

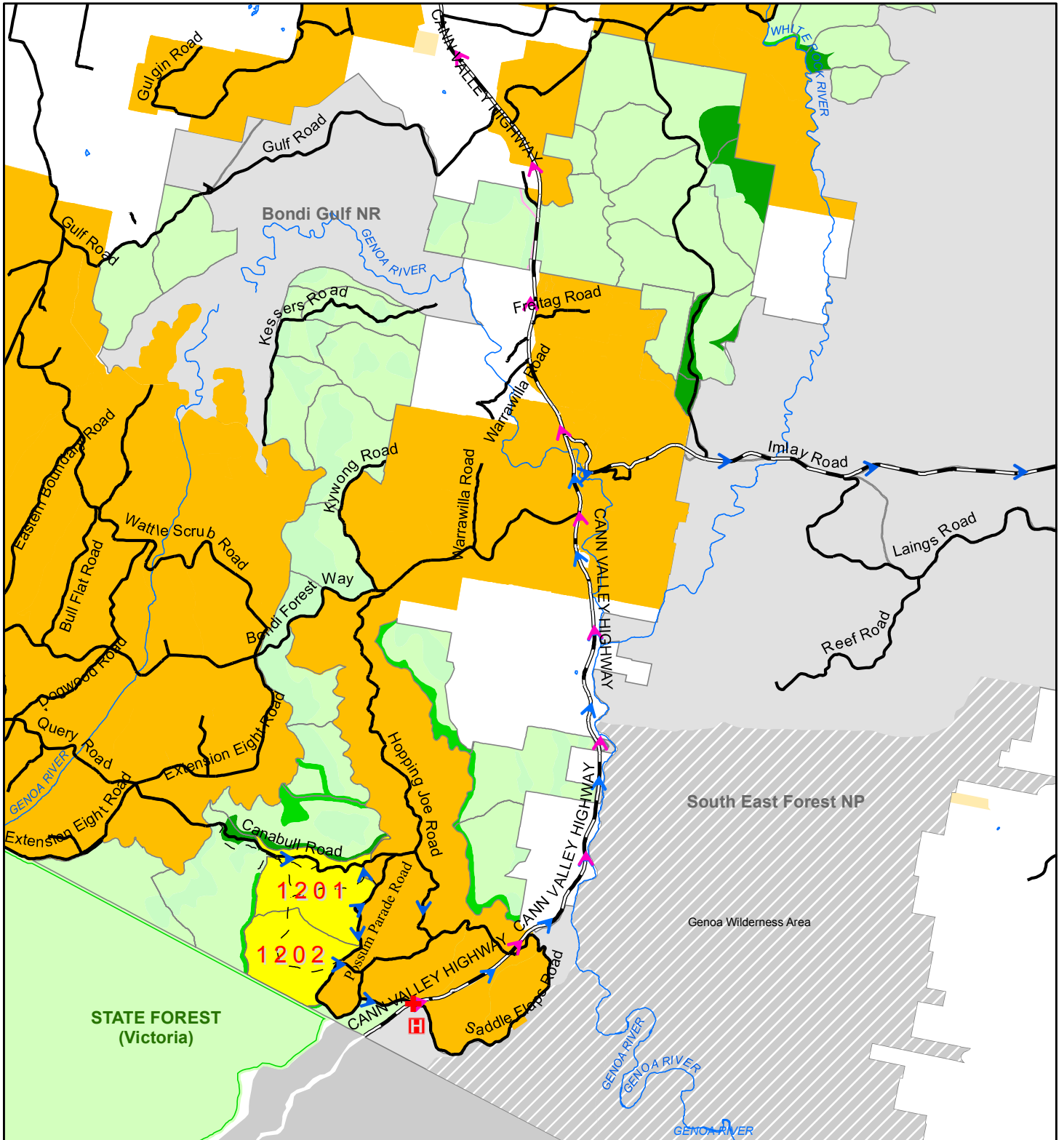
LOCALITY MAP

Compartments 1201 & 1202

State Forest: Bondi No: 128

EDEN IFOA EDEN MANAGEMENT AREA

Scale: 1:100,000



Sealed Road	State Forest	National Parks	Emergency Meeting Point
Major Forest Road	Planning Unit	Formal Reserve	Helicopter Landing Site
Minor Forest Road	Vacant Crown Land	Informal Reserve	Evacuation Route
Major Rivers	Freehold	Softwood Plantations	Haulage Route
State Forest Victoria	Water	NPWS Declared Wilderness	
National Park Victoria			

Compartments: 1201 & 1202

Eden IFOA

Prepared By: Julia Clark

Version: 2

PLANNING SUPERVISOR APPROVAL

APPROVED: Lee Blessington

DATE: 11.01.2016



0 125 250 500 750 1,000 Meters
Scale: 1:15,000
Contour Interval 10m

Harvest Plan Forest Type Map

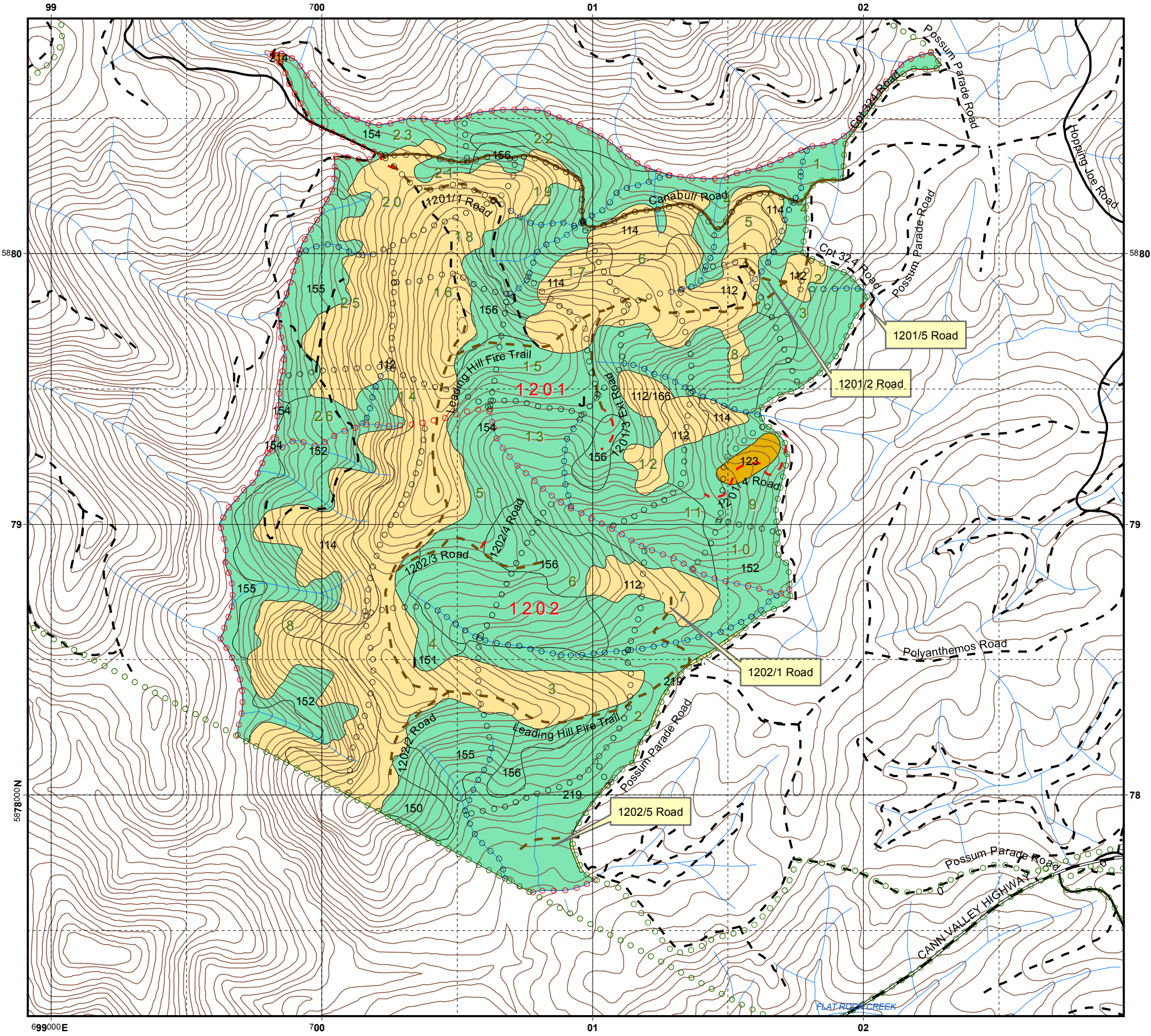
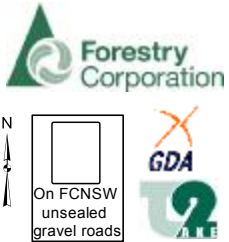
Compartments: 1201 & 1202

