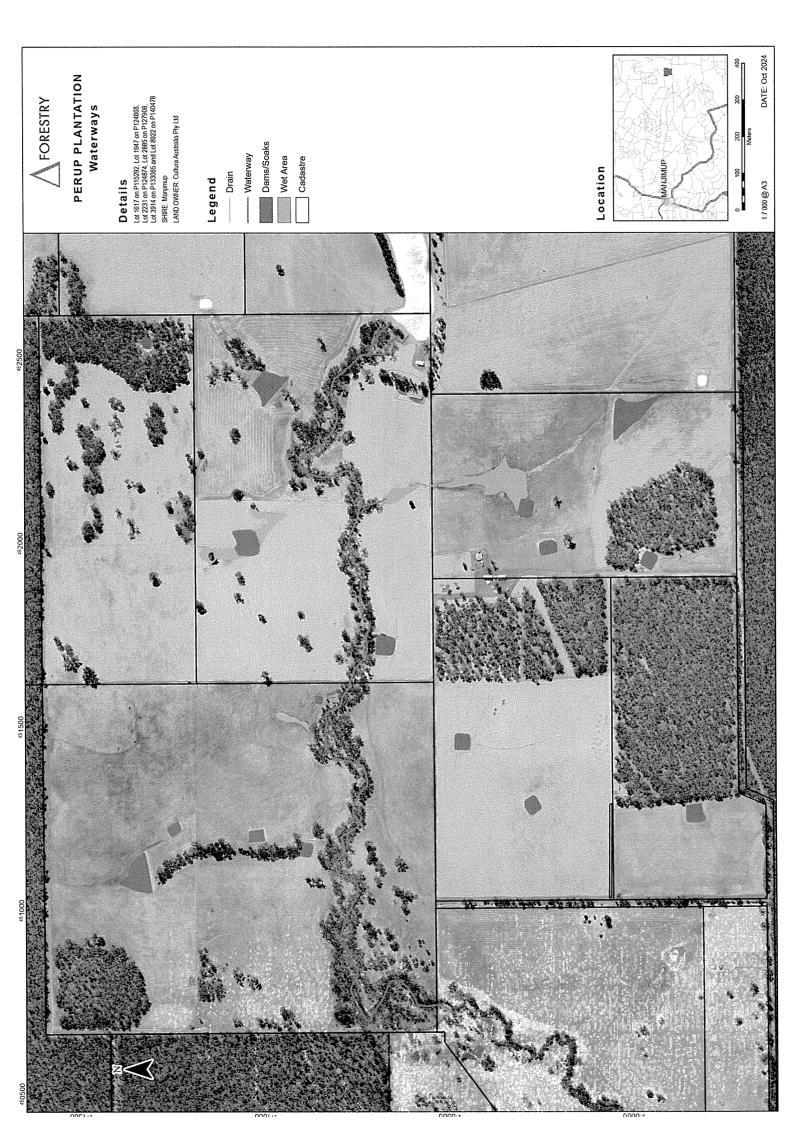
#### Attachments:

