



# **FORESTS N.S.W.**

**SOUTHERN REGION - EDEN**

**HARVESTING PLAN**

**HP\_ED\_2051\_2052\_10**

**COMPARTMENTS 2051 & 2052**

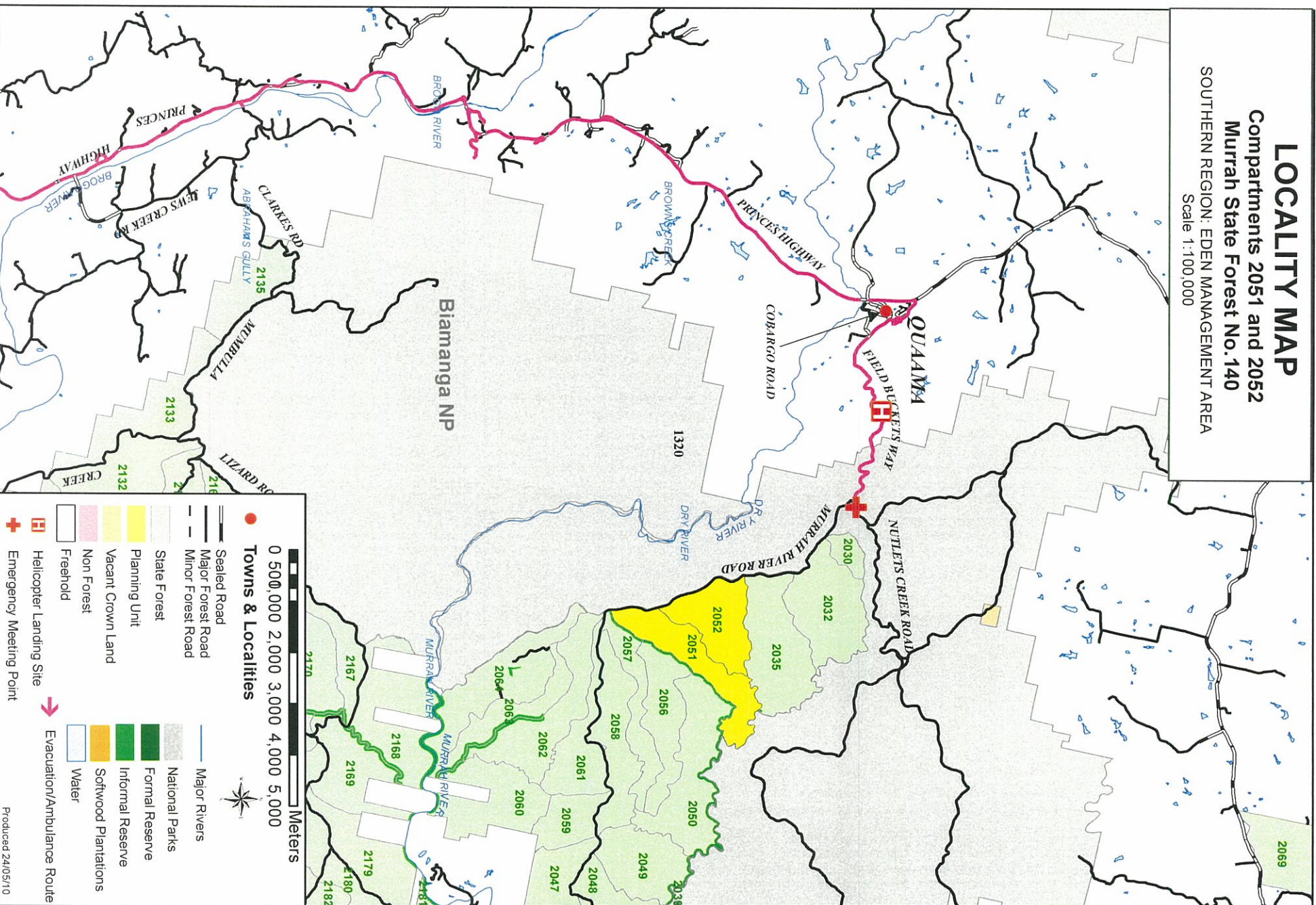
**MURRAH S.F. No. 140**

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# LOCALITY MAP

Compartments 2051 and 2052  
Murrumbidgee State Forest No. 140

SOUTHERN REGION: EDEN MANAGEMENT AREA  
Scale 1:100,000



### Towns & Localities

- Sealed Road
- Major Forest Road
- Minor Forest Road
- State Forest
- Planning Unit
- Vacant Crown Land
- Non Forest
- Freehold
- Major Rivers
- National Parks
- Formal Reserve
- Informal Reserve
- Softwood Plantations
- Water
- Helicopter Landing Site
- Evacuation/Ambulance Route
- Emergency Meeting Point

SCALE 1:15000  
CONTOUR INTERVAL 10m



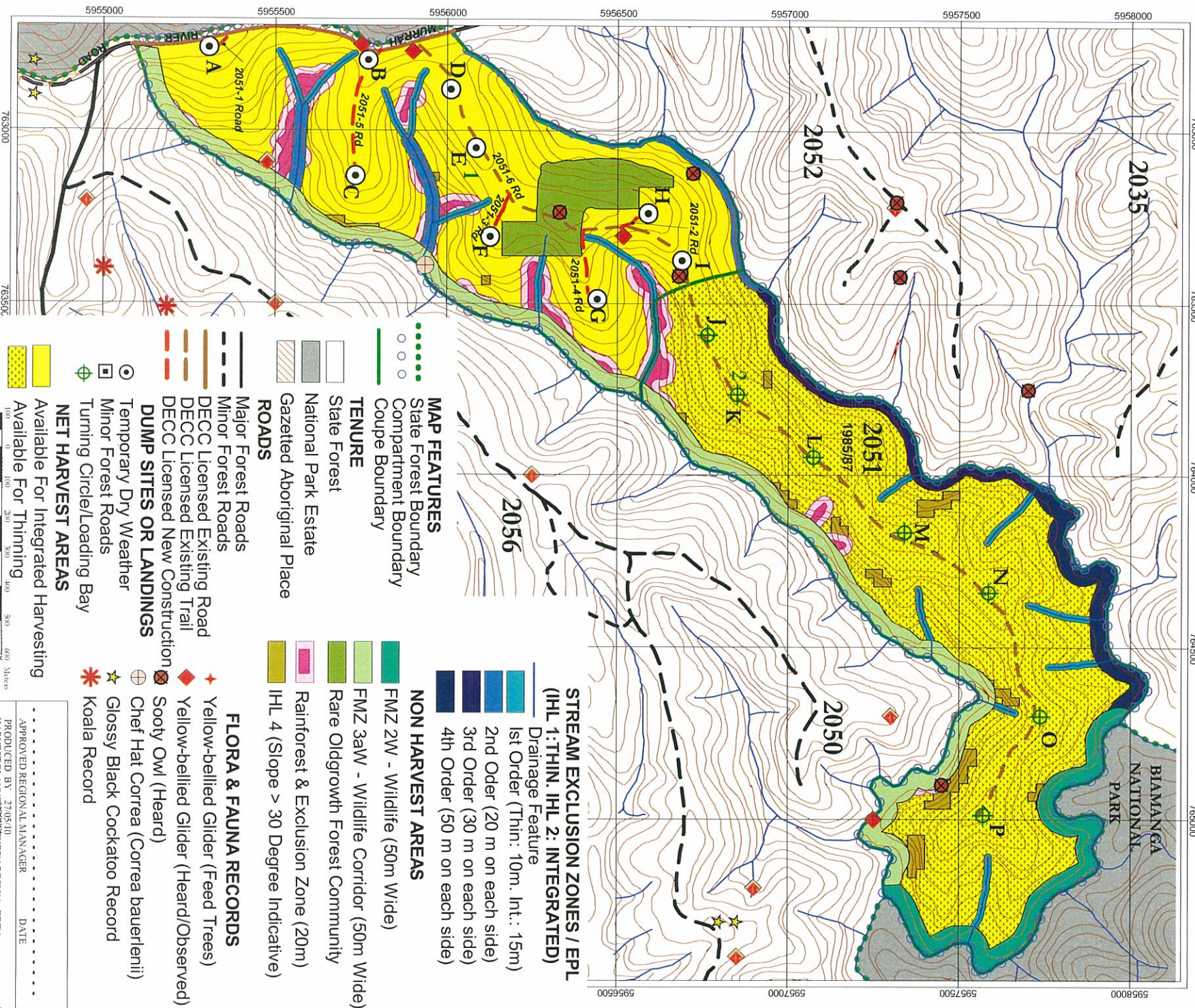
# Harvest Plan Operational Map

## Compartment 2051

### Murrumbidgee State Forest No. 140

Southern Region  
Map Sheet Brogo 8824-I-N & Cobargo 8825-II-S

(AGD 66)



- MAP FEATURES**
- State Forest Boundary
  - Compartment Boundary
  - Coupe Boundary

- TENURE**
- State Forest
  - National Park Estate
  - Gazetted Aboriginal Place

- ROADS**
- Major Forest Roads
  - Minor Forest Roads
  - DECC Licensed Existing Road
  - DECC Licensed Existing Trail
  - DECC Licensed New Construction
- DUMP SITES OR LANDINGS**
- Temporary Dry Weather
  - Minor Forest Roads
  - Turning Circle/Loading Bay

- NET HARVEST AREAS**
- Available For Integrated Harvesting
  - Available For Thinning

- STREAM EXCLUSION ZONES / EPL (IHL 1: THIN, IHL 2: INTEGRATED)**
- Drainage Feature
  - 1st Order (Thin: 10m, Int.: 15m)
  - 2nd Order (20 m on each side)
  - 3rd Order (30 m on each side)
  - 4th Order (50 m on each side)

- NON HARVEST AREAS**
- FMZ 2W - Wildlife (50m Wide)
  - FMZ 3aW - Wildlife Corridor (50m Wide)
  - Rare Oldgrowth Forest Community
  - Rainforest & Exclusion Zone (20m)
  - IHL 4 (Slope > 30 Degree Indicative)

- FLORA & FAUNA RECORDS**
- Yellow-bellied Glider (Feed Trees)
  - Yellow-bellied Glider (Heard/Observed)
  - Sooty Owl (Heard)
  - Chest Hat Correea (Correea bauerlenii)
  - Glossy Black Cockatoo Record
  - Koala Record