State Forest: Bondi No: 128

Eden IFOA

Map Sheet: NUNGATTA 8723-1S

Prepared By: Julia Clark



LEGEND

BOUNDARIES

- State Forest Boundary
- Compartment Boundary
- Coupe Boundary

ROADS

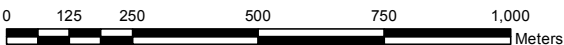
- Sealed
- Major Forest
- Minor Forest
- EPL Standard Existing (Major)
- EPL Standard Existing (Minor)
- EPL Standard (New Construction)

DRAINAGE

- Mapped LIC Drainage

FOREST TYPE RN17

- Type 112 Silvertop Ash
- Type 114 Silvertop Ash - Stringybark
- Type 123 Coastal Stringybark
- Type 150 Messmate
- Type 151 Brown Barrel - Messmate
- Type 152 Messmate - Gum
- Type 154 Brown Barrel
- Type 155 Brown Barrel - Gum
- Type 156 Brown Barrel / Messmate - Ash
- Type 214 Wattle
- Type 219 Settlements, Roads, Gravel Pits, etc.

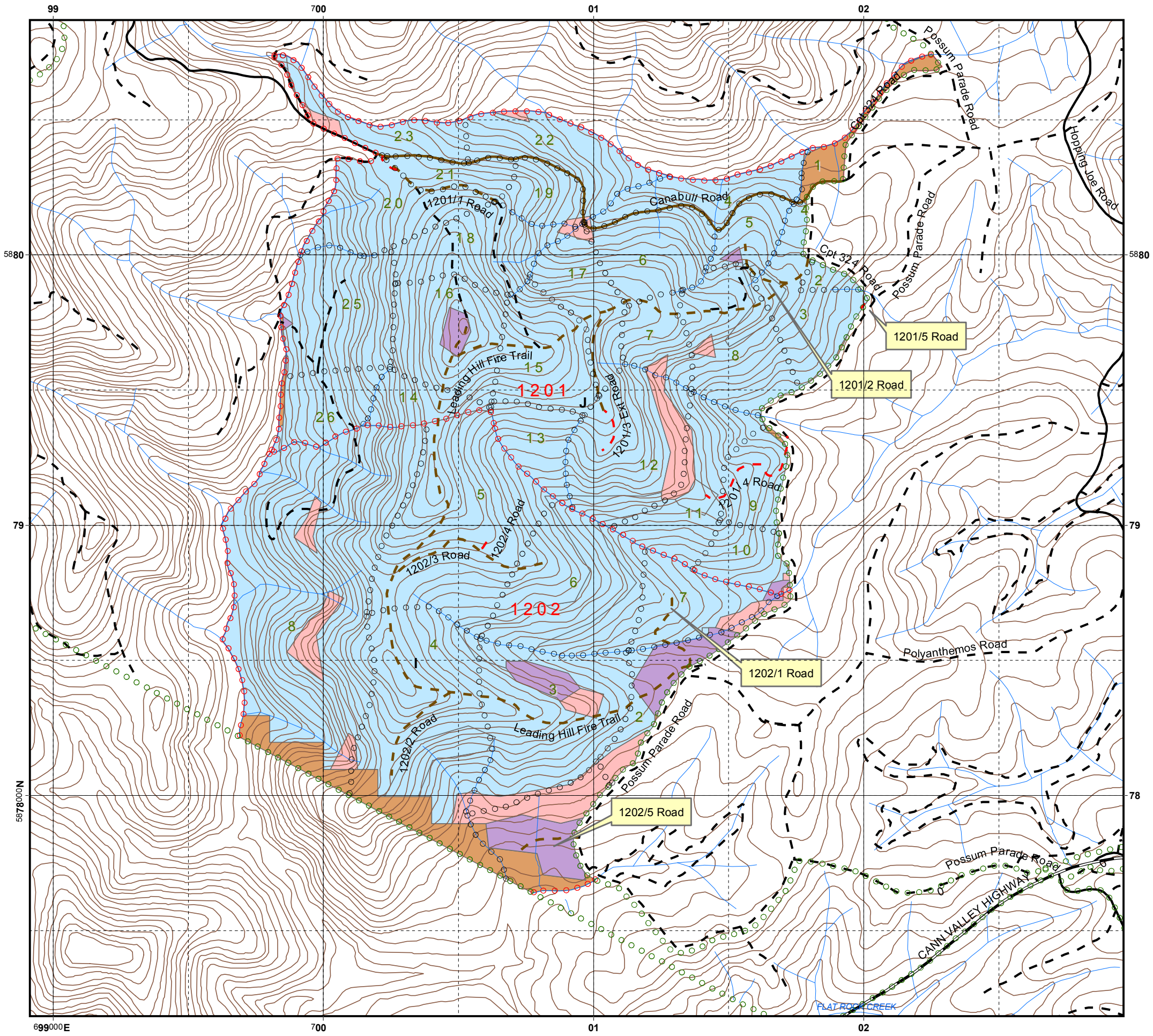


Scale: 1:15,000
Contour Interval 10m

Harvest Plan Habitat Class Map
Compartments: 1201 & 1202
State Forest: Bondi No: 128
Eden IFOA
Map Sheet: NUNGATTA 8723-1S



Prepared By: Julia Clark



LEGEND

BOUNDARIES

- State Forest Boundary
- Compartment Boundary
- Coupe Boundary

ROADS

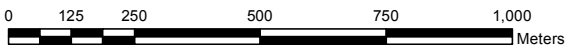
- Sealed
- Major Forest
- Minor Forest
- EPL Standard Existing (Major)
- EPL Standard Existing (Minor)
- EPL Standard (New Construction)

DRAINAGE

- Mapped LIC Drainage

HABITAT CLASS

- Unknown
- High
- Moderate
- Low



Scale: 1:15,000
Contour Interval 10m



HARDWOOD FORESTS- EDEN IFOA HARVESTING PLAN

Bondi State Forest - Compartments 1201 and 1202

Certification

This plan has been prepared in accordance with the Integrated Forestry Operations Approval issued under the Forestry and National Park Estate Act 1998. The Harvest Plan Standard Conditions for Hardwood Forest Operations in Eden apply to this operation.

Prepared By: Harvest Planner	Julia Clark	Approved By: Planning Supervisor	Lee Blessington
Signature	Julia Clark	Signature	Lee Blessington
Date	18.01.2016	Date	11.01.2016

Note: Approval includes the Harvest Plan Operational Map (HPOM) with the corresponding approval date displayed on the map, verifying final approved version.

Other maps included with this plan are Locality, Forest Type, Habitat Quality Class (Production Assistant and Indicative), Roading and Cultural Heritage (limited distribution).

Description of Proposal

Harvesting of hardwood forest

(a) Integrated Harvesting of Hardwood Forest:

Mixed-age stands dominated by a commercially mature overstorey within Compartment 1202 and severely burnt stands within Compartment 1201 will be harvested to create regeneration opportunities through integrated harvesting of sawlogs and pulpwood with the retention of trees for future sawlogs, fauna habitat, seed trees, visual maintenance and soil and water protection.