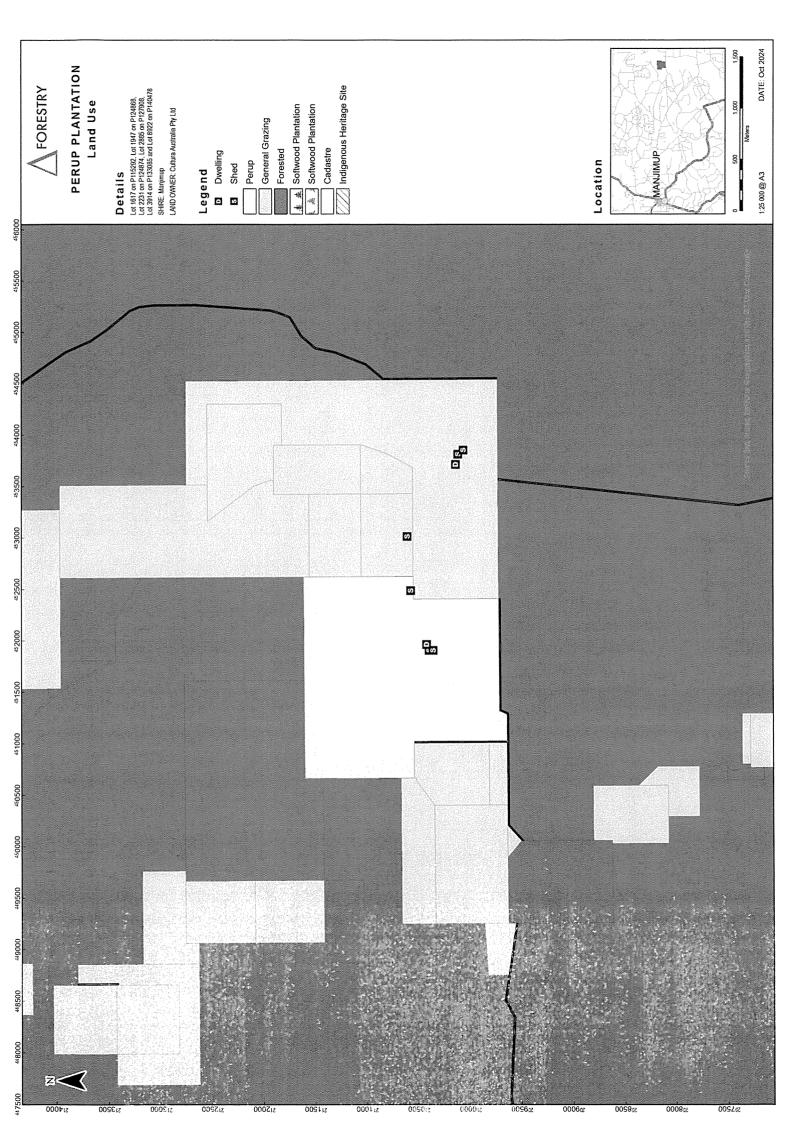
- 1. Perup District Context Map
- 2. Perup Plantation Map
- 3. Perup Native Veg Map
- 4. Perup Waterways Map
- 5. Perup Landuse Map
- 6. Perup Contour Maps
  - a. With photo
  - b. No photo
- 7. Perup Haulage Route Map
- 8. Cultural Heritage Extract