APPROVED REGIONAL MANAGER \_\_\_\_\_ DATE \_\_\_\_\_  
 PRODUCED BY 27/05/10  
 HARVEST PLANNER/SOUTHERN REGION - EDEN



Scale 1:15000  
Contour Interval 10m

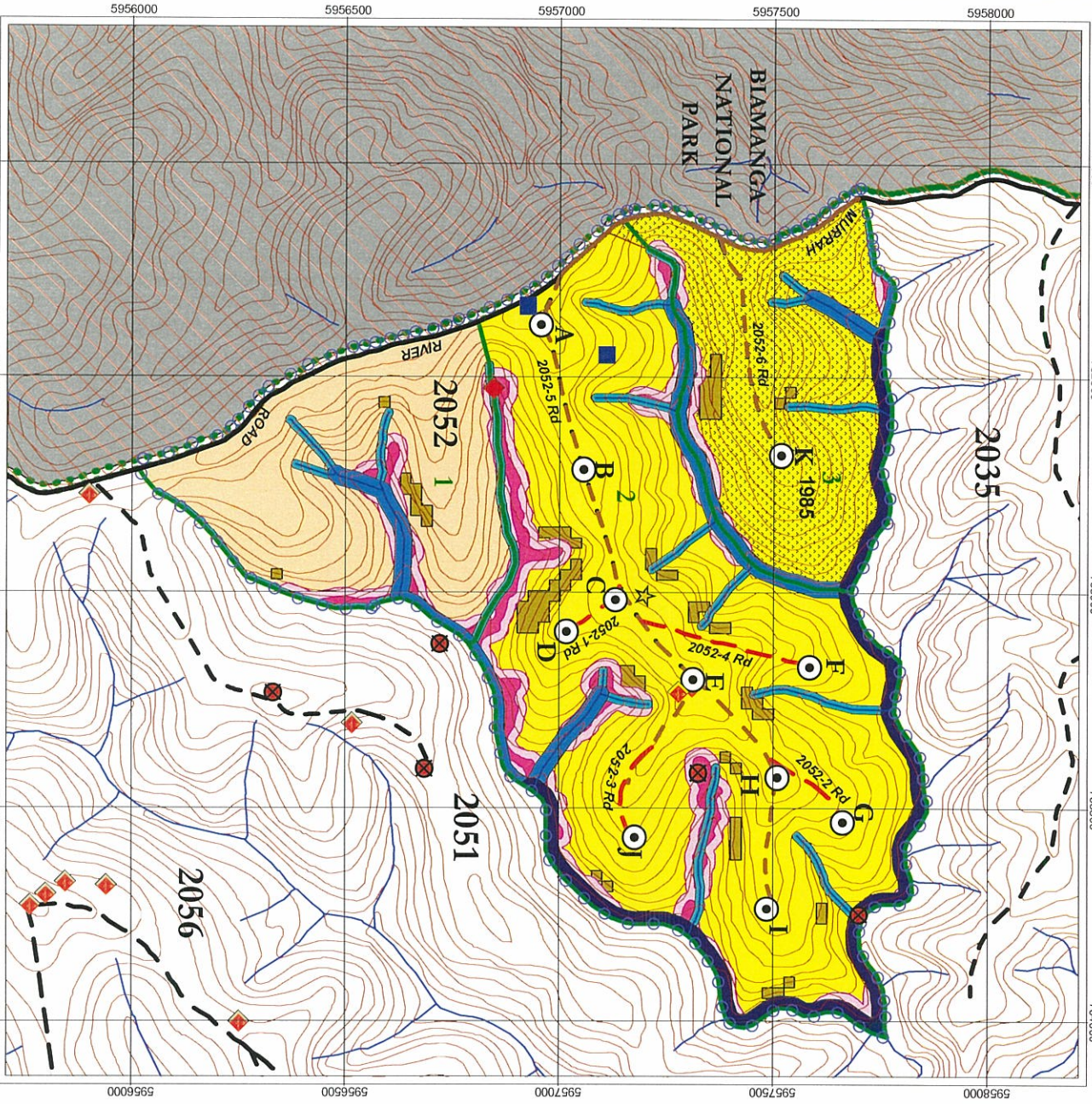
# Harvest Plan Operational Map

## Compartment 2052

### Murrumbidgee State Forest No. 140

Southern Region  
Map Sheet: Brogo 8825-I-N & Cobargo 8825-II-S

(AGD 66)



#### MAP FEATURES

- State Forest Boundary
- ○ ○ Compartment Boundary
- Coupe Boundary

#### TENURE

- State Forest
- National Park Estate
- Gazetted Aboriginal Place

#### ROAD CLASSIFICATION

- Major Forest Roads
- Minor Forest Roads
- DECC Licensed Existing Road
- DECC Licensed Existing Trail
- DECC Licensed New Construction

#### STREAM EXCLUSION ZONES/EPL (IHL 1: THIN, IHL 2: INTEGRATED)

- Drainage Features
- 1st Order (Thin: 10m, Int.: 15m)
- 2nd Order (20m on each side)
- 3rd Order (30m on each side)
- 4th Order (50m on each side)

#### NET HARVEST AREAS

- Available For Harvesting
- Available For Thinning

#### DUMP SITES OR LANDINGS

- Temporary Dry Weather
- Temporary Wet Weather

#### NON HARVEST AREAS

- Rainforest & 20m Exclusion Zone
- IHL 4 (Slope > 30 Degree Indicative)
- Previously Logged Area (1985)

#### FAUNA RECORDS

- ◆ Yellow-bellied Glider (Heard)
- ◆ Sooty Owl (Heard)
- ★ Glossy Black Cockatoo (Feed signs)
- White-footed Dunnart (Observed)



REGIONAL MANAGER APPROVAL . . . . . DATE  
PRODUCED BY 2708/10 VERSION 1  
HARVEST PLANNER SOUTHERN REGION - EDEN

# FORESTS N.S.W.

## SOUTHERN REGION: EDEN

### HARVESTING PLAN HP\_ED\_2051\_2052\_10

#### Compartments 2051 and 2052



## 1: SAFETY CONSIDERATIONS

### 1.1: EMERGENCY PLAN INFORMATION.

- (a) **Mobile Phone reception on work site:**  
 Next G  Good  Poor  Nil  Digital  Good  ?  Poor  Nil  
 Nearest reliable reception: Murrumbidgee River and Field Buckets Way junction.
- (b) **Forests NSW Radio from work site:**  
 Channel No: 58.  
 Call to: Eden Base.  
 Call sign from: Cocks Thinning.
- Contractor Radio at work site:**  
 UHF Channel No: 1.  
 Contractor No: Unknown.  
 Call to Bush Boss: .
- Forests NSW Radio from work site:**  
 Channel No: 58.  
 Call to: Eden Base.  
 Call sign from: Kyniner.
- Contractor Radio at work site:**  
 UHF Channel No: 10.  
 Contractor No: 78.  
 Call to Bush Boss: .
- (c) **Emergency meeting point for ambulance:**  
 Murrumbidgee River and Field Buckets Way junction.  
 1:100000 map sheet: Bega.  
 MGA zone: 55.  
**Note: Ensure operator is informed coordinates are in the Old Coordinate system (AGD 66)**  
 AMG Grid reference: E760791 N5959904.  
 Lat/Long for GPS: 36° 28' 14"S 149° 54' 38"E.
- (d) **Closest Helicopter Landing Place:** Emergency helipad at cleared paddock on Field Buckets Way immediately west of Biamanga National Park.  
 1:100000 map sheet: Bega.  
 MGA zone: 55.  
**Note: Ensure operator is informed coordinates are in the Old Coordinate system (AGD 66)**  
 AMG Grid reference: E759012 N5960554.  
 Lat/Long for GPS: 36° 27' 55"S 149° 53' 25"E.
- (e) **Procedure for obtaining Ambulance assistance:**  
 Dial "000" OR Call Eden Forestry Office for Ambulance assistance.  
 Dial "112" only as an alternative to "000" if you have a GSM digital mobile phone and you are outside your own provider's GSM network coverage area.

**"000" Operator Question.****Response**

1. Police, Fire, Ambulance? Ambulance Wollongong.
2. Suburb (State Forest name): Murrah.  
*(Nearest town or named locality):* Quaama.  
*(Nearest Ambulance station):* Bermagui.
3. Address: (Nearest named State forest road): Murrah River Road.
4. Nearest Road Junction: Murrah River Road and Fields Bucket Way.
5. Local Government Area: Bega Valley Shire Council.
6. Nature of the problem: Give details of accident, number and condition of casualties.
7. Where is the accident: Work site location – (Centre of the compartments).  
 MGA Grid reference: Compartment 2051: E763647 N5956810.  
*(AGD 66)* Compartment 2052: E762885 N5957128.
- Lat/long for GPS: Compartment 2051: 36° 29' 51"S 149° 56' 36"E.  
Compartment 2052: 36° 29' 42"S 149° 56' 05"E.
8. Directions to navigate from Ambulance Station to meeting point:  
 Directions from Bega:
  - North on the Princess Highway for approx. 28.1 km to Quaama township turnoff.
  - Turn right onto Bega Street for approx. 0.4 km to Cobargo Street.
  - Veer right onto Cobargo Street for approx. 0.2 km to Bermagui Street.
  - Veer right onto Bermagui Street for approx 0.4 km where Bermagui Street becomes Field Buckets Way.
  - Travel east on Field Buckets Way for approximately 4.4 km to the junction of Field Buckets Way, Murrah River Road and Nutleys Creek Road.
9. Injuries?: Give detailed information about the condition of the casualty.
10. Call back No: Give your Mobile Number  
 or Batemans Bay Office: 1300880548.
11. Name of Reporter: Give own name.

**1.2: SITE SPECIFIC IDENTIFIED HAZARDS.**

Assessment of existing hazards was undertaken at the time of planning. These hazards are in the attached table and where appropriate, control strategies have been applied. Where no control strategy has been described, the contractor must develop appropriate strategies as part of the contractors Safety Management Plan. A copy of the hazard assessment and control strategies is provided to assist in the development of the contractors Safety Management Plan for this harvesting area.

Identified hazards requiring risk assessment and control strategy in Safety Management Plan

<b>IDENTIFIED HAZARD</b>	<b>SUGGESTED CONTROL STRATEGY</b>
1. Adjoining roads of various traffic levels	Warning signs at intersections, road closure and traffic control measures.
2. Overhead hazards associated with dumps	Assess overhead hazard within two tree lengths (based on the tallest surrounding trees) of the dump. Assess risk, & if necessary remove hazard or relocate dump site.
<b>3. Hazardous or dead trees</b>	<b>Refer to FNSW Safety Standard 1.3.9.</b> Assess area within two tree lengths of work site. Assess risk, mark any Distinctly Dangerous Trees with the symbol “Ø↑” and if necessary remove hazard or move work site. Use machinery to assist with hazard removal if possible. <b>Contractor is responsible for implementing control strategies during harvesting.</b>
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.
5 Bus stop	<ul style="list-style-type: none"> <li>There is a bus stop on Cobargo Road in the township of Quaama right outside Quaama Store and adjacent to the Quaama Church. Haulage vehicles must take extra care at this location.</li> </ul>
6 Bus Route	<ul style="list-style-type: none"> <li>Cobargo Road and Field Buckets Way are used by vehicles to transport children to the Cobargo Road bus stop above, between the hours of 7:30 to 9:00am and 3:30pm to 4:30pm. On weekdays, to the greatest extent practicable, log haulage should avoid school bus times on the above roads. The school bus is tuned into Channel 40.</li> </ul>

**(a) Traffic management/road closures**

- The logging contractor is responsible for traffic control on all roads when felling is within two tree lengths (based on the tallest surrounding trees) of a road or extracting on roads or loading is occurring within 10 metres of a road. The contractor must ensure that Murrah River Road and all other internal forestry roads are closed to all traffic when trees within two tree lengths of Murrah River Road and all internal forestry roads are being felled.
- Forests NSW Supervising Forester must be notified well in advance of any proposed road closures along Murrah River Road. The duration of closure on Murrah River Road must be kept to a minimum to accommodate general public access on this road.**
- In the event Murrah River Road is closed. Forests NSW Supervising Forester must notify the relevant National Parks Office regarding the duration and location of the road closure. Traffic control signage for “road closures” or “short delays” should be placed in strategic locations to inform the general public of the road closures. Traffic control signage should be placed in such a location that allows large vehicles with trailers etc enough room to turn around safely i.e. the junction of Fields Bucket Way and Murrah River Road and the junction of Horse Head Road and Murrah River Road.
- Warning of timber harvesting operations must be **displayed 200 metres either side** of all thoroughfare road approaches leading to areas where harvesting operations are in progress.
- The Harvesting Team Leader must notify Bega Valley Buses on 64925804 and Brian Ayliffe (private school bus operator) on 64936505 and advise that haulage has commenced.
- Particular care must also be exercised for private vehicles using Murrah River Road and Field Buckets Way.