(b) Thinning of Regrowth Hardwood Forest:

Overstocked advanced regrowth stands originating from past logging activities and wildfire events will be mechanically thinned under site specific silvicultural regimes aimed at retaining the highest quality future sawlogs. Thinning reduces the number of competing stems in a stand and concentrates the growth potential onto the remaining crop trees. This process will maintain the uniform age structure that characterises regrowth forests.

This operation will be licensed under the EPL with notification sent to the regulatory authorities as per clause 23 of Integrated Forestry Operations Approval (IFOA).

Attachment 1: Site Safety Plan prescribes safety requirements and Medical Emergency Evacuation Plan for this harvesting operation.

Attachment 2: Roading plan prescribes roading requirements for this harvesting operation.

Abbreviations used in this plan

PA = Production Assistant, PtS= Protection Supervisor, PS = Production Supervisor, RC = Roothing Coordinator, IFOA = Integrated Forestry Operations Approval, EPL = Environment Protection Licence, OEH = Office of Environment and Heritage.

Area Identification and Yield Estimates

State Forest	Compartments	Coupes	IFOA Region	Management Area	Certification
Bondi	1201	2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21 & 23(part)	Eden	Eden	AS4708:2007 ISO 14001
Bondi	1202	1, 2, 3, 4, 5, 6 & 7	Eden	Eden	AS4708:2007 ISO 14001

	Cpt 1201	Cpt 1202	Total
Plan Compartment ID	22215	22216	NA
Gross Area (ha)	251.7	217.3	469.0
Net Harvest Area (integrated) (ha)	46.1	10.1	56.2
Net Harvest Area (thinning) (ha)	132.4	131.5	263.9
Estimated Yield Pulp (t)	11,984	16,032t	28,015t
Estimated Yield Sawlog (m3)	0 m3	69 m3	69 m3

Slope Classes (percent of harvest area - integrated)

	Cpt 1201	Cpt 1202
Slope Class	% of harvest area	% of harvest area
0-20°	74.8	97.0
20-25 °	21.1	3.0
25-30 °	4.1	0.0

Slope Classes (percent of harvest area - thinning)

	Cpt 1201	Cpt 1202
Slope Class	% of thin area	% of thin area
0-20°	57.2	72.2
20-25 °	27.4	23.2
25-30 °	12.6	4.4



ATTACHMENT 1: SITE SAFETY PLAN

Worksite Information	
Is this Declared Hunting Area: Yes	Comments: Hunting exclusion zone does not cover this area. Before harvesting operation commences (ie during mark-up), signage is required.
Have Exclusion Zone signs been erected or checked prior to starting work daily.	Yes / No
Comments:	
Description of Work to be undertaken on site: - Refer to description of proposal above.	
Site Supervisor	
Name:	Contact number:
Communication	
Radio channel number	VHF: UHF
Other (e.g. hand signals):	
Traffic management (describe) e.g. Signage, Road closure, Traffic control	
<p>The logging contractor is responsible for traffic control on all roads when felling is within two tree lengths of the tallest tree to be felled of the road, or snagging on roads or loading is occurring within 10 metres of a road. Warning of trucks entering must be displayed 200 metres on either side of all State Forest road approaches leading to areas where harvesting operations are in progress.</p> <p>This plan identifies haulage from the compartments will be via the following routes:</p> <ul style="list-style-type: none"> - west on Cannabull Road onto Hopping Joe Road and turning left onto Cann Valley Highway (100km/hr Road); - along Possum Parade Road onto either Cannabull Road or Polyanthemmos Road then onto Hopping Joe Road and turning left onto Cann Valley Highway (100km/hr Road); - east on Possum Parade Road and turning left onto Cann Valley Highway (100km/hr Road). <p>The intersections of Hopping Joe Road and Possum Parade Road onto Cann Valley Highway have been assessed as achieving a minimum of 200m sight distance on both approaches. Therefore at these intersections additional signage in accordance with a Traffic Control Plan is not required.</p> <p>Road intersections outside the control of FCNSW are not covered by this plan or any FCNSW Traffic Control Plan. Haulage contractors must abide by RTA road laws and standard operating procedures in relation to haulage routes outside the control of FCNSW.</p>	
Name of on-site safety first aider/s	
Location of first aid kit	

SITE HAZARD & RISK ASSESSMENT NO.	CONTROL	WHO	IMPLEMENTED
1. Vehicle collision at adjoining roads of various traffic levels	Warning signs at FCNSW intersections, road closure on FCNSW roads. Implement Traffic Control plans (where specified in this harvest plan). 60km/hr speed limit on all State Forest natural surface/gravel roads unless otherwise signposted. Compliance with FCNSW lights on policy.		
2. Hazardous or dead trees	Refer to FCNSW WHS procedure 4.26. Assess area within two tree lengths of work site. Assess risk, mark any Distinctly Dangerous Trees with the symbol Ø & if necessary remove hazard or move work site. Use machinery to assist with hazard removal if possible Contractor is responsible for implementing control strategies during harvesting.		
3. Overhead hazards associated with dumps	Refer to FCNSW WHS procedure 4.26. Assess overhead hazard within two tree lengths of the dump. Assess risk, & if necessary remove hazard or relocate dump site. Contractor is responsible for implementing control strategies during harvesting.		
4. Dust from passing vehicles along dirt haulage routes	Restrict speed to minimise dust generation, slow down when passing vehicles. Turn on driving and hazard lights to increase visibility.		

- **All** visitors, contractors and employees **must** be fully **inducted** onto the worksite by the workplace supervisor e.g. the Principal Contractor or the Forestry Corporation supervisor. This must be recorded on the attached induction sheet.
- Relevant **Safe Work Procedures** are available and understood for the type of work to be undertaken.
- A **Risk and Hazard Assessment Worksheet** must be completed if site specific hazards are identified that are not covered by a **Safe Work Procedure**. The top (pink sheet) is to be attached to this site safety plan.
- Operators in training must be supervised by the site supervisor.
- All appropriate Personal Protective Equipment (PPE) must be worn on the worksite at all times.



MEDICAL EMERGENCY EVACUATION PLAN

Nearest reliable mobile phone reception (describe location)			
Next G Network: Poor	GSM: N/A		Satellite: N/A
GPS Lat/Long: 37° 12' 26" S / 149° 15' 34" E	MGA: 700522E 5879727N	Datum: GDA 94	Zone: 55
Location description: Highest crest on Leading Hill Fire Trail within Compartment 1201.			
Emergency meeting point for ambulance / police (refer to attached locality map)			
GPS Lat/Long: 37° 13' 30" S / 149° 17' 2" E	MGA: 702630E 5877701N	Datum: GDA 94	Zone: 55
Location description: Intersection of Possum Parade Road and Cann Valley Highway.			
Helicopter landing place (refer to attached locality map)			
GPS Lat/Long: 37° 13' 30" S / 149° 17' 2" E			
Location description: Intersection of Possum Parade Road and Cann Valley Highway.			
Procedures to obtain ambulance assistance			
<ol style="list-style-type: none"> 1. Dial 000 2. If there is no mobile coverage, dial 112 (which will work on any mobile phone system). 3. If no response on 112: <ul style="list-style-type: none"> • use a radio link (TARA, be discrete with personal information) • move to an area with mobile coverage • find a landline • use another network (e.g. a contractor's VHF radio) 		<p>Contact nearest Forestry Corporation office on:</p> <p>Channel: 247</p> <p>Telephone: 1300 880 548</p> <p>Give details of the situation and ask for a 000 call to be placed.</p>	
000 operator question:		Response:	
1. Police, Fire, Ambulance?		NSW Ambulance,	
2. Suburb?		State Forest name: Bondi Nearest town or locality: Bombala Nearest ambulance station: Bombala	
3. Address?		Possum Parade Road	
4. Nearest road junction/cross street?		Possum Parade Road and Cannabull Road	
5. Local government area?		Bombala	
6. Nature of the problem?		Describe the accident, number and condition of casualties	
7. Where is the accident?		Refer to safety meeting point above	
Directions to navigate from nearest ambulance station to the emergency meeting point. From Bombala head south on the Cann Valley Highway and travel approx. 47km to Possum Parade Road junction (on right).			
8. 4WD ambulance required Y / N		CB radio channel to use:	
9. Injuries?		Give detailed information about the condition of the casualty (do not mention names over radio system)	
10. Your name and call back number:			