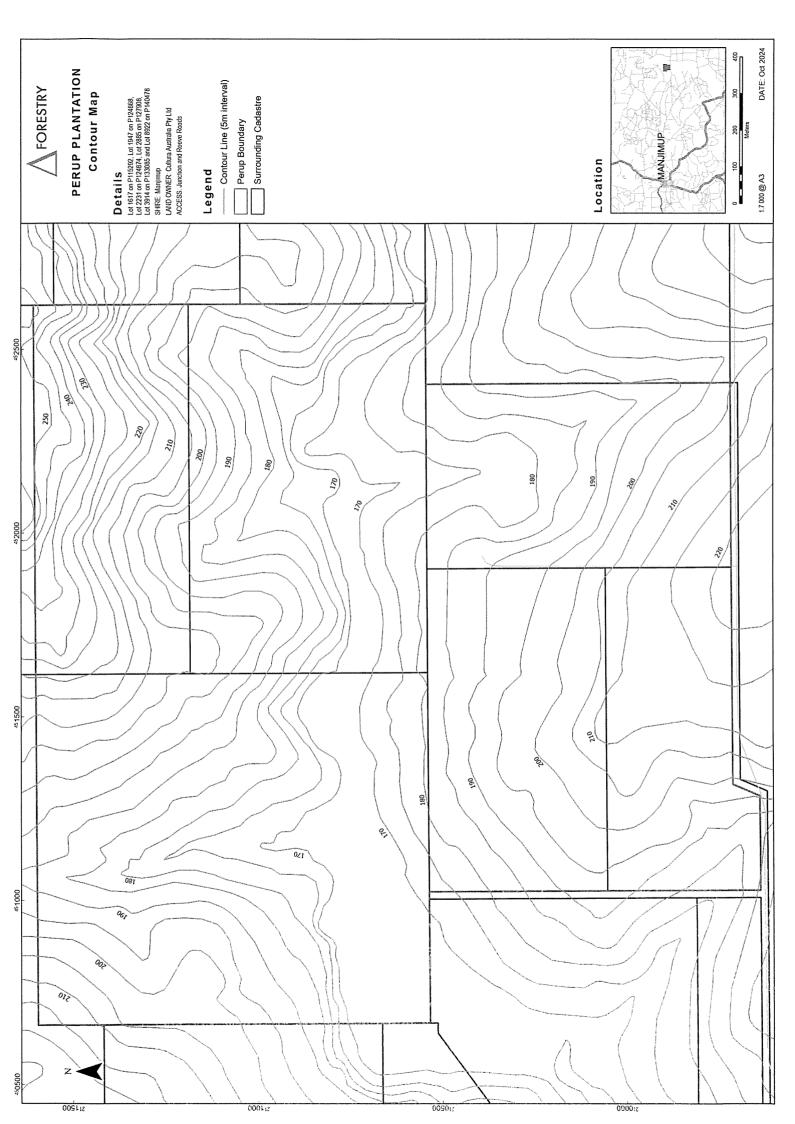


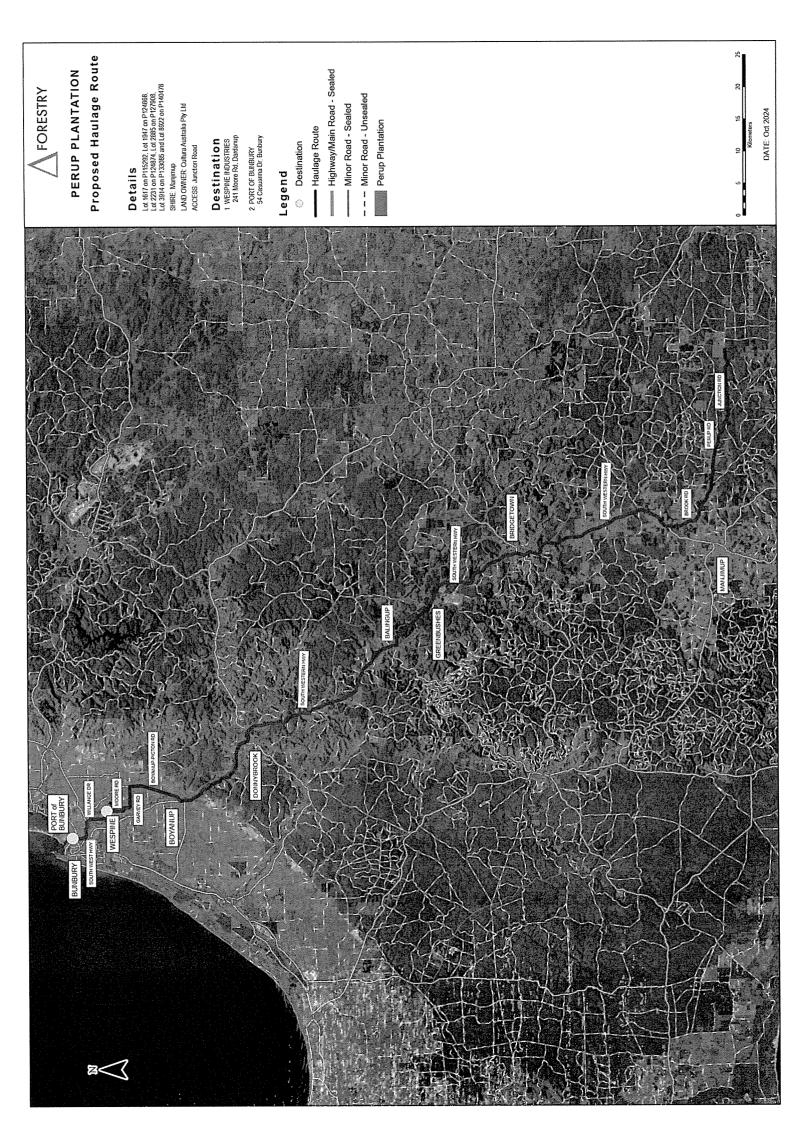


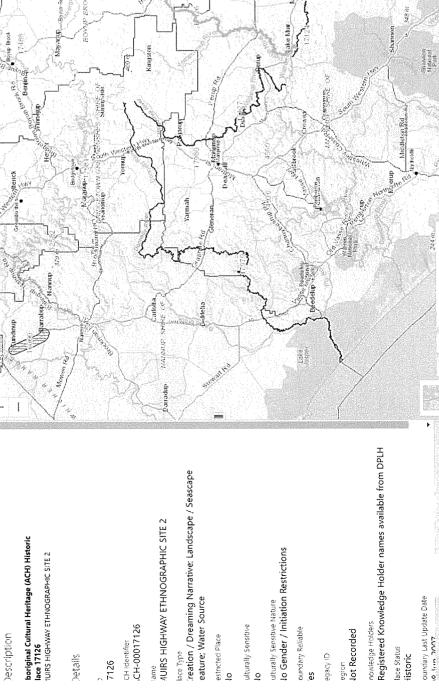












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