**(b) Supervision of 'operator in training'**

All new operators entering the work site must be inducted by the reading of the Harvesting Plan and the Site Safety Plan and hold all relevant licences and accreditations. No person is permitted to commence work unless they have been adequately trained and accredited. The training must give instruction in the performance of the work, instruct as to any dangers associated with that work and in any safety precautions which ought to be taken. Field and bush supervisors must ensure that an employer does not permit an untrained employee to operate, without competent supervision, any power driven tool, machine or equipment.

**1.3 Site visitors****(a) Authorised**

i) All authorised visitors to active timber harvesting/roading operations must wear the following personal protection equipment:

- an approved safety helmet
- suitable heavy duty footwear, with firm ankle support and non-slip soles
- approved high visibility clothing
- eye and ear protection if appropriate

ii) Immediately upon arrival at an active timber harvesting/roading operation, visitors must report to the Supervising Forest Officer (SFO) or bush supervisor who will determine points from which operations can be safely viewed.

iii) The following minimum safety distances must be observed while operations are active:

- Manual tree felling - at least 2 tree lengths (based on the tallest surrounding trees).
- Log dump operations – 12 metres from the working area (edge of dump perimeter)
- Mechanical harvesting – 2 tree lengths (based on the tallest surrounding trees) and when the driver is advised.
- Active snig track – at least 2 tree lengths (based on the tallest surrounding trees).
- Road & crossing maintenance &/or construction – at least 2 tree lengths (based on the tallest surrounding trees).

**(b) Unauthorised**

i) All unauthorised visitors to active timber harvesting/roading operations must not approach within 100 metres of a person operating timber haulage or harvesting equipment (clause 63(1)(a)) or interfere with such equipment (clause 63(1)(b)) Forestry Regulations 2009. In addition unauthorised visitors must wear the personal protection equipment outlined in 1.3(a)(i) above.

ii) Failure to observe the above guidelines will result in the following procedure:

- All operations to cease immediately.
- Unauthorised visitors to be advised that they are in contravention of clause 63(1)(a) or 63(1)(b) of Forestry Regulations 2009 and to leave the site or move outside the 100 metre restricted area immediately.
- Notify the Forests NSW Office of unauthorised visitors.

## 2: AREA IDENTIFICATION

**Management Area:** Eden.  
**State Forest:** Murrumbidgee No. 140.  
**Management Section:** Quama.  
**AFS Certification:** AS 4708:2007. ISO 14001  
**Compartment(s) Numbers:** 2051 and 2052.  
**Compartment 2051 Integrated Event Id.** 14288.  
**Compartment 2051 Thinning Event Id.** 14289.  
**Compartment 2052 Integrated Event Id.** 14290.  
**Compartment 2052 Thinning Event Id.** 14291.

**Table 1: Area of Plan by Logging Coupes (hectares)**

<b>Compartment: 2051</b>		
<b>Area of Compartment: 208.4 ha</b>		
	<b>Coupe</b>	<b>Net Area (ha)</b>
Proposed for Integrated Harvesting	1	71.6
Proposed for Thinning	2	82.7
<b>TOTAL</b>		<b>154.3</b>

<b>Compartment: 2052</b>		
<b>Area of Compartment: 188.5 ha</b>		
	<b>Coupe</b>	<b>Net Area (ha)</b>
Proposed for Thinning	3	29.9
Proposed for Integrated Harvesting	2	80.9
<b>TOTAL</b>		<b>110.8</b>

## 3: DESCRIPTION OF PROPOSAL

**(a) Integrated Harvesting of Native Forest: Coupe 1 of Compartment 2051 and Coupe 2 of Compartment 2052.**

Mixed-age stands dominated by a commercially mature overstorey 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, and soil and water protection.

**(b) Thinning of Regrowth Native Forest: Coupe 2 of Compartment 2051 and Coupe 3 of Compartment 2052.**

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.

**(c) Roadworks:**

The road works required are those associated with this harvesting operation.

**(d) Post-harvest Burning:**

Post-harvest burning to reduce fuel loads and create a suitable seed bed may be carried out under prescribed conditions. The Post-harvest burning details are contained in Appendix 2.

Post-harvest burning should be confined as far as practicable to the net harvest area. Site specific burning exclusions associated with flora, fauna, riparian, National Parks and other exclusion zones are explained within the relevant sections of this Harvest Plan and indicated on the Operational Maps.

## **4: FOREST CONDITION & SILVICULTURE**

### **4.1: FOREST TYPE:**

**Table 2: Compartment Forest Types**

Compartment 2051 & 2052	Forest Type (Res. Note 17)
	63 Woollybutt
	88 Gum-Box-Stringybark
	112 Silvertop Ash
	114 Silvertop Ash-Stringybark
	121 Blueleaved Stringybark
	123 Coastal Stringybark
	169 Yellow-Stringybark

**Reference:** Baur GN "Forest Types in New South Wales" FC NSW Res. Note No. 17 2nd ed. 1989.  
Pre-harvest Survey Report Compartments 2051 and 2052, Murrah State Forest, Forests NSW Southern Region - Eden, 2010.

### **4.2: SILVICULTURAL OBJECTIVES AND PRESCRIPTIONS:**

**(a) Silvicultural Prescriptions for Integrated Operations:**

Coupe 1 of Compartment 2051 and Coupe 2 of Compartment 2052 are proposed to be harvested under an integrated harvesting system as indicated on the Harvesting Plan Operational Maps.

- Mixed-age mature stands and low merchantability areas will be harvested using a modified shelter-wood silvicultural system. Trees will be retained for fauna habitat, seed supply, further economic growth, and structural diversity. Commercially viable trees not required for any of these purposes will be harvested for sawlogs and pulpwood to create good regeneration opportunities.
- Where safe to do so all future sawlog trees, capable of net merchantable increment, are to be retained for a subsequent cutting cycle.
- A minimum of four (4) trees per hectare, in the dominant or co-dominant class, with suitable crowns, shall be retained for seed production. These should include retained habitat and future sawlog trees.
- Seed trees are to be retained around each log dump to assist regeneration of the disturbed area. The number of retained seed trees will be determined by the Supervising Forest Officer

- (SFO), based on the size of the log dump, but will generally be 3 - 5 trees with healthy, seed producing crowns. These trees are not additional to those specified in the condition above.
- Harvesting disturbance should be concentrated away from retained trees and exclusion zones, to optimise post-harvest regeneration and provide a good seed bed for regeneration. This may be achieved by felling trees or pushing heads into non-commercial trees or stands where it is safe to do so.
  - Subject to occupational health and safety considerations, directional felling techniques are to be utilised to minimise damage to retained trees, to avoid hang-ups and to maintain values of reserve areas and drainage lines.

**(b) Silvicultural Prescriptions for Thinning Operations: Coupe 2 of Compartment 2051 and Coupe 3 of Compartment 2052.**

Coupe 2 of Compartment 2051 and Coupe 3 of Compartment 2052 are dominated by regrowth stands suitable for thinning as indicated on the Harvesting Plan Operational Maps.

- The principal objective of the thinning operation is to grow high quality sawlogs, over a shorter period, for future harvest. This will be achieved by "thinning from below", to reduce the number of competing stems in the stand and to concentrate growth potential onto the remaining final crop trees.
- Thinning will aim at a 50 - 60% reduction in the standing basal area. The current standing basal area estimate for the proposed area to be thinned in:  
Compartment 2051 is 26 m<sup>2</sup>/ha.  
Compartment 2052 is 25 m<sup>2</sup>/ha.
- Operational inventory plots established within Compartments 2051 and 2052 during 2000, based on a 55% basal area removal, estimated the merchantable regrowth volume to be removed is:  
Compartment 2051 80 tonne/ha.  
Compartment 2052 86 tonne/ha.
- A retention rate aim of 160 stems/ha of the most vigorous regrowth trees, of suitable form, will be targeted. Where stocking rates and stand quality vary, individual stands may be thinned to a minimum acceptable retention rate of 80 stems/hectare. This will only occur with SFO authorisation and will be documented in the SFO copy of the Harvest Plan. Retained stems **must be in the dominant** or best of the co-dominant classes with greatest sawlog potential.
- Thinning will aim to remove this volume from the poorer quality stems of the stand, leaving the most vigorous stems of good form to grow on.
- All current sawlog trees, capable of net merchantable increment, are to be retained for a subsequent cutting cycle.
- Where safe to do so 1-2 mature seed trees are to be retained near each parking/loading bay, where available, to assist in the regeneration of the disturbed area.

## **5: SPECIAL REQUIREMENT AREAS**

**(a) Forest Management Zone Classification:**

Forest Management Zones 2W and 3aW (Wildlife Corridor, 50 m strip) exists along the part of the northern boundary, along the eastern boundary and along the south-eastern boundary of Compartment 2051 as indicated on the Harvesting Plan Operational Map.

- All harvesting activities must be excluded from this zone.
- Control lines and a carefully planned ignition pattern and sequence should be applied to avoid fire entering these exclusion zones.

The remaining area within these compartments are classified FMZ 4 (general management).

**(b) Critical boundaries:**

Biamanga National Park adjoins the entire western and eastern boundaries, and a section of the northern boundary of Compartment 2051 and the entire western boundary of Compartment 2052 as indicated on the Harvesting Plan Operational Maps. The common boundary of Murrah State Forest and Biamanga National Park is 20m west from the centre line of Murrah River Road.

- No harvesting activities are to occur on the western side of Murrah River Road.
- Ensure no build-up of fuel within 10m of Murrah River Road in order to assist post-harvesting burning.
- Post harvest burning is not allowed on the western side of the Murrah River Road.

## **6: CULTURAL HERITAGE**

**(a) Cultural Heritage:**

A gazetted Aboriginal Place is located to the west of Murrah River Road, over Biamanga National Park. The gazetted Aboriginal Place adjoins the entire western and eastern boundaries, and a section of the northern boundary of Compartment 2051 and the entire western boundary of Compartment 2052 as indicated on the Harvesting Plan Operational Maps. The common boundary of Compartment 2052 as indicated on the Harvesting Plan Operational Maps. The common boundary of Murrah State Forest and the gazetted Aboriginal Place is west of Murrah River Road.

- No harvesting activities, roadside clearing or burning are to occur on the western side of Murrah River Road. Road maintenance west of Murrah River Road will be restricted to clearing table drains drainage structures and pruning low branches where required.
- Ensure no build-up of fuel within 10m of Murrah River Road in order to assist post-harvesting burning.

**Compartment Surveys**

All relevant representatives have been consulted and inspected Compartments 2051 and 2052. The surveys conducted did not locate any sites within the proposed harvest areas.

## **7: FLORA AND FAUNA CONDITIONS**

### **7.1: FLORA AND FAUNA GENERAL CONDITIONS.**

**(a) Tree Retention for Habitat and Food Resources:**

**Hollow-bearing Trees:**

- A minimum of six hollow-bearing live trees per hectare must be retained in “**high**” quality habitat forest, a minimum of four hollow-bearing trees per hectare must be retained in “**moderate**” quality habitat forest and a minimum of two hollow-bearing trees per hectare must be retained in “**low**” quality habitat forest. The determination of “habitat quality classes” will be made by the Supervising Forest Officer (SFO) during tree-marking in the field.

- Where this density is not available, the existing hollow-bearing trees must be retained plus additional trees must be retained to meet the requirement of six per hectare in “high” quality habitat forest, four per hectare in “moderate” quality habitat forest and two per hectare in “low” quality habitat forest. The additional trees retained must be those trees of the next oldest age class available which are likely to persist longer than the oldest trees and are likely to become hollow-bearing trees.
- “Hollow-bearing tree” means a tree where the base, trunk or limbs contain hollows, holes and cavities that have formed as a result of decay, injury or other damage. Such hollows may not be visible from the ground, but may be apparent from the presence of deformities such as burls, protuberances or broken limbs, or where it is apparent the head of the tree has been lost or broken off.
- Retained hollow-bearing trees must represent the range of hollow-bearing species that occur in the area. Preference should be given to selecting those species or trees that are most suitable for the threatened species known or likely to occur in the area.
- Trees retained outside the net logging area must not be counted as hollow-bearing trees. Trees retained within unlogged parts of the net harvest area, that meet the definition of a hollow-bearing tree, should be marked and counted as hollow-bearing trees.
- Hollow-bearing trees must be scattered throughout the net logging area.