Silviculture and Harvesting Prescriptions
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Compartment 1201

Year	1979	1983	1987
TSI	X	X	X
HR Burning	X	X	X
Wildfires	Ö	Ö	X
Logging m ³	29,752		17,062

Ö - applies, X – not applicable

Compartment 1202

Year	1983	1985	1987
TSI	X	X	X
HR Burning	X	X	X
Wildfires	Ö	X	X
Logging m ³	1,290	20,149	3,736

Ö - applies, X – not applicable

Cmpt No.	Indicative Thinnable Area (ha)	Pre-thinning			Removed			Post-thinning	
		Stock (stems/ha)	B.A. (m2/ha)	Vol/Ha (m3/ha)	Stock (stems/ha)	B.A. (m2/ha)	Vol/Ha (m3/ha)	Stock (stems/ha)	B.A. (m2/ha)
1201	132.4	941	47.6	312.2	791	27.8	164.1	150	19.8
1202	131.5	1272	54.1	357.5	1122	34.5	205.2	150	19.6

Source: Based on Operational Inventory Data 1997 [Reden].

Silvicultural Planning

The stands to be thinned and harvested consist of primarily advance regrowth with a component of mature trees. Compartments 1201 and 1202 were harvested under a modified shelterwood systems from 1979-87 in alternate coupes. These areas were also affected by wildfire in 1983 and hazard reduction burn in 2014. This has resulted in a multi-aged forest consisting of a mosaic of wildfire burned, logged and unlogged areas.

Predominant species are Silvertop Ash on ridges with some Brown Barrel, Peppermint, Stringybark, Messmate and Gums on lower slopes.

The severely burnt areas within Compartment 1201 and the mixed age mature stand in Compartment 1202 will be harvested in a modified shelter-wood silvicultural system in accordance with the Eden IFOA to allow for regeneration opportunities particularly in the burnt areas.

The rest of the areas with advance regrowth stands of sizes ranging from 10cm to 20cm and 30cm in diameter, will be thinned with the aim of retaining the highest quality future sawlogs and reducing the number of competing stems in the stand to concentrate growth onto the retained trees.

Harvesting Prescription

Stand type	% of net area	Area (refer to HPOM for details)	Treatment (% INT, THIN)
Mature (even aged/ mixed aged)	16%	Cpt 1201: Cpes 5, part 8, 9, 10, 11, 19, 21 & part 23. Cpt 1202: Cpe 1	<ul style="list-style-type: none"> • 100% Integrated (modified shelter-wood) • Target sawlogs, pulpwood and other miscellaneous products as markets allow in line with TSL and EPL requirements. • Retain potential sawlog growers. • Refer to Standard Harvest Planning Conditions for more detail.
Regrowth (even aged)	84%	Remainder of the net area.	<ul style="list-style-type: none"> • Thinning from below. • Refer to Standard Harvest Planning Conditions for more detail.

Note: The area of each silvicultural treatment must be mapped and recorded in the Post logging information section of this plan.

IFOA Limits

The integrated harvesting operation is in accordance with IFOA Part 1 Condition 5 (11).

No more than 60% of the net harvestable area within these compartments will be harvested during this operation. The next integrated harvesting operation is not permitted within 5 years from the completion of this harvesting event. (integrated)

AND

The thinning harvesting operation is in accordance with IFOA Part 1 Condition 5 (6) and Part 5 (1).

The PA will ensure that TSL tree retention prescriptions are met concurrent with harvesting operations.

Special Requirements

Non-harvest areas

The HPOM indicates the non-harvest areas in the compartments, as detailed in the legend. Harvesting disturbance is not permitted in non-harvest areas unless authorised by the Planning Supervisor.

Noxious Weeds/Disease/Pests Hygiene Requirements

There are no known noxious weeds, pathogens or diseases in the compartment. Harvesting Machinery is not required to be washed down prior to leaving the compartment.

Compartments 1201 and 1202 is within Bombala Shire Council which is a designated red zone for Myrtle Rust. In order to prevent the spread of Myrtle Rust all harvesting machinery, equipment and vehicles heading west from Bombala Shire Council or south into Victoria must be inspected for vegetation containing Myrtle Rust. If present, the vegetation must be removed from the harvesting machinery, equipment or vehicle prior to leaving the compartment.

Permanent Growth and Research Plots

Any inventory plots located during the harvesting operation are to be treated the same as the surrounding area.

Forest Management Zoning

FMZ 2-Special Management, FMZ 3A Harvesting Excluded, FMZ 3B-Special Prescriptions (visual) and FMZ 4- General Management (normal harvesting prescriptions apply) occur within the compartments. Refer to HPOM for more detail.

FMZ 3B (Visual) – A visual protection zone exists along the ridgelines along Leading Hill Fire Trail. The visual protection zone areas of Coupes 19 and 21 of Compartment 1201 is low lying and only visible from the surrounding forested areas. Therefore no additional harvest prescriptions are required.

FMZ 2 & 3A – Harvesting and harvesting machinery are not permitted in these areas. Prescribed burning is only permitted in these areas where fire does not conflict with underlying protection zones e.g. rainforest, cultural heritage etc. (Refer to cultural heritage flora and fauna sections of this plan and the standard harvest plan conditions for more detail).

IFOA Required Approval of Forestry Activities

Approvals have not been obtained for snig track construction and/or use, road construction, road re-opening, routine road maintenance and log haulage in FMZ 2/3A. If the PA identifies the need for harvesting related activities to occur within FMZ2/3A during the operation, the Harvest Planner must be contacted to seek Planning Supervisor approval.

Construction or re-opening of roads or snig tracks may occur with prior approval in the following exclusion zones:

- Planning Supervisor approval required for Stream Exclusion Zones.

During the harvesting operation the PA must identify any crossings required in these exclusion zones and contact the Planner to obtain required approvals.

Cultural Heritage

Cultural Heritage –

Flora and Fauna

Refer to TSL Booklet for Conditions

Mark-Up Conditions

During the pre-harvest mark up the PA must search for and record threatened species habitat features consistent with Conditions 5.2 and 8.6 of the TSL. Searches for threatened species features must be conducted within that portion of the net planned area where harvesting will occur, and within 50 metres outside this area (eg HCVOG, etc) (conditions 5.1, 5.2 of the TSL).

Where any of these features are found, the feature must be recorded, the Harvesting Plan, including the HPOM, must be amended accordingly and the appropriate condition applied.

Species adequately covered by general prescriptions:

The following species have been recorded in or around the compartments and are adequately covered by the general prescriptions. No further protection measures are required for these species: **Flame Robin** (*Petroica phoenicea*), **Scarlet Robin** (*Petroica boodang*), **Gang Gang Cockatoo** (*Callocephalon fimbriatum*).

Tree Retention-Non-Regrowth Zone

The non-regrowth zone applies to the entire net harvest area. The PA is to mark as per Condition 5.6 of the TSL, in conjunction with indicative Habitat Quality Class Map and on ground assessment. Where the density of habitat trees specified in the table are not available, retain the existing habitat trees plus additional trees of the largest dbhob to meet the required retention rate.

Habitat Quality	Hollow Bearing Tree/ 2ha	TSL Condition	Recruitment Trees/ 2ha	TSL Condition	Protection of Retained Trees	TSL Condition	Dead Standing Tree (only if safe)	TSL Condition	Significant Food Resource*	TSL Condition
High	12	5.6g(i)	12	5.6h(i)	0	5.6l	0	5.6j	0	5.6 k
Medium	8	5.6g(ii)	8	5.6 h(ii)	0	5.6l	0	5.6j	0	5.6 k
Low	4	5.6g(iii)	4	5.6 h(iii)	0	5.6l	0	5.6j	0	5.6 k

0 - Condition applies

*X Yellow-bellied Glider feed trees, occur within Compartment 1201 at locations shown in the table below.

Species	Feature	Zone	GDA Easting	GDA Northing	Comments
Yellow-bellied Glider	Feed tree	55	701717	5878856	Marked with orange tape
Yellow-bellied Glider	Feed tree	55	701719	5879339	Marked with orange tape

General exclusion zones

General exclusions as listed below are shown on the HPOM.

Feature/Condition	TSL cond'n	Occurs within Planning Unit
Rainforest	5.4	Rainforest (RF) is mapped within the Compartment 1201 and is displayed on the HPOM. This mapped rainforest is within excluded forest.
Riparian Protection Zones	5.7	Yes
Ridge & Headwater Habitat	5.8	Yes (80m on the western boundary of Coupe 20, Compartment 1201 & 40m on the boundary between Compartments 1201 & 1202 and 40m on the south-

		western boundary of Coupe 1, Compartment 1202)
Wetlands	5.9	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Heath and Scrub	5.10	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Rocky Outcrops and Cliffs	5.11	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Endangered Ecological Community	NA	Has been assessed & is unlikely to occur in the field. May require further investigation#. Removal of timber, harvesting machinery and post harvest burning must be excluded from all areas of EEC.

#PA will continue to conduct on the ground mark-up & searches and report back to foresters/ecologists any features requiring further investigation.

General Threatened Flora and Fauna Prescriptions

Feature	Records in 1201 & 1202	Licence conditions under the TSC Act
Threatened Frog General Protection Measures	No	5.12
Bird Nest and Roost Site Protection	No	5.13
Tree Bat Roost Protection	No	5.14.1
Subterranean Roost Protection	No	5.14.2
Protection of flying-fox Camps	No	5.14.3
Burning	Net planned area	5.16
Ground Habitat Protection	Net planned area	5.17

Species & Site-Specific Threatened Flora and Fauna Prescriptions

Contractors and supervisory staff must immediately report any sightings of Schedule 1 and 2 species to the PS. The Harvesting Plan must be amended to include additional prescriptions if necessary. If any species requiring a site specific prescription in accordance with condition 1.2 of the TSL are detected in or within 100m of the compartment boundaries cease operations immediately & Inform PS.

The following species have been recorded within or nearby the area and the associated prescriptions must be implemented:

Threatened species and habitat features within trigger distance	Records in 1201 & 1202	Licence conditions under the TSC Act or relevant Site-specific prescription
Sooty Owl <i>Tyto tenebricosa</i>	Yes	6.3 Owl Landscape Exclusion Zones occur in Compartments 1201 and 1202 (Refer to HPOM).
Yellow-bellied Glider <i>Petaurus australis</i>	Yes	6.13

Fisheries Licence Conditions

There are no known records of threatened fish species or class 1 or 2 aquatic habitat relevant to this operation. The conditions of the fisheries licence are not triggered for this operation.

Soils and Water Protection

Refer to EPL Booklet & Standard Plan Conditions

Site-specific EPL Conditions

Elements	Conditions
Unmapped Drainage Lines	EPL applies
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	1 (Thinning) & 2 (Integrated)
Dispersible Soils	No
Seasonality Harvesting Exclusions	No
Seasonality Burning Exclusions	No
Log Dumps	Refer relevant conditions for IHL
Snig Tracks	Refer relevant conditions for IHL
Roads	See Schedule 5 of EPL Booklet
Slope limits for harvesting	Refer to Schedule 4B.3 of EPL

Log Dump Location

33 loading bays and dumps are indicated on the HPOM. Field location of log dumps must utilise the most level site available consistent with the location indicated on the HPOM. Inherent hazard level 1 Conditions 26, 27, 30, and 33 of Schedule 4 of the EPL must apply for thinning operation. Inherent hazard level 2 Conditions 26, 27, 28, 30, 31 and 33 of Schedule 4 of the EPL must apply for modified-shelterwood operation.

- Haulage of timber from Dump A in Coupe 19 of Compartment 1201 is to travel west initially on Cannabull Road to the intersection of Cannabull Road and Leading Hill Fire Trail and use this intersection to turn around and continuing onwards east on Cannabull Road.
- Loading bay O for Coupe 3 of Compartment 1201 is a small cleared area located on Possum Parade Road. Ensure that minimal additional clearing of vegetation around this site for the usage of this dump.

Expected Felling/ Extraction & Loading Method

The expected felling method is mechanical, extraction method by forwarder, and loading method is by forwarder.

Drainage Feature Crossings

Seven existing road crossings (C1, C2, C3, C4, C5, C7 & C8) are approved for use on drainage features. There is no drainage feature at C6. 1201/5 Road is above the drainage feature shown.

Mass Movement

Compartments 1201 and 1202 is not in an area identified as having a potential for mass movement. No specific prescriptions relating to mass movement/snigging are required.

Suitability of existing log dams and gully stuffers

There are no known log dams or gully stuffers on snig track crossings or road crossing in the compartments.

Condition 47 of Schedule 4 of the EPL must apply.

Road Works

The roading and crossing works must be undertaken, by contractor or FCNSW staff, prior to the commencement of harvesting activity in the area served by the road or crossing. The roading plan specifies who is responsible for supervising and paying for the maintenance works.

Within the compartment boundary only roads that are shown on the HPOM as EPL standard or sealed may be used for haulage. **Refer to EPL Schedule 5 – Operating Conditions for Roads.**

Roads within the compartment boundary may be used with PA approval for snigging or extraction provided they are drained to EPL specifications.

Post Log Burning Control Lines

To assist the post log burning crews prevent fire from entering areas to be excluded from burning, control line construction must be undertaken concurrently with harvesting. Where possible snig tracks patterns should be designed to double as control lines. Control lines must be located as close as reasonably practical to the feature to be excluded from burning. The PA must assess the areas harvested, snig track network and existing roads to determine if there are sufficient control lines in place and where required instruct the contractor to construct additional mineral earth control lines to supplement these. The PA must record instances where it was not possible to construct a suitable control line close to the feature to be excluded and recommend harvest areas which should be excluded from the post log burning operation due to inadequate control lines.

The table below lists critical boundaries in Compartments 1201 and 1202. Where possible design snig track patterns so they double as bare earth containment lines as close as possible to these boundaries. Where this is not practical, it is NOT necessary to construct a bare earth break along boundary of the exclusion; the practice of no direct ignition will be followed.

Critical boundary	Completed Yes /No
FMZ3A – Wildlife Corridor	
Ridge and Headwater Habitat	
Victorian border	
Excluded Forest	

Legal Conditions

In 1999, the Commonwealth and NSW Governments signed a Eden Regional Forest Agreement which, among other things, allows for the supply of timber for 20 years from public lands under the following NSW legislation:

- Forestry Act 2012, and
- Forestry & National Park Estate Act 1998

The latter Act provides for the Eden Forest Agreement and Eden Integrated Forest Operations Approval (IFOA), both approved by NSW Government Ministers. This harvest plan is issued under the authority provided within the IFOA.

The IFOA also contains three licences issued under:

- Section 55 of the Protection of the Environment Act 1997 (EPL)
- Threatened Species Conservation Act 1995 (TSL).
- Section 220ZW of the Fisheries Management Act 1994 (FL).

This harvest plan will be managed in the field under:

- Licences issued under the Forestry Act (2012)
- Forest Practices Code part 2 (Timber Harvesting in Native Forests - 1999) and part 4 (Forest Roads and Fire Trails - 1999)
- Standard Harvest Plan Conditions for Hardwood Forest Operations under the IFOA
- FCNSW Corporate Fuel Management Plan 2008.

Harvesting operations must comply with all of the above Licences and the Code.

Further information is available from <http://www.environment.nsw.gov.au/>

Pre Operational Briefing

I acknowledge that I have received a copy of the Harvesting Plan for Compartments 1201 and 1202 in Bondi State Forest and that I have been briefed on the conditions of the Plan and understand the supervision and operational control requirements as explained to me by the PS or his/her delegate.