**Recruitment Trees:**

- A minimum of six recruitment trees per hectare must be retained in “high” quality habitat forest, a minimum of four recruitment trees per hectare must be retained in “moderate” quality habitat forest and a minimum of two recruitment trees per hectare must be retained in “low” quality habitat forest.
- Retained recruitment trees must be selected from trees of the next oldest age class available which are likely to persist longer than the oldest trees and are, or are likely to become, hollow-bearing trees.
- Retained recruitment trees must represent the range of tree species that occur in the area. Preference should be given to selecting those species or trees that are most suitable for the threatened species known or likely to occur in the area.
- Trees retained outside the net logging area must not be counted as recruitment trees. Trees retained within unlogged parts of the net logging area, that meet the definition of recruitment tree, should be marked and counted as habitat trees.
- Recruitment trees must be scattered throughout the net logging area.

**Dead Stags:**

- Five dead stags must be retained per hectare of net logging area where it is safe to do so. If there are less than five stags per hectare, then all stags should be retained **where it is safe to do so**.
- Stags must not be counted as hollow-bearing trees or recruitment trees.

**Significant Food Resources:**

- Where more than 30 crushed *Allocasuarina* seed cones have been found beneath an individual of *Allocasuarina* spp., indicating intensive use by the Glossy Black-Cockatoo, the tree must be retained and protected from specified forestry activities.
- Specified forestry activities should be conducted in such a manner as to minimise damage to stands where *Allocasuarina* spp., dominate the canopy.
- All Yellow-bellied Glider and Squirrel Glider sap feed trees must be retained. Yellow-bellied Glider sap feed trees are trees with "V" notch feeding scars. Retained sap feed trees should be counted as hollow-bearing or recruitment trees.
- Damage to flowering or fruiting banksias and *xanthorrhoea* spp should be avoided during forestry operations.

**Protection of Hollow-bearing Trees, Recruitment Trees, and Retained Food Trees:**

Specified forestry activities and post-logging burning must aim to minimise damage to hollow-bearing trees, recruitment trees, and retained food trees. The potential for damage should be minimised by techniques of directional felling, where it is safe to do so. Logging debris must be removed or flattened where it has accumulated to a height of more than one (1) metre within 5 m of live retained trees, provided it is safe to do so.

**(b) Stream Exclusion Zones:**

Stream exclusion zones must be applied to the first, second, third, fourth and higher order streams as indicated on the Harvesting Plan Operational Maps.

- Existing snig tracks, roads, moisture differentials, ignition patterns and constructed hand trails should be utilised to avoid fire encroachment into this zone as far as practicable.

**(c) Rainforest areas:**

The actual location of rainforest areas as delineated in the Harvesting Plan Operational Maps was determined using API. Field verification will be conducted by the SFO during supervision of the harvesting operation to determine the extent of KB rainforest floristic assemblages.

- Specified forestry activities must be excluded from these rainforest and 20m exclusion zones.
- Existing snig tracks, roads, moisture differentials, ignition patterns and constructed hand trails should be utilised to avoid fire encroachment into this zone as far as practicable.

**(d) Rare Old Growth Forest Communities:**

An area of rare old growth forest community within Coupe 1 of Compartment 2051 as indicated on the Harvesting Plan Operational Map.

- All harvesting activities must be excluded from this area (other than routine road maintenance of 2051-6 Road).
- Where practicable, extraction tracks should be constructed close to the boundaries of the harvested area to act as bare earth breaks around post-harvesting burns.
- Existing snig tracks, roads, moisture differentials, ignition patterns and constructed hand trails should be utilised to avoid fire encroachment into this zone as far as practicable.

**(e) Rocky Outcrop and Cliffs:**

No rocky outcrops or cliffs where detected during the pre-planning stage. Refer to the Threatened Species Licence condition 5.11 and the Southern Region Fieldguide for rocky outcrop and cliffs.

**7.2: FLORA AND FAUNA SPECIFIC CONDITIONS.****(a) Rare or Threatened Flora Species:****Chefs Cap Correa:**

Chefs Cap Correa (*Correa baeuerlenii*) has been recorded within Compartment 2051 (GR 763396/5955933) as indicated on the Harvesting Plan Operational Map.

- Where Chefs Cap Correa is located, its location is to be marked in the field and recorded in the SFO's copy of the harvesting plan.
- Damage to individuals during forestry activities should be avoided to the greatest extent possible. See Attachment 2 at the end of this harvesting plan for a photo of Chefs Cap Correa.

**(b) Schedule 1 and 2 Fauna Species Prescriptions:****Yellow-bellied Gliders:**

Yellow-bellied Glider sap feed trees and heard records are located within Compartment 2051, heard records are located within Compartment 2052 as indicated on the Harvesting Plan Operational Maps.

**The following conditions shall apply for Yellow Bellied Gliders:**

- A 50 metre radius exclusion zone must be implemented around Yellow-bellied Glider dens.
- All Yellow-bellied Glider sap feed trees must be retained. All Yellow-bellied Glider sap feed trees must be marked for retention.
- Where there is a record of a Yellow-bellied Glider within the compartment, or within 100m outside the boundary of the compartment, the following must apply:  
Within 100m radius (3 ha) around each retained Yellow-bellied Glider sap feed tree, observation or den site record, 15 feed trees must be retained. Yellow-bellied glider sap feed trees must not be counted towards these 15 trees.
- Within a 200m radius of a yellow-bellied Glider call detection site record, 15 trees must be retained.  
  
Mature and late mature trees must be retained as feed trees where these are available. The retained feed trees should be of the same species as the identified sap feed tree, or be a tree species recognised as a sap feed tree in the area (*Eucalyptus botryoides*, *E. cypellocarpa*, *E. viminalis*, *E. ovata*, *E. angophoroides*). The feed trees retained must be marked for retention. Note: habitat trees and recruitment trees may be counted towards the 15 trees as long as they have good crown development, minimal butt damage, should not be suppressed and be of the preferred species (as per above).

**Koala:**

Compartments 2051 and 2052 were surveyed for koalas in accordance with the Threatened Species Licence condition 6.11. There was no evidence of koalas located in Compartments 2051 and 2052 during the survey.

- In the event that a koala or evidence of a koala is detected during harvesting the SFO must be notified immediately. Harvesting must cease immediately in the general area of the record and the Supervising Harvesting Team Leader notified immediately. Harvesting must not recommence in the general area until further instructions have been received from the Supervising Harvesting Team Leader.



**Sooty Owl:**

Sooty Owl heard records are located within Compartments 2051 and 2052 as indicated on the Harvesting Plan Operational Maps. Care should be taken during mark up to identify possible roost and nest sites. In the event that a roost or nest tree is located the following must apply:

- 50m radius exclusion zones are to be placed around Powerful Owl, Masked Owl and Sooty Owl nest sites.
- 30m radius exclusion zones are to be placed around Powerful Owl, Masked Owl and Sooty Owl roost sites.

**Glossy Black Cockatoo:**

Glossy Black Cockatoo feed signs are located within Coupe 2 of Compartment 2052 as indicated on the Harvesting Plan Operational Map.

- Care should be taken during tree-marking to identify, mark and report any Glossy Black Cockatoo nest trees that are found, when a Glossy Black Cockatoo is observed coming out of a hollow.
- All Glossy Black Cockatoo nest trees must be retained.
- A 50 metre radius exclusion zone must be implemented around a Glossy Black Cockatoo nest tree. (Condition 5.13 (a), (d) and (f) of the Threatened Species Licence apply also to the Gang Gang Cockatoo)

**White-footed Dunnart:**

White-footed Dunnart observed record is located within Coupe 2 of Compartment 2052 as indicated on the Harvesting Plan Operational Map. This species is listed in the Threatened Species Licence, Schedule 5 which is considered adequately protected by the general conditions.

No other Schedule 1 or 2 species that require specific prescription for the proposed operation were detected during pre-harvest surveys or from existing records within the planning unit.

Licensee and supervisory staff must immediately report any sightings of Schedule 1 and 2 species to the Harvesting Team Leader.

**8: SOIL EROSION AND WATER POLLUTION CONTROL**

**Table 3: E.P.L. Site and Soil Assessment Details**

	<b>Compartment 2051</b>	<b>Compartment 2052</b>
Inherent Hazard Class	One (1)Thinning Cpe 2 Two (2) Integrated Cpe 1	One (1)Thinning Cpe 3 Two (2) Integrated Cpe 2
Parent Rock Type	Merimbula Group of Sediments three quarters of Cpt. Ordovician Metasediments remaining area.	Merimbula Group of Sediments majority of Cpt. Ordovician Metasediments North-eastern tip of Cpt.
Dispersible Soils	Yes.	Yes.
Mass Movement	Nil.	Nil.
Seasonality Constraints	Nil.	Nil.
Slope limits for Harvesting	30 degrees	30 degrees
Slope limits for Snig Track construction	25 degrees	25 degrees

**Condition for dispersible soils.**

- Where snig track or extraction track crossings of drainage lines or watercourses are constructed, upgraded or maintained in dispersible soils, 70% groundcover on the track

surface within 20 metres either side of the crossing must be achieved. This must be achieved at the completion of operations at each crossing as per the EPL.

There are areas of existing erosion in table drains of the existing roads within Compartments 2051 and 2052.

- Install drainage at spacing according to EPL specifications along roads where table drain erosion is occurring.

#### **8.1: DRAINAGE FEATURE PROTECTION.**

**Table 4: Minimum Filterstrip, Stream Exclusion Zones and Drainage Depression Buffer Widths for Drainage Features in Native Forests**

Stream Order	Thinning 2051/2 & 2052/3 Drainage Line Filterstrip Width I.H.L. 1 (m)	Integrated 2051/1 & 2052/2 Drainage Line Filterstrip Width I.H.L. 2 (m)	Stream Exclusion Zones Width (m)	Drainage Depression Buffer Width (m)
Unmapped features	10	10	Nil	5
Mapped 1st Order	10	15	10	5
Mapped 2nd Order	15	20	20	5
Mapped 3rd Order	20	25	30	5
Mapped 4th & higher	20	25	50	5

- The drainage feature protection width in bold (ie the widest) must apply.

#### **8.2: ROADS AND CROSSINGS.**

All new roads must be constructed in accordance with the location marked in the field and as indicated on the Harvesting Plan Operational Maps. Reference must also be made to the Rooding Plan in Appendix 1, attached to this harvesting plan.

##### **(a) Wet Weather Controls:**

Harvesting operations may be conducted throughout the year subject to the application of normal wet weather closure procedures and restrictions to wet weather areas.

- There are no wet weather dumps for this operation.

##### **(b) Order of working:**

##### **Integrated operation**

The order of working will be progressive harvesting in Coupe 1 of Compartment 2051 and Coupe 2 of Compartment 2052 subject to wet weather constraints and as directed by the SFO.

##### **Thinning operation**

The order of working will be progressive harvesting in Coupe 2 of Compartment 2051 and Coupe 3 of Compartment 2052 subject to wet weather constraints and as directed by the SFO.

The contractor must not leave a designated working area (loading bay or coupe as specified by the SFO) until approval has been given by the SFO.