Position	Name	Signature	Date

Details to Record in PA Notes

- Dates of commencement and cessation of logging
- Record the commencement and completion of harvesting at each dump
- Record the occurrence of temporary stopping of harvesting at each dump.
- Situations where drainage could not be completed due to saturated soils must be recorded in PA Notes.
- Record the commencement and completion of each construction, upgrading or maintenance of drainage feature crossings by snig tracks or extraction tracks.
- Bi-weekly checks of road drainage structures during haulage operations.
- Record the date of checks, drainage structure compliance and the any repairs required within the specified time period.
- Records of Threatened Flora and Fauna identified during compartment markup.
- Minor variations associated with moving or adding dumps.
- Daily events of importance eg. Instructions to crew, work activity.

Post Harvest Mapping Features Confirmation Checklist

Feature	Planning Updates	Reason (Error/New)	GIS update tool completed?	Harvesting Updates	Comments
Soil Regolith	No				
Mapped Drainage	Yes	Error & New	Yes		
Rainforest	No				
Rocky outcrops	No				
Wetlands	No				
Cultural Heritage	No				
Existing Roads	No				
New Roads	Yes	New	Yes		
Heath	No				
Powerlines etc	No				
Other (state what it is)					

Snig/Extraction Track Crossing Record

Record the commencement and completion of each construction, upgrading or maintenance of watercourse/drainage line crossings by snig tracks or extraction tracks.

[illegible]

* If soil is not stabilised within 5 days it must be recorded as a non-compliance including the reason why on a Non-Compliance Report.

If soil is saturated, temporary stabilisation must be put in place, and the instance entered into the compartment diary.

**** If track edge clearing exceeds 3 metres, document the reason for field approval in the compartment diary.**

Weekly and Bi-weekly inspection

Item Inspected	Insert dates of inspection											
	Week 1		Week 2		Week 3		Week 4		Week 5		Week 6	
	1st	2 nd	1st	2 nd	1 st	2 nd	1 st	2 nd	1st	2 nd	1st	2 nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA presence												

Comments: record the item number in a box above and comment as required.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Weekly and Bi-weekly inspection
--

Item Inspected	Insert dates of inspection											
	Week 7		Week 8		Week 9		Week 10		Week 11		Week 12	
	1st	2 nd	1st	2 nd	1 st	2 nd	1 st	2 nd	1st	2 nd	1st	2 nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA presence												

Comments: record the item number in a box above and comment as required.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Weekly and Bi-weekly inspection

Item Inspected	Insert dates of inspection											
	Week 13		Week 14		Week 15		Week 16		Week 17		Week 18	
	1st	2 nd	1st	2 nd	1 st	2 nd	1 st	2 nd	1st	2 nd	1st	2 nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA presence												

Comments: record the item number in a box above and comment as required.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Weekly and Bi-weekly inspection
--

Item Inspected	Insert dates of inspection											
	Week 19		Week 20		Week 21		Week 22		Week 23		Week 24	
	1st	2 nd	1st	2 nd	1 st	2 nd	1 st	2 nd	1st	2 nd	1st	2 nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA presence												

Comments: record the item number in a box above and comment as required.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

PA Notes

[illegible]

PA Notes (continued)

[illegible]

PA Notes (continued)

[illegible]

PA Notes (continued)

[illegible]

PA Notes (continued)

[illegible]

Clearance Certificate

COMPARTMENTS: 1201 and 1202, BONDI STATE FOREST

ToProduction Assistant

I request approval for me to move my logging crew and all associated machinery from the above-mentioned area to the next compartment in accordance with Section 3.5 of the Forest Practices Code.

I certify that:

- (a) all permanent roads, trails and mitre drains have been cleared of harvesting debris;
- (b) butt damage to retained trees has been kept to acceptable limits;
- (c) all trees marked for removal have been felled;
- (d) utilisation limits have been satisfactorily met;
- (e) stump heights conform to requirements;
- (f) all hanging trees have been felled and brought down;
- (g) all log dumpsites have been satisfactorily restored as required;
- (h) harvesting debris is not accumulated around retained trees;
- (i) all accumulated litter has been disposed of properly;
- (j) all filter and buffer strip requirements have been complied with;
- (k) all snig track, extraction track and temporary logging road drainage has been installed satisfactorily and other required rehabilitation work has been completed;
- (l) all necessary repairs to damaged roads, signs, fences and other structures have been carried out.
- (m) _____ **(insert quantity) rubber flaps have been recovered in a satisfactory condition and reported to Roading Coordinator for collection.**
- (n) all machinery, equipment and vehicles have been checked and are free of noxious weeds, diseases and pests.

I believe that I have met all my obligations under the conditions of the Contractors Licence, the EPL and TSL which apply to the compartment just completed, as stated in this Harvesting Plan.

Signature.....Name.....Date
Contractor

As a result of inspections of the logging operations made in accordance with this Harvesting Plan, I am satisfied that, to the best of my knowledge, the contractor responsible for this harvesting operation has satisfactorily completed all work and approval is given for her/him to remove her/his machinery and equipment and leave the area/commence operations in another compartment.

This clearance does not release the contractor from any obligation to undertake any remedial work if subsequent deficiencies are shown to result from inadequate practices during the harvesting operation, which are found during any inspections of the area made within 12 months of the date of this post-harvesting inspection.

Last inspection was made on(Date)

Signed(Date).....

Production Assistant**Post Logging Information**

Record any circumstances of significance relating to the harvesting of this compartment. Please draw or include any annotations on the attached operation scale map.

Summary of silvicultural treatment

Treatment type	Area (ha) subject to treatment (PA estimate)	Number of AGS gaps created	Comments
Integrated/Modified shelterwood			
Thinning			
Post Harvest Silviculture			

Actual area harvested (record on attached HPOM)

Give reasons for harvestable areas that were not harvested (eg. Too steep, defective timber). Make reference to map.

Post Logging Basal Area sweeps

Dump No#	Sweep 1	Sweep 2	Sweep 3	Sweep 4	Average
				Post BA	Average
				Pre BA	Average
				Y/N	m ² /ha
					m ² /ha

Comply with maximum Thinning BA removal of 75%?

Possible next cut (tick appropriate boxes)

Main product type	Anticipated volume		
	H	M	L
Girders			
Veneer			
Poles/piles			
Quota			
Smalls/Thinnings			
Salvage			
Pulpwood/chipwood			

Time to next harvest	
0 to 5 years	
5 to 10 years	
10 to 20 years	
20 to 30 years	
30 plus years	

ATTACHMENT 2	ROADING PLAN
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Summary of Roading Requirements

Feature	Details	Works Required
Existing roads to be used.	12539m/11	Yes
New roads to be constructed	808m/4	Yes
Existing crossings used	7	Yes
New crossings to be constructed	0	NA
Length of road >10°	410m	NA
Borrow pits and gravel pits	0	NA
Mass movement prescriptions apply	No	NA
Dispersible soil conditions apply	No	NA
Seasonality provisions apply	No	NA

Note: Maintenance works not completed by Roading Coordinator must be recorded and passed onto the PA for completion and documentation.

The start and finish dates of all maintenance and construction must be recorded on the individual roading sheets along with other relevant changes or explanations.

All rubber flaps on minor forest roads must be removed and replaced with trafficable rollover banks on completion of operation.

CHECKLIST OF WORKS REQUIRED ON ROADS & CROSSINGS

Road/Crossing Name	Works Required	Date Started	Date finished	Signature
Cannabull Road (2000 m) <i>FCNSW</i> <i>Responsibility</i>	Brush off roadside vegetation. Patch grade road where required. Clean out inlets and outlets of existing relief pipes. Place rock at the outlet of existing relief pipe at E700694 N5880338. Reinstate existing mitre at E700327 N5880368. Install new mitres at (northern side): - E701828 N5880267. - E701530 N5880196. - E701131 N5880157. - E700968 N5880194. - E700862 N5880337. - E700772 N5880367. - E700594 N5880366. Refer to Roading Maps for the above locations. RC/PA Comments:			

<p>Cpt324 Road (250 m – unlicensed, outside the planning unit boundary) <i>FCNSW</i> <i>Responsibility</i></p>	<p>Brush off roadside vegetation. Minor reshaping of the road pavement and rollovers for truck use. Drain as required. RC/PA Comments:</p>			
<p>Possum Parade Road (3508 m – unlicensed, outside the planning unit boundary) <i>FCNSW</i> <i>Responsibility</i></p>	<p>Brush off roadside vegetation. Clear up to 3m on either side if required. Ensure that road drainage are free from clearing slash and debris. Patch grading where rutting has occurred. Clean out inlet and outlets of existing pipes. Install additional drainage structures as required. Rock may be required on sections of the road (at crossing points) when wet. RC/PA Comments:</p>			
<p>Leading Hill Fire Trail (4246 m) <i>Contractor</i> <i>Responsibility</i></p>	<p>Brush off roadside vegetation and clear fallen logs and debris. Clear up to 3m on either side where required. Install additional drainage structures according to EPL specifications. At the approach of Leading Hill Fire Trail and Cannabull Road intersection, re-aligned approach (86m section of new road) to allow truck to turn right onto Cannabull Road. RC/PA Comments:</p>			
<p>1201/1 Road (325 m) <i>Contractor</i> <i>Responsibility</i></p>	<p>Brush off roadside vegetation and clear fallen logs and debris. Install additional drainage structures according to EPL specifications. RC/PA Comments:</p>			
<p>1201/2 Road (162 m) <i>Contractor</i> <i>Responsibility</i></p>	<p>Brush off roadside vegetation and clear fallen logs and debris. Install additional drainage structures according to EPL specifications. RC/PA Comments:</p>			

1201/3 Road (383 m) <i>Contractor Responsibility</i>	Brush off roadside vegetation and clear fallen logs and debris. Install additional drainage structures according to EPL specifications. RC/PA Comments:			
1202/1 Road (384 m) <i>Contractor Responsibility</i>	Brush off roadside vegetation and clear fallen logs and debris. Clear up to 3m on either side where required. Install additional drainage structures according to EPL specifications. RC/PA Comments:			
1202/2 Road (404 m) <i>Contractor Responsibility</i>	Brush off roadside vegetation and clear fallen logs and debris. Clear up to 3m on either side where required. Install additional drainage structures according to EPL specifications. RC/PA Comments:			
1202/3 Road (637 m) <i>Contractor Responsibility</i>	Brush off roadside vegetation and clear fallen logs and debris. Clear up to 3m on either side where required. Install additional drainage structures according to EPL specifications. RC/PA Comments:			
1202/5 Road (240 m) <i>Contractor Responsibility</i>	Brush off roadside vegetation and clear fallen logs and debris. Clear up to 3m on either side where required. Install additional drainage structures according to EPL specifications. RC/PA Comments:			
Crossing C1 – existing on Cannabull Road (E701914)	Mapped 1 st order drainage line, occurs as a drainage depression in the field. 470mm pipe with concrete blocks headwalls and sides. Clean out inlet and outlet. Install mitre drains on			

N5880271) <i>FCNSW Responsibility</i>	both approaches at 5 – 30m. Construct a rollover on the side trail (on western approach on northern side). Refer to Crossing Form for more details. RC/PA Comments:			
Crossing C2 – existing on Cannabull Road (E701765 N5880204) <i>FCNSW Responsibility</i>	Mapped 1 st order drainage line, occurs as a drainage depression in the field. 750mm pipe with concrete blocks headwalls and sides. Clean out inlet and outlet. Install mitre drains on both approaches at 5 – 30m. Place rock (250mm) at outlet as dissipater. RC/PA Comments:			
Crossing C3 – existing on Cannabull Road (E701464 N5880106) <i>FCNSW Responsibility</i>	Mapped 1 st order drainage line. 900mm pipe with concrete blocks headwalls and sides. Clean out inlet and outlet. Install mitre drains on both approaches at 5 – 30m. RC/PA Comments:			
Crossing C4 – existing on Cannabull Road (E701234 N5880160) <i>FCNSW Responsibility</i>	Unmapped drainage depression. 750mm pipe with concrete blocks headwalls and sides. Clean out inlet and outlet. Install mitre drains on both approaches at 5 – 30m. Place rock (250mm) at outlet as dissipater. RC/PA Comments:			
Crossing C5 – existing on Cannabull Road (E700972 N5880118) <i>FCNSW Responsibility</i>	Mapped 2 nd order drainage line. 1100mm pipe with concrete blocks headwalls and sides. Clean out inlet and outlet. Install mitre drains on both approaches at 5 – 30m. RC/PA Comments:			
Crossing C7 – existing on 1202/1 Road	Mapped 1 st order drainage line. Log bridge with rotting log/s. Remove existing rotting log bridge and construct			

(E701279 N5878560) <i>Contractor Responsibility</i>	a new log bridge at this site. Refer to Crossing Form for more details. Contractor request FCNSW supervision. RC/PA Comments:			
Crossing C8 – Existing on 1202/5 Road (E700789 N5877832) <i>Contractor Responsibility</i>	Mapped 1 st order drainage line, occurs as a drainage depression. Clear off overgrown road pavement. Widen track if necessary. Keep clearing to a minimum required. Armour depression with rock/gravel if required in wet conditions. Drain within 5 – 30 m on both approaches. Install cross banks/rollovers on completion of use within timeframes and spacing's specified in EPL. RC/PA Comments:			

NEW ROAD CONSTRUCTION

Road Specific Conditions:

Road Name	Road Length (m)	Max. width of road prism (m)	Max. road grade (length road >10 degrees?)	Max. ground slope (length road >30 degrees?)	Estimated Max. height of cut / fill batters (m)	Estimated Max length of batters (m)	Mass movement / dispersible soils	Final road use	Responsibility	Start Date	Finish Date
1201/3 Ext.	200m	7m	10°	20°	2m	200m	No	Retain	Contractor		
1201/4	506m	7m	11° (40m) & 11° (60m)	18°	1-2m	506m	No	Retain	Contractor		
1201/5	52m	7m	8°	15°	1-2m	52m	No	Retain	Contractor		
1202/4	50m	7m	9°	12°	1m	50m	No	Retain	Contractor		

General Instructions for road construction:

Features	Road Specifications	Additional instructions / Materials
Type of sediment trapping / soil erosion/ sediment control device to be used during construction	Natural surrounding vegetation supplemented with silt fencing, seed and mulch as required.	PA to monitor during road construction and assess requirements.
Recommended road drainage type	Recommend rubber flaps if >5 degrees. Rollovers or mitres if < or = 5 degrees. PA to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL. Trafficable rollovers to be installed upon harvest completion	Rubber flaps during operation. Permanent trafficable rollovers to be installed upon completion of use.
Spacing of road structures to be installed	As per EPL Sch. 5, Section C, Table 1	
Soil erosion / sediment control techniques	Drainage outlets must drain onto stable surface which provides efficient sediment trapping & energy dissipation. Upon harvest completion, logging debris is to be removed from table and mitre drains so they are left in effective working order	Seed & mulch as required
Stabilisation assessment intervals	As per EPL Sch. 5, Clauses 15, 17, 19 & 20	
Drop down & dissipater required	Required where fill batter >1m as per EPL Schedule 5 Clause 36	PA to monitor. Mitres with rock dissipater recommended.
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	

Note: Maintenance works not completed by Roading Coordinator must be recorded and passed on to the PA.