**(c) Downhill Snigging:**

Downhill snigging may be required within Coupe 1 of Compartment 2051 and Coupe 2 of Compartment 2052.

Where downhill snig tracks connect directly with a log dump the following must be used:

- Snig tracks must enter the log dump from the side or below; or
- A drainage structure must be in place immediately before a snig track enters the log dump at the end of each days operation.

**8.3: LOG DUMPS and LOADING BAY.**

Location of log dumps and loading bay is indicated on the Harvesting Plan Operational Maps. Log dump size should be kept to a 40mx 40m area where safe to do so. Construction of dumps greater than this area must be approved by the SFO.

**8.4: EXTRACTION TRACKS.**

Wherever practicable, walkover extraction techniques should be used in preference to snig track construction. Spoil from extraction track construction, upgrading or maintenance must not be placed in watercourses or drainage lines.

The operator, in consultation with the SFO, will determine out-row and forwarder extraction track locations.

**9: TREE-MARKING CODE**

As required under the terms of the **Threatened Species Licence** and **IFOA**, tree marking in Southern Region - Eden (EMA) must be in accordance with the following state-wide Harvest Marking Code:

**Table 5: Harvest Marking Code**

Description	Symbol
<b>A. STANDARD MARKINGS/SYMBOLS</b>	
<b>MARKINGS/SYMBOLS THAT DELIVER KEY REQUIREMENTS ON A STATEWIDE BASIS</b>	
<b>Compartment boundary</b> Where not defined by clear features eg. Road, trail, creek	<b>“O” or Yellow tape</b>
<b>Exclusion zone</b> (eg. Old Growth or Species Exclusion Zone) Line not to be crossed or disturbed by fallers or harvesting machinery at any time	<b>Three horizontal lines or rings Or Blue tape</b>
<b>Edge of net harvest area</b> (eg unmerchantable) Retained trees and critical boundaries to be marked within 30m beyond the boundary Tree heads may fall across the line, provided they comply with boundary and tree retention rules (eg 5m debris)	<b>“⊙”</b>
<b>Buffer Zone</b> Areas where disturbance by harvesting is allowed only under specified conditions	<b>Two horizontal lines or rings (with indication of distance if required)</b>
<b>Extraction System</b> Road/Track line	<b>“ ” or white tape</b>
<b>Dump site with optional dump number reference</b>	<b>“D” or red tape</b>
<b>Approved crossing site</b>	<b>“g”</b>
<b>Slope angle indication (commences here)</b>	<b>eg “25°”</b>
<b>Trees To Be Removed</b> Individual tree	<b>“●” or dots</b>

Description	Symbol
<b>Directional felling mark</b>	“←” over “•”
<b>Retained Trees</b> Retained trees not to be removed or damaged (eg grower)	One horizontal line or ring
<b>Habitat tree, for any flora or fauna.</b>	“H”
<b>Eucalypt feed tree</b>	“E”
<b>Recruitment tree</b>	“R”
<b>Cancellation Mark</b> Mark to formally cancel previous marks	“X”
<b>Identified Hazard</b> Arrow to indicate direction of hazard	“Ø↑”
<b>SPECIALIST MARKINGS/SYMBOLS</b>	
Additional specialist Markings/Symbols that may be used in place of, or additional to standard markings to highlight particular issues as required by regulators, Forests NSW, or others.	
<b>Flora Fauna Features Retained Tree</b>	One horizontal line or ring <i>PLUS</i> “GB”
Glossy black cockatoo feed tree, record or nest	“OWL”
Owl nest and/or roost	“N”
Nest (raptors, parrots etc.)	“Y”
Yellow-bellied Glider v-notch feed tree or record	“SG”
Squirrel Glider sap feed tree, record or nest	“K”
Koala high use tree	“F”
Koala retained feed tree	“SM”
Frog record	“Q”, “QL”, “QD”
Smoky Mouse record	“B”, “BR”
Quoll record; latrine; den	“PD”
Bat record; roost	“TP”
Phascogale den	
Threatened plant	
<b>Other Markings</b>	
Private property	“PP”
Cave, tunnel or mineshaft	“CTM”
Drainage Depression Centre line	“DD”
Coupe Boundary	Blue Ring
Filterstrips/stream exclusion zones	Three horizontal lines or Rings Or Pink tape

Any tree/feature marking will conform to this code. Items to be marked in the field will be specified in the Harvest Plan

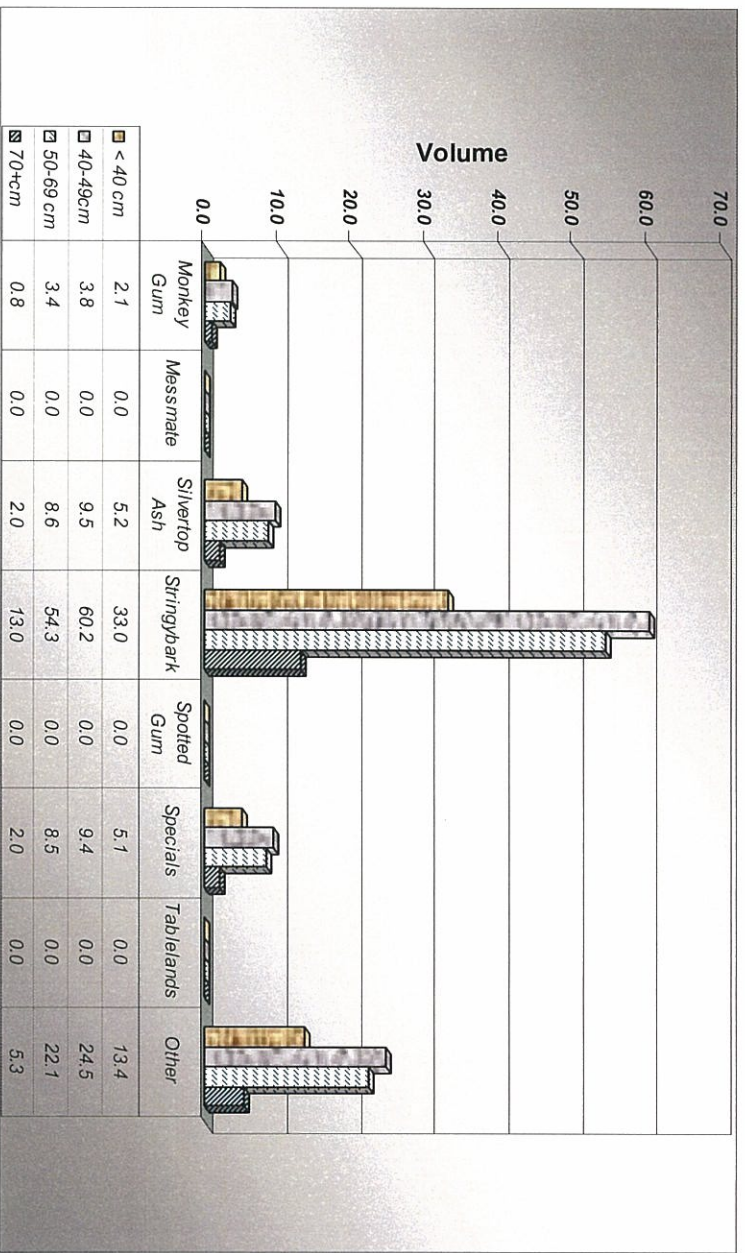
## 10: YIELD ESTIMATES

Table 6: Yield Estimate Information

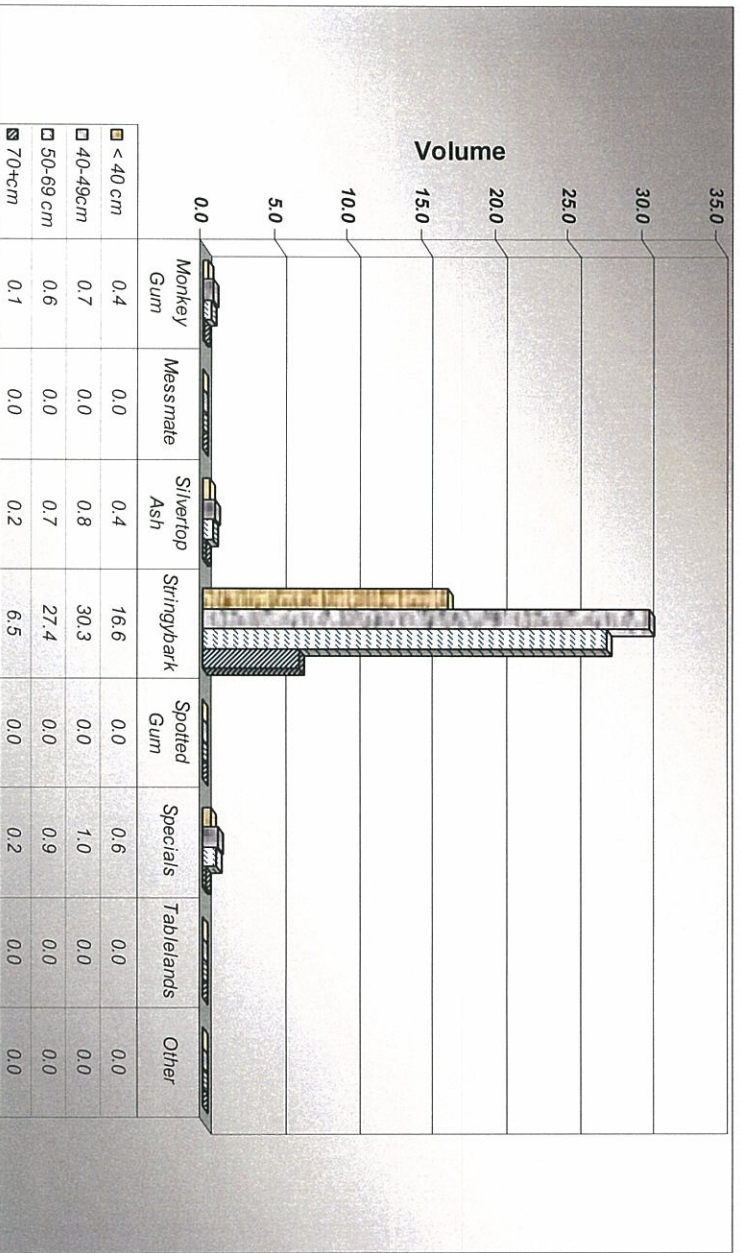
Compartment No.	Sawlog Volume (m <sup>3</sup> /ha)	Pulpwood Volume E1 & E2 (t/ha)
2051	4	65
2052	1	40

Source: Eden FRAMES, 1997. (Pulpwood volume adjusted to reflect changed specifications 2002).

**Graph 1a: Species Group and Size Class Sawlog Volume Predictions Cpt 2051**



**Graph 1b: Species Group and Size Class Sawlog Volume Predictions Cpt 2052**



**Note:** Predicted volumes have been calculated based on the size and species distribution of the 1:1 harvest. This table provides indicative species and size class information only, it does not account for any local variations between coupes.

## **11: AUTHORISATION CONDITIONS**

### **11.1: LEGAL AND ENVIRONMENTAL COMPLIANCE REQUIREMENTS.**

This Harvesting Plan is prepared by Forests New South Wales under the authority of the Forestry Act 1916. This Harvesting Plan is a condition of all Timber, Forest Products, Contractors and Operators Licences issued in connection with the timber harvesting operations described in the Plan.