Cpt: 1201**Date:** 09.10.2015**Waypoint:** E701914 N5880271**Photo:** Y**CROSSING NAME:** Crossing C1, (mapped DD)

Waterway Classification: Fish Passage Class 4- Unlikely fish habitat

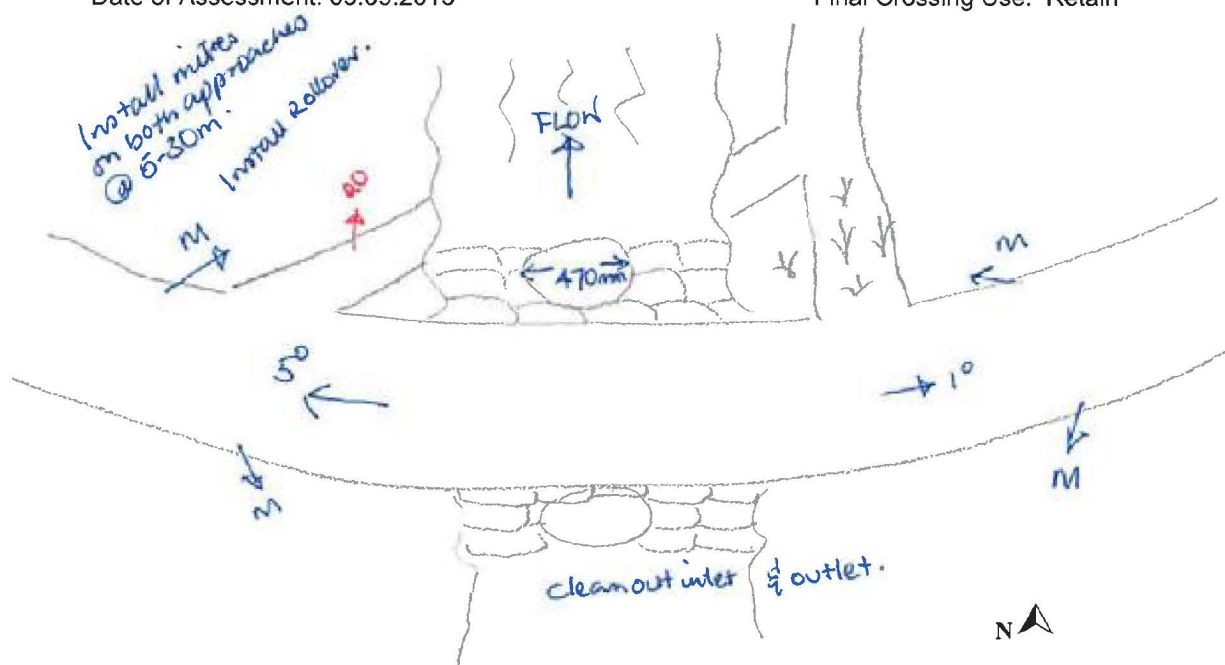
Fisheries Licence Aquatic Habitat: Not class 1 or 2

Assessors Name: Julia Clark **Crossing Type:** Existing 470mm pipe.

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Stable.	N/A
Bed and Banks	Stable.	N/A
Erosion and Sediment Control	Minimize disturbance to the greatest extent possible. Clean out inlet and outlet.	
Disposal of excess spoil	Outside the stream exclusion zone.	
Soil Stabilisation within 20m	Seed and mulch disturbed areas.	Seed and mulch.
Road drainage within 5-30m <ul style="list-style-type: none"> Type outlet control table drain checking devices 	Install mitre drains on both approaches at 5 – 30m.	Dozer/Excavator.

Date of Assessment: 09.09.2015

Final Crossing Use: Retain



Date Work Started: _____

Date Work Finished: _____

Soil stabilisation must be completed within 5 days

Record implementation date here: _____

Key

→Ru	Rubber strip
→M	Mitre drain
xxx	Roadside clearing
→Ro	Rollover drain
ψ	Sill Log
ooooo	Rock
ψ	Seeding
∇	Sediment control
::	Gravel



Cpt: 1202**Date:** 09.10.2015**Waypoint:** E701279 N5878560**Photo:** N**CROSSING NAME:** Crossing C7, (mapped DL)

Waterway Classification: Fish Passage Class 4- Unlikely fish habitat

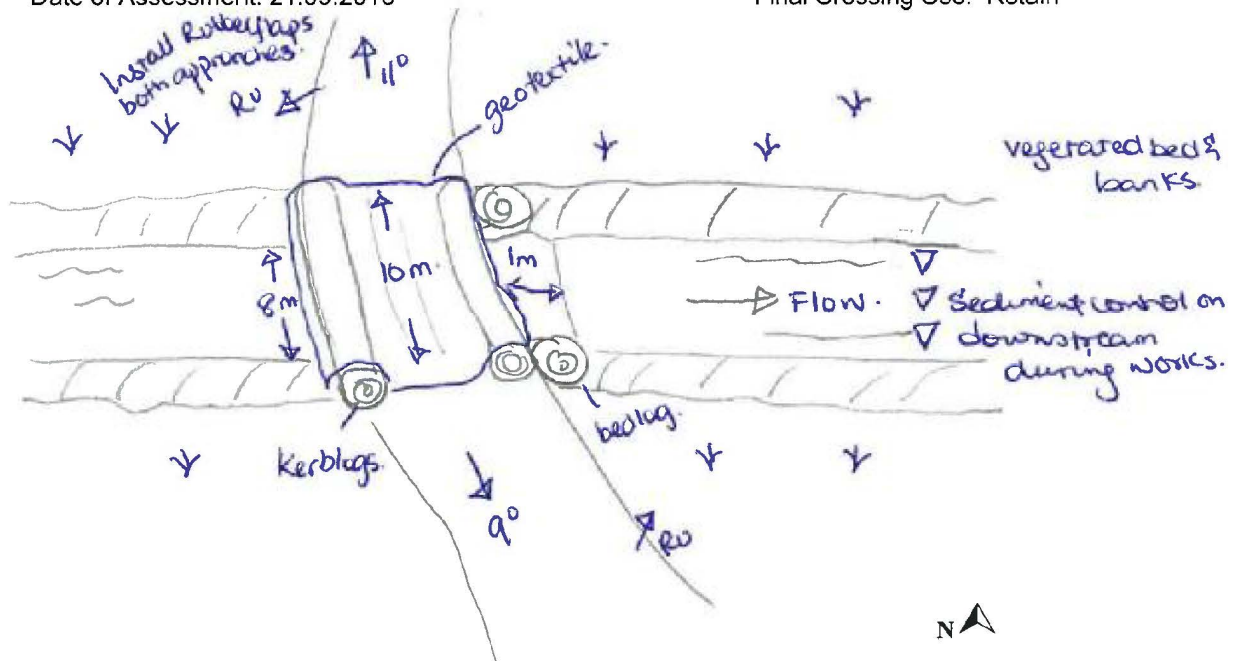
Fisheries Licence Aquatic Habitat: Not class 1 or 2

Assessors Name: Julia Clark **Crossing Type:** Existing log bridge.

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Remove fill, broken and decaying stringers and debris on road pavement. Construct new log bridge with geotextile, bedlogs, wing logs if required and kerblags.	Dozer/Excavator. Bridge logs (10m span). Geotextiles.
Bed and Banks	Minimize disturbance to the bed and banks to the greatest extent possible.	
Erosion and Sediment Control	Minimize disturbance and clearing to the greatest extent possible. Install sediment traps on downstream side during construction. Seed and mulch disturbed areas.	Sediment traps. Seed and mulch.
Disposal of excess spoil	Outside the stream exclusion zone.	
Soil Stabilisation within 20m	Seed and mulch disturbed areas.	Seed and mulch.
Road drainage within 5-30m <ul style="list-style-type: none"> Type outlet control table drain checking devices 	Install rubberflap drains at both approaches at 5 – 30m. Install drop down and dissipaters at outlets of drains. Upon completion of operation – replace the rubberflap drains with rollovers.	

Date of Assessment: 21.09.2015

Final Crossing Use: Retain



Date Work Started: _____

Date Work Finished: _____

Soil stabilisation must be completed within 5 days

Record implementation date here: _____

Key

→ Ru	Rubber strip
→ M	Mitre drain
xxx	Roadside clearing
→ Ro	Rollover drain
ψ	Sill Log
ooooo	Rock
ψ	Seeding
▽	Sediment control
∴	Gravel