All operations conducted under the authority of the Timber Licence and other licences and agreements issued for the area covered by this Harvesting Plan must comply with:

- all licence conditions issued by Forests NSW under the Forestry Act 1916;
- the “**Forest Practices Code, Part 2, Timber Harvesting in Native Forests - State forests and Crown-timber Lands**” (1999);
- the conditions of “**The Integrated Forestry Operations Approval for the Eden Region, Forestry and National Parks Estate Act 1998**”;
- the schedule of specifications for the harvesting and utilisation of timber applicable to this operation, in this case, the “**Utilisation Schedule for Graded and Salvage Grade (Interim) Sawlogs on Crown Timber Lands within Eden Management Area**” and the “**Wood Supply Agreement**” between **State Forests of NSW (now Forests NSW)** and **Harris Daishowa (Australia) Pty Ltd (trading as “South East Fibre Exports P/L”) (29<sup>th</sup> September 1999)**”;
- the Code of Procedure for the measurement of timber and other products applicable to this operation, in this case, the “**Code of Procedure for Sale of Hardwood Sawlogs by Gross Volume Measurement from within Eden Management Area using Truck Delivery Dockets**” and the “**Code of Procedure between Harris Daishowa (Australia) Pty Ltd (trading as “South East Fibre Exports P/L”) and Forestry Commission of NSW (now Forests NSW) for Sale of Native Hardwood Pulpwood by Weight using Truck Delivery Dockets as a Basis for Account within Southern Forestry Region (Edition IV – October 1994)**”; and
- the “**Protocol for Fuel Management - Eden Management Area**”.

Variations, additions or amendments to the above documents may be made by the responsible authorities at any time, and must be implemented immediately by the Forests NSW Licensee.

In preparing this Harvesting Plan, the requirements of Part V of the *Environmental Planning and Assessment Act 1970* (as amended) and Section 92 of the *National Parks and Wildlife Act 1967* have been considered.

### **11.2: BREACHES AND INFRINGEMENTS.**

Non-compliance with any condition or instruction set out in this Harvesting Plan will be dealt with in accordance with Section 6 of the “**Forest Practices Code, Part 2, Timber Harvesting in Native Forests - State forest and Crown-timber Lands**”. Serious breaches may lead to the issue of a Penalty Notice, licensee suspension or prosecution.

**11.3: VARIATIONS AND AMENDMENTS TO THIS HARVESTING PLAN.**

Conditions and requirements relating to the Environment Protection Licence cannot be varied in the field without the prior approval of the Regional Manager, other than those areas consistent with Condition 16.1 of the Environment Protection Licence. Variations and other specified approvals consistent with Condition 16.1 of the Environment Protection Licence, may be made by the SFO to this Harvesting Plan, subject to the Regional Manager's counter approval. Other approvals may only be made by the Supervising Forester and are also subject to the Regional Manager's counter approval.

All approvals must be recorded on the SFOs' Advise and Comments Form attached to all operational copies of this Harvesting Plan.

**This Plan must not be amended by a licensee or contractor.**

**11.4: HARVESTING PLAN AVAILABILITY.**

Copies of this Harvesting Plan must be held available by the contractor or bush supervisor at the site of logging operations at all times that felling, snigging or environmental work is being undertaken within the area covered by this Harvesting Plan.

**11.5: HARVESTING PLAN DISTRIBUTION LIST.**

NAME	PARTS	MINIMUM NO. COPIES
Timber Licensees: S.E.F.E. : Blue Ridge Hardwoods	Maps, 1-13 App. 1. Maps, 1-13 App. 1.	1 1
Contractors	Maps, 1-13 App. 1.	1
Operator(s) (where required)	Maps, 1-13 App. 1.	
Supervising Forest Officer [SFO(s)]	Maps, 1-13 App. 1.	1
Supervising Forester(s)	Maps, 1-13 App. 1.	1
Regional Office Compartment History File	All	1
Soil Specialist (FNSW)	All	1
Forestry Unit - DECC, Sydney South	Summary of Operations	1 – emailed

**11.6: INDUSTRY ENDORSEMENT.**

I endorse this Harvesting Plan on behalf of the industry.

At final inspection a S.E.F.E. supervisor must be present. If a S.E.F.E. supervisor is not present, final clearances will not be given.

Company: **South East Fibre Exports Pty Ltd.** Signature: \_\_\_\_\_

Licence No : **HE 03259**

Date: \_\_\_\_\_ Title: \_\_\_\_\_

Company: **Blue Ridge Hardwoods,** Signature: \_\_\_\_\_

**Eden Pty. Ltd.**

Licence No: **HE 03260**

Date: \_\_\_\_\_ Title: \_\_\_\_\_

**12: PRE OPERATION BRIEFING**

**12.1: HARVESTING CONTRACTOR ACKNOWLEDGEMENT – (SFO COPY).**

I acknowledge that I have received a copy of the Harvesting Plan No. HP\_ED\_2051\_2052\_10 and that I understand the conditions of the Plan as explained to me by a Supervising Forest Officer. I will brief other operators not present at this briefing prior to them starting operations.

Company: **Eden Logging Pty Ltd** Signature: \_\_\_\_\_

Licence No: **329** \_\_\_\_\_

Date: \_\_\_\_\_ Title: \_\_\_\_\_

Company: **Kyniner Pty Ltd** Signature: \_\_\_\_\_

Licence No: **224** \_\_\_\_\_

Date: \_\_\_\_\_ Title: \_\_\_\_\_

**12.2: SFO ACKNOWLEDGEMENT – (SFO COPY).**

I acknowledge that I have received a copy of the Harvesting Plan No. HP\_ED\_2051\_2052\_10 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 Sales Forester or their delegate.

Acknowledged: \_\_\_\_\_ Signature: \_\_\_\_\_

Title: **Supervising Forest Officer** Date: \_\_\_\_\_

Acknowledged: \_\_\_\_\_ Signature: \_\_\_\_\_

Title: **Relief Supervising Forest Officer** Date: \_\_\_\_\_

**12.3: PERSONNEL ATTENDING INSPECTION.**

Name	FNSW/LICENCEE	Date
	S.E.F.E	
	Contractor Representative	
	FNSW	
	FNSW	18/05/10
	FNSW	
	FNSW	



**13: CERTIFICATION****PLAN PREPARATION**

Prepared by:

Signature: \_\_\_\_\_

Title:

Harvest Planner

Date:

**27/05/10.****EXTERNAL AUTHORITY NOTIFICATION**

(To be completed by the person who originally prepared the Plan and who must attach the relevant notifications to the office copy of the Harvesting Plan.)

**Notification to DECC.**

Name of Authority.	Date of Notification by email.
DECC	

**REGIONAL APPROVAL**

I note notification of this Harvesting Plan to the above-mentioned authority, together with the amendments that have been included in the Final Plan.

This Harvesting Plan comprises pages 1 - 20 attached, the Roading Plan (Appendix 1), the Burning Plan (Appendix 2), the photos of *Correa Baeuerlenii* (Appendix 3), locality map and the Harvesting Plan Operational Maps marked and referenced to this Harvesting Plan. This is Harvesting Plan No HP\_ED\_2051\_2052\_10.

I approve the issue of this Harvesting Plan subject to any amendments and endorsements that may be made following notification to the Department of Environment and Climate Change.

Approved by:

Signature: \_\_\_\_\_

Title:

Regional Manager

Date: \_\_\_\_\_

**OPERATION COMMENCEMENT DATE:** \_\_\_\_\_



# FORESTS N.S.W.

## SOUTHERN REGION - EDEN ROAD WORKS PLAN

### COMPARTMENTS 2051 & 2052

### MURRAH S.F. No. 140

Prepared by: _____	Approved by: Regional Manager
Signature _____	Signature _____
Date: _____	Date: _____

**Note:** The recommended drainage structures and spacings in this roading plan are indicative only. Final decisions of drainage structure placement in the field must be determined by the SFO according to EPL specifications. Any alterations and the reasons why must be recorded in the Roading Plan.

<b>Road Assessment</b>	<b>FNSW 1</b>	Are there any borrow / gravel pits to be used & are they stable?	Nil
Length to be used / reopened / realigned (m)	700m	Site specific spoil management	As required flatten seed and mulch
Max. pavement width (m)	5m	Types of existing road drainage	Relief pipes and mitre drains
Max. clearing outside road prism (m)	2m	Spacing of road drainage comply with EPL?	Currently does not comply
Max road grade / dist if > 10 degrees	8 degrees	Max. height / length / condition of batters	3/300m/Stable
Site specific techniques to lower arcade	Not applicable	Condition of existing drop down structures	Not applicable.
Maximum ground slope	24 degrees	Site specific techniques for soil erosion & sediment control	Install drainage at spacing according to
<b>Feature</b>	<b>Works Required</b>	Final Road Use: Retain	
Pavement	Nil works required	Start Date:	Finish Date:
Roadside Clearing	As required and in accordance with EPL		
Gravelling	Not required		
Drainage	Install drainage structures in accordance with Sch 5 of EPL. On completion of use permanent trafficable rollovers to be installed and ensure drainage is in effective working order. Logging debris to be removed from table and mitre drains.		
Erosion Control	As above.		

Road Name: 2051-6 Road

### Roading Plan - Existing Road

 Compartment / Coupe: 2051/1 & 2

Assessor / date: 05/05/10

<b>Road Assessment</b>	<b>Contractor</b>	Are there any borrow / gravel pits to be used & are they stable?	Nil
Length to be used / reopened / realigned (m)	3230m	Site specific spoil management	As required flatten seed and mulch
Max. pavement width (m)	4m	Types of existing road drainage	Rollovers and mitre drains.
Max. clearing outside road prism (m)	2m	Spacing of road drainage comply with EPL?	Currently does not comply
Max road grade / dist if > 10 degrees	9 degrees	Max. height / length / condition of batters	2m/775m/Stable
Site specific techniques to lower grade	Not applicable	Condition of existing drop down structures	Not required. Batters stable & >70%
Maximum ground slope (degrees)	22 degrees	Site specific techniques for soil erosion & sediment control	Install drainage at spacing according to EPL specs.
<b>Feature</b>	<b>Works Required</b>	Final Road Use: Retain	
Pavement	Nil works required	Start Date:	Finish Date:
Roadside Clearing	As required and in accordance with EPL		
Gravelling	Not required		
Drainage	Where road grade <5° install rollovers or mitre drains or where road grade >5° install rubberflaps in accordance with Schedule 5 of the EPL. On completion of use permanent trafficable rollovers to be installed and ensure drainage		
Erosion Control	As above		

<b>Road Assessment</b>	<b>FNSW 1</b>	Are there any borrow / gravel pits to be used & are they stable?	Nil
Length to be used / reopened / realigned (m)	850m	Site specific spoil management	As required flatten seed and mulch
Max. pavement width (m)	5m	Types of existing road drainage	Relief pipes and mitre drains
Max. clearing outside road prism (m)	2m	Spacing of road drainage comply with EPL?	Currently does not comply
Max road grade / dist if > 10 degrees	7 degrees	Max. height / length / condition of batters	2/250m/Stable
Site specific techniques to lower grade	Not applicable	Condition of existing drop down structures	Not applicable.
Maximum ground slope	24 degrees	Site specific techniques for soil erosion & sediment control	Install drainage at spacing according to EPL specs.
<b>Feature</b>	<b>Works Required</b>	Final Road Use: Retain	
Pavement	Nil works required	Start Date:	Finish Date:
Roadside Clearing	As required and in accordance with EPL		
Gravelling	Not required		
Drainage	Install new pipes required at E762191 N5957416 and E762133 N5957158. Clean out the inlets and outlets of existing pipes. On completion of use permanent trafficable rollovers to		
Erosion Control	As above.		

**Roading Plan - Existing Road**  
Compartment / Coupe: 2052/2

Road Name: 2052-5 Road

Assessor / date: 31/01/05

<b>Road Assessment</b>	<b>Contractor</b>	Are there any borrow / gravel pits to be used & are they stable?	Nil
Length to be used / reopened / realigned (m)	1660m	Site specific spoil management	As required flatten seed and mulch
Max. pavement width (m)	4m	Types of existing road drainage	Mitre drains
Max. clearing outside road prism (m)	2m	Spacing of road drainage comply with EPL?	Currently does not comply
Max road grade / dist if > 10 degrees	10 degrees	Max. height / length / condition of batters	1m/100m/Stable
Site specific techniques to lower grade	Not applicable	Condition of existing drop down structures	Not required. Batters stable & >70% vegetation as per EPL.
Maximum ground slope (degrees)	15 degrees	Site specific techniques for soil erosion & sediment control	Install drainage at spacing according to EPL specs.
<b>Feature</b>	<b>Works Required</b>	Final Road Use: Retain	
Pavement	Nil works required	Start Date:	Finish Date:
Roadside Clearing	As required and in accordance with EPL		
Gravelling	Not required		
Drainage	Where road grade <5° install rollovers or mitre drains or where road grade >5° install rubberflaps in accordance with Schedule 5 of the EPL. On completion of use permanent trafficable rollovers to be installed and ensure drainage		
Erosion Control	As above		



<b>Road Assessment</b>	<b>Contractor</b>	Are there any borrow / gravel pits to be used & are they stable? <sup>2</sup>	Nil
Length to be used / reopened / realigned (m)	580m	Site specific spoil management	As required flatten seed and mulch
Max. pavement width (m)	4m	Types of existing road drainage	Rollovers and mitre drains
Max. clearing outside road prism (m)	2m	Spacing of road drainage comply with EPL?	Currently does not comply
Max road grade / dist. if > 10 degrees	7 degrees	Max. height / length / condition of batters	1m/100m/Stable
Site specific techniques to lower grade	Not applicable	Condition of existing drop down structures	Not required. Batters stable & >70% vegetation as per EPL.
Maximum ground slope (degrees)	17 degrees	Site specific techniques for soil erosion & sediment control	Install drainage at spacing according to EPL specs.
<b>Feature</b>	<b>Works Required</b>	Final Road User: Retain	Finish Date:
Pavement	Nil works required	Start Date:	
Roadside Clearing	As required and in accordance with EPL		
Gravelling	Not required		
Drainage	Where road grade <5° install rollovers or mitre drains or where road grade >5° install rubberflaps in accordance with Schedule 5 of the EPL. On completion of use permanent trafficable rollovers to be installed and ensure drainage is in effective working order. Logging debris to be removed from table and mitre drains.		
Erosion Control	As above		

Features	Road Specifications	Additional instructions / Materials
Road Length (m)	2051-1 Rd Specs 70	
Max. width of road prism (m)	7	
Max. road grade (length road >10m?)	4 degrees	
Max. ground slope (length road >30m?)	13	
Max. height of cut / fill batters (m)	<1m	
Max length of batters (m)	65	
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	
Recommended road drainage type	Rollovers or mitres for < or = 5 degrees; SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	
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	
Stabilisation assessment intervals	As per EPL Sch. 5, B5, C15, C17, C19 & C20	
Drop down & dissipater required	As per EPL Sch.5 H36	
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	
Mass movement / dispersible soils	Yes (Dispersible soils)	No additional instructions required as there are no crossings involved.
Final road use	Retain	
Road Name	Start Date	Finish Date



Features	Road Specifications	Additional instructions / Materials
Road Length (m)	2051-2 Rd Specs 110	2051-3 Rd Specs 140
Max. width of road prism (m)	7	7
Max. road grade (length road > 10m?)	3 degrees	5 degrees
Max. ground slope (length road > 30m?)	15 degrees	19 degrees
Max. height of cut / fill batters (m)	1m	1m
Max length of batters (m)	110	140
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	Natural surrounding vegetation supplemented with silt fencing, seed and mulch as required
Recommended road drainage type	Rollovers or mitres for < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	Rollovers or mitres for < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL
Spacing of road structures to be installed	As per EPL Sch. 5, Section C, Table 1	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	Drainage outlets must drain onto stable surface which provides efficient sediment trapping & energy dissipation
Stabilisation assessment intervals	As per EPL Sch. 5, B5, C15, C17, C19 & C20	As per EPL Sch. 5, B5, C15, C17, C19 & C20
Drop down & dissipater required	As per EPL Sch.5 H36	As per EPL Sch.5 H36
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	Seed & mulch as required
Mass movement / dispersible soils	Yes (Dispersible soils)	Yes (Dispersible soils)
Final road use	Retain	Retain
Road Name	Start Date	Finish Date
		No additional instructions required as there are no crossings involved.

Features	Road Specifications		Additional instructions / Materials
	<b>2051-4 Rd Specs</b>	<b>2051-5 Rd Specs</b>	
Road Length (m)	200	390	
Max. width of road prism (m)	7	7	
Max. road grade (length road >10m?)	13 degrees (30m)	9 degrees	To avoid oldgrowth and requirement for a crossing.
Max. ground slope (length road >30m?)	17 degrees	18	
Max. height of cut / fill batters (m)	1m	<1m	
Max length of batters (m)	150	100	
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	Natural surrounding vegetation supplemented with silt fencing, seed and mulch as required	
Recommended road drainage type	Recommend rubberflaps if >5 degrees. Rollers or mitres if < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	Recommend rubberflaps if >5 degrees. Rollers or mitres if < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	2051-4 Rd estimated 3 rubberflaps 2051-5 Rd estimated 6 rubberflaps
Spacing of road structures to be installed	As per EPL Sch. 5, Section C, Table 1	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	Drainage outlets must drain onto stable surface which provides efficient sediment trapping & energy dissipation	
Stabilisation assessment intervals	As per EPL Sch. 5, B5, C15, C17, C19 & C20	As per EPL Sch. 5, B5, C15, C17, C19 & C20	
Drop down & dissipater required	As per EPL Sch.5 H36	As per EPL Sch.5 H36	
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	Seed & mulch as required	
Mass movement / dispersible soils	Yes (Dispersible soils)	Yes (Dispersible soils)	No additional instructions required as there are no crossings involved.
Final road use	Retain	Retain	
Road Name	Start Date	Finish Date	





Features	Road Specifications		Additional instructions / Materials
	2052-1 Rd Specs	2052-2 Rd Specs	
Road Length (m)	150	230	
Max. width of road prism (m)	7	7	
Max. road grade (length road >10m?)	12 degrees (30m)	10 degrees	
Max. ground slope (length road >30m?)	12	17 degrees	
Max. height of cut / fill batters (m)	<1m	>1m	
Max length of batters (m)	40	230	
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	Natural surrounding vegetation supplemented with silt fencing, seed and mulch as required	
Recommended road drainage type	Recommend rubberflaps if >5 degrees. Rollovers or mitres if < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	Recommend rubberflaps if >5 degrees. Rollovers or mitres if < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	2052-1 Rd estimated 3 rubberflaps 2052-2 Rd estimated 4 rubberflaps
Spacing of road structures to be installed	As per EPL Sch. 5, Section C, Table 1	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	Drainage outlets must drain onto stable surface which provides efficient sediment trapping & energy dissipation	
Stabilisation assessment intervals	As per EPL Sch. 5, B5, C15, C17, C19 & C20	As per EPL Sch. 5, B5, C15, C17, C19 & C20	
Drop down & dissipater required	As per EPL Sch.5 H36	As per EPL Sch.5 H36	
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	Seed & mulch as required	
Mass movement / dispersible soils	Yes (Dispersible soils)	Yes (Dispersible soils)	No additional instructions required as there are no crossings involved.
Final road use	Retain	Retain	
Road Name	Finish Date	Start Date	



Form 13B

**Roading Plan - Road Construction**

**Compartment / Coupe: 2052/2**

**Assessor / date: 28/01/2005**

**Road Name: 2052-3 & 4 Roads**

**Works responsibility: Contractor**

Features	Road Specifications		Additional instructions / Materials
	2052-3 Rd Specs	2052-4 Rd Specs	
Road Length (m)	420	420	
Max. width of road prism (m)	7	7	
Max. road grade (length road >10m?)	11 degrees (30m)	11 degrees (50m)	To avoid rock.
Max. ground slope (length road >30m?)	16 degrees	27	
Max. height of cut / fill batters (m)	> 1m	>1m	
Max length of batters (m)	415	420	
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	Natural surrounding vegetation supplemented with silt fencing, seed and mulch as required	
Recommended road drainage type	Recommend rubberflaps if >5 degrees. Rollovers or mitres if < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	Recommend rubberflaps if >5 degrees. Rollovers or mitres if < or = 5 degrees. SFO to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL	2052-3 Rd estimated 7 rubberflaps 2052-4 Rd estimated 7 rubberflaps
Spacing of road structures to be installed	As per EPL Sch. 5, Section C, Table 1	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	Drainage outlets must drain onto stable surface which provides efficient sediment trapping & energy dissipation	
Stabilisation assessment intervals	As per EPL Sch. 5, B5, C15, C17, C19 & C20	As per EPL Sch. 5, B5, C15, C17, C19 & C20	
Drop down & dissipater required	As per EPL Sch.5 H36	As per EPL Sch.5 H36	
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	Seed & mulch as required	
Mass movement / dispersible soils	Yes (Dispersible soils)	Yes (Dispersible soils)	No additional instructions required as there are no crossings involved.
Final road use	Retain	Retain	
Road Name	Finish Date	Start Date	



# **FORESTS N.S.W.**

## **SOUTHERN REGION - EDEN**

### **POST-HARVEST BURNING PLAN**

**HP\_ED\_2051\_2052\_10**

**COMPARTMENTS 2051 & 2052**

**MURRAH S.F. No. 140**



## PLANNING INFORMATION

**LGA:** Bega Valley

**Fuel Management Zone & Proposed Burn Summary**

Refer to sections 2 & 3 of the harvest plan document for details      **Season:** Autumn/Winter

**Zone:** 3B(Post-Harvest)

## REGIONAL BURNING GUIDELINES

**Max Temp (°C):** 25      **Min RH (%):** 30      **Max Wind Speed (km/h):** < 20 Southerly aspect  
< 15 Northerly aspect

**Max BKDI:** < 70      **Max FDI:** 7 ( subject to area assessment)      **Scorch Height:** 0.6 x dominant tree height – Post Log  
10m – Broad Area

**Max Fuel Moisture Range:** 16-40%      **Max Rate of Spread:** < 300m/hr.      **Average Flame height:** up to 4m – Post Log  
<1 – 2m – Broad Area

**Fuel Reduction Objectives:** 60-80% of net harvest area burnt.

**Reduce fine fuels to:** manageable levels - Post Log 4 – 8t/ha

## BURN AREA INFORMATION

### Integrated:

**Fuel loads:** 50-150 tons per hectare of logging slash, 10 – 20 tons per hectare in between tree heads.

**Fuel arrangement:** Multi-tiered structure (litter, grasses, shrubs, eucalypt regeneration and mature trees)

**Terrain:** Refer to operational maps

**Time since last burn:** Unknown

### Thinning:

**Fuel loads:** 50-100 tons per hectare of logging slash.

**Fuel arrangement:** Logging slash under retained regrowth.

**Terrain:** Refer to attached operational maps.

**Time since last burn:** Unknown.

## IMPORTANT BURNING PRESCRIPTIONS

- A small test burn must always be lit prior to main burn. This will assist in determining FIRE BEHAVIOUR and IGNITION PATTERNS.
- Seek information from Harvesting SFO on regrowth excluded burn areas.
- Minimise fire intensity in retained / thinned stands.
- Seek information from Harvesting SFO on excluded areas.
- Where it is considered likely that fire applied externally will enter exclusion zones or national park through natural spread, a carefully planned ignition pattern and sequence must be applied
- Sections will be lit by drip torch to a determined ignition pattern.
- Areas will generally be burnt from ridge tops down and into the wind to minimise excessive fire behaviour.

### **SPECIAL PRESCRIPTIONS AREAS**

- Forest Management Zone 2 W and 3aW Exclusion Zones are located on the eastern boundaries of Compartment 2051. Post log burning is to be excluded from these zones. See Section 5a Forest Management Zone Classification.
- National park estate is located to the west of Murrah River Road on the western boundary of Compartments 2051 and 2052. The national park boundary should not be crossed.
- Areas of rainforest are located within Compartments 2051 and 2052. Post operation burning is to be excluded from these areas and the 20 m exclusion zones around the rainforests.
- An area of old growth forest community is located within Coupe 1 of Compartment 2051. Post operation burning is to be excluded from this area.
- Where Chefs Cap Correa have been located within Compartment 2051, damage to the Chefs Cap Correa during forestry activities should be avoided to the greatest extent possible. Refer to operational map and SFO's map for locations.
- Yellow –bellied Glider feed trees were located within Compartment 2051. Damage to retained Yellow-bellied Glider feed tree are to be avoided.
- Please refer to SFO's harvest plan and maps for additional flora and fauna features that may have been located during the harvesting and thinning operations.

### **BURN OBJECTIVES**

- To reduce fuel loads to manageable levels.
- A burn coverage within the remaining areas should target between 40-60%
- To contain fire within designated boundaries.
- To observe and record data, assisting in future high fuel load and advanced regrowth area burns.
- To minimise crown scorch; not exceeding 10% of dominant and co-dominant crowns.
- To minimise defect damage to retained / thinned stands.

### **ENVIRONMENTAL PRESCRIPTIONS**

#### **FLORA AND FAUNA:**

Refer to sections 7 and 7.2 of the Harvest plan document. H & R trees should be raked around if the risk of burning is high. Logging slash collected around retained trees should not be burnt.

#### **SOIL, WATER & AQUATIC HABITAT:**

Refer to sections 7b and 8 of the Harvest plan document.

- Preferred months of burn – April to September
- Fuel moisture differentials will be utilised to minimise impacts upon drainage features within the burn area

#### **ABORIGINAL CULTURAL HERITAGE:**

Refer to section 6 of the Harvest plan document. Significant sites, e.g. midden sites, should be raked around to prevent fire damage. Where practically possible, burning of scattered artefacts should be avoided.

### CONTROL AND STRATEGY

**CONTROL LINES:**

EXISTING	Description of Work Required	Completed Yes /No
Description of each control line		
Cpt 2051: Murrumbidgee River Road	Ensure road is clear of fine fuel.	
Cpt 2051: 2051-6 Road	Ensure road is clear of fine fuel.	
Cpt 2052: Murrumbidgee River Road	Ensure road is clear of fine fuel.	
Cpt 2052: 2052-5 Road	Ensure road is clear of fine fuel.	
Cpt 2052: 2052-6 Road	Ensure road is clear of fine fuel.	
Check for trees that could burn down and fall over any boundary roads and wet down or rake around as necessary		

PROPOSED	Description of Work Required	Completed Yes /No
Description of each control line		
Old Growth area	Where practicable, extraction tracks should be constructed close to the boundaries of the harvested area to act as bare earth breaks around post-harvesting burns. Where this is not practical, the SFO is to assess the need for a bare earth break to be constructed close to harvesting boundaries and notified the Harvesting Team Leader.	
Rainforest & exclusion zone	Existing snig tracks, roads, moisture differentials, ignition patterns and constructed hand trails should be utilised to avoid fire encroachment into this zone as far as practicable.	
Cpt 2051: 2051-1 Road		
Cpt 2051: 2051-2 Road		
Cpt 2051: 2051-3 Road		
Cpt 2051: 2051-4 Road		
Cpt 2051: 2051-5 Road		
Cpt 2052: 2052-1 Road		
Cpt 2052: 2052-2 Road		
Cpt 2052: 2052-3 Road		
Cpt 2052: 2052-4 Road		

**SMOKE HAZARD AND MANAGEMENT:** <http://www.bom.gov.au/general/reg/smoke/nsw/index.shtml>

Smoke / Hazard Reduction Signs required?.....  YES  NO ( tick to indicate)

Smoke Dispersion Forecasting via BOM utilised?.....  YES  NO ( tick to indicate)

Safety Considerations (pre-burn)		DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Personnel	Names of fire crew documented daily.							
Visitors on site	Visitor on site induction carried out							
Neighbours notified	Documented in plan							
Traffic control	Traffic control signs to regulate traffic if required							
Smoke management:	Assessment of prevailing winds at the time of burn. Road side signs warning of smoke hazard.							

Supervisor to Initial								
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Pre-burn preparation activities and responsibilities.			
Activity	Specifications and tasks	Responsibility (inc date)	Signature
Fuel monitoring	Regular monitoring prior to burning		
Weather monitoring	Conducted prior to and during burning operations.		
Trail preparation	Mineral earth control lines prepared prior to burning to contain fire within designated burning block.		
<ul style="list-style-type: none"> <li>D3</li> <li>Hand tools</li> </ul>			
Neighbour liaison	Notification and communications documented.		
Liaison with fire & emergency authorities	"as above"		
Media releases	To advise local community of SF burning activities.		
Radio station notifications	"as above"		
Equipment	Ensure all required equipment is available.		
Communications	"as above"		
Visitor Safety	Burn is sign posted. All visitors to report to burn supervisor immediately		
Burn approval	Daily burn approvals given by delegated officers		

**NOTIFICATION & RESOURCE REQUIREMENTS**

Neighbours.....  Contractors.....  Lessees.....   
 Apiarists.....  Shire FCO.....  Govt Agencies.....

**NOTIFICATION REGISTER**

RFS (Rural Fire Service)



Name	Position	Phone Number	Notified
	FCO		

**NEIGHBOURS: (Refer to compartment planning folder for details prior to burning)**

Owner	Postal Address	Lot / Plan	Phone	Notification Letters sent	Reply Received

**APIARISTS: (Refer to compartment planning folder for details prior to burning)**

Name	Site Number/s	Phone Number	Notified

**DAILY CREW SMEACS BRIEFING SHEET**

(tick daily when briefed)

DAY 1 2 3 4 5 6 7

- SITUATION**
- Burn area to be treated (location, boundaries, control line types and exclusive areas) .....
  - Burn area characteristics (e.g. terrain, forest cover, sensitive areas, etc) .....
  - Burn area access by road class (checked beforehand, dead ends, watering points etc.) .....
  - Fuel Loadings and fire behaviour prescriptions for the HRB area .....
  - Staging areas.....
  - Expected weather .....

- MISSION**
- Overall aim of the hazard reduction burn.....
  - Site specific aims for sections of the HRB (eg, protection of patches of advanced regrowth, rainforest pockets, buildings, bridges, etc.) .....
  - Secondary aim/s should the HRB escape .....

- EXECUTION**
- Plant and manpower resources (FNSW, RFS, DEC, others).....
  - Division of burn area into 'Sections'.....
  - Starting points, starting times, finish times (start 'down wind' if possible) .....
  - Safe 'approved' lighting patterns and directions.....
  - Work down-slope, keeping below active fire (except where good fuel breaks occur) .....
  - Location and activity of other burning crews .....
  - Personal and crew safety - buddy system when lighting up.....
  - Progress reports at pre-designated times.....
  - Maintain awareness of other burning crews (do not light up below other burning crews) .....
  - Expected fire behaviour, trouble points and contingency plans.....
  - Actions to be taken in the event of an escape e.g. to pause the light-up.....
  - End of burn debrief e.g. reporting areas requiring 'follow-up' patrols after burn .....

- ADMINISTRATION**
- Reporting field fire weather to the office at regular times.....
  - Receiving forecast weather reports from office.....
  - Logistical support (fuel, food, water, heavy plant, back-up crews etc.).....
  - Chain of command (burn supervisor and sector bosses).....
  - Communications systems for fire-ground and command (UHF & VHF radios, mobile phones) .....

- CONTROL, COMMAND, COMMUNICATIONS**
- SAFETY**
- Medical Emergency Evacuation Plan & Site Safety Plan.....
  - Areas of likely tree or limb falling hazards (methods to identify/mark hazards) .....
  - Look up and look around procedure (for self and workmates).....
  - Location first aid kits and first aiders .....
  - Pre-burn safety actions including 'Smoke Hazard' sign locations, traffic control plan etc .....
  - Location of safety zones, and escape routes .....
  - Safe parking of SF vehicles within the burn area and vehicle speeds during the burn .....
  - Crew vehicles to have headlights and flashing beacons on where practicable .....
  - Schedule adequate rest breaks and set appropriate work pace .....

- Ensure crews have access to supplies of drinking water.....
- Visitors to the site are inducted into the SSP .....

Day 1 - Burn Supervisor.....	Date.....	Day 2 - Burn Supervisor.....	Date.....
Day 3 - Burn Supervisor.....	Date.....	Day 4 - Burn Supervisor.....	Date.....
Day 5 - Burn Supervisor.....	Date.....	Day 6 - Burn Supervisor.....	Date.....
Day 7 - Burn Supervisor.....	Date.....	Day 8 - Burn Supervisor.....	Date.....

**EMPLOYEE IDENTIFICATION**

EMPLOYEE	NAME	PROOF OF ACCREDITATION (Eg. FNSW RECORDS)	DATE	SUPERVISOR OR RELEVANT AGENCY SIGNATURE
Incident Controller				
Burn Supervisor				
Crew Leader				
Crew Member				
Crew Member				
Crew Member				
Crew Member				
Crew Member				
Crew Member				
Crew Member				
Crew Member				

Personnel and equipment requirements:				
Resource	State Forests	NPWS	Brigades	SFO Signature
Incident Controller				
Crew Leaders				
Crew Members				
Tankers	1			
Slip – on Units	1+			
Dozer	n/a			
Helicopter	n/a			
Radios – handheld UHF	1 per person			
Weather monitoring equip.	1 per crew			
Burning Operations Record				

**Forecast Weather and Indices** (Obtain from Office)

See attached daily weather forecasts and relevant indices obtained from the Bureau of Meteorology

**Burn Site Weather Readings**

Take daily on site readings (hourly if possible) and note un-forecast weather changes.

Date	Time	Temp (°C)	RH (%)	Wind Direction	Wind Sp. (km/h)	FDI	FMC %	COMMENTS



**Ignition details – DATE/s**

**Type:** Aerial / Ground    **Method:** Contour / Ridge / Road edge / Top disposal    **Pattern:** Line / Spots  
**Incendiary Capsules used:** \_\_\_\_\_ (aerial ignition only)

**POST BURN ASSESSMENT**

Estimated burn coverage (% of net area):.....%

Estimated burn coverage:.....ha

Fine fuel reduced to an average of :.....t/ha

Estimated area of crown scorch :.....%

**OPERATIONAL PERFORMANCE REVIEW**

- |                                            |        |
|--------------------------------------------|--------|
| Burn complete?                             | Yes/No |
| Follow up action required ?                | Yes/No |
| Burn contained within planned boundaries?  | Yes/No |
| Burn coverage objective met?               | Yes/No |
| Fine fuel reduction objective met?         | Yes/No |
| Environmental prescriptions met?           | Yes/No |
| Threatened Species License conditions met? | Yes/No |
| Fisheries License conditions met?          | Yes/No |

Remedial Action required (if any): \_\_\_\_\_

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**Remedial works certified complete.**

Work Supervisor \_\_\_\_\_ Date: \_\_\_\_\_

Comments: \_\_\_\_\_

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Attach additional pages as required



**APPENDIX 3: PHOTOS OF CORREA BAUEERLENI**

