LOCALITY MAP

Compartments 169 & 170

State Forest: Mogo No: 549

SOUTH COAST IFOA BATEMANS BAY MANAGEMENT AREA

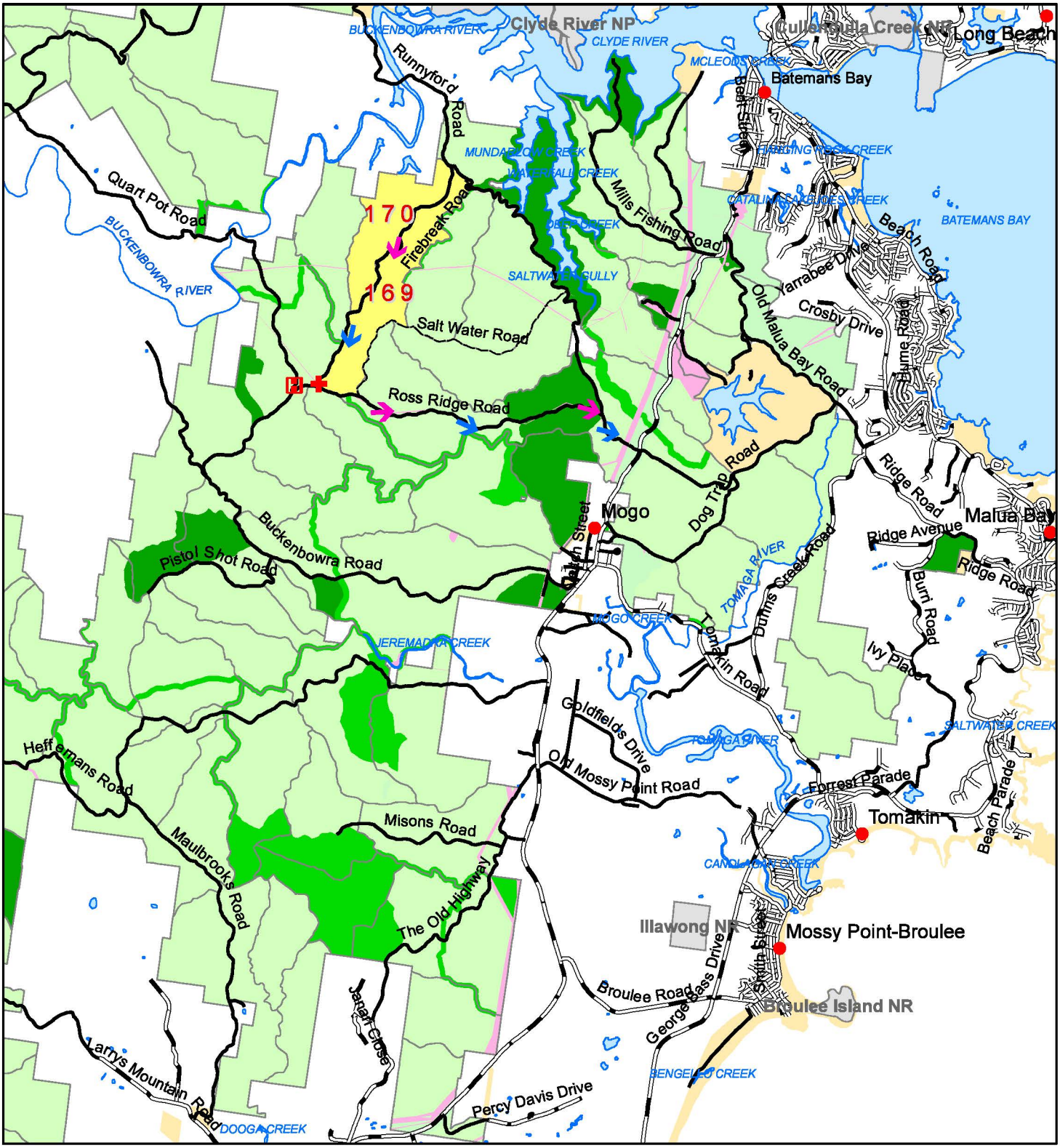
Scale: 1:100,000

Forestry Corporation

N

SPEED LIMIT 60 On FCNSW unsealed gravel roads

GDA



Sealed Road
Major Forest Road
Minor Forest Road
Major Rivers

State Forest
Planning Unit
Vacant Crown Land
Freehold

Formal Reserve
Informal Reserve
Non Forest
National Parks
Water

Emergency Meeting Point
Helicopter Landing Site
Evacuation Route
Haulage Route
Towns & Localities

FORESTRY CORPORATION OF NSW, HARDWOOD FORESTS DIVISION
HARVEST PLAN OPERATIONAL MAP

Forestry Corporation

GN MN 13°

1:15,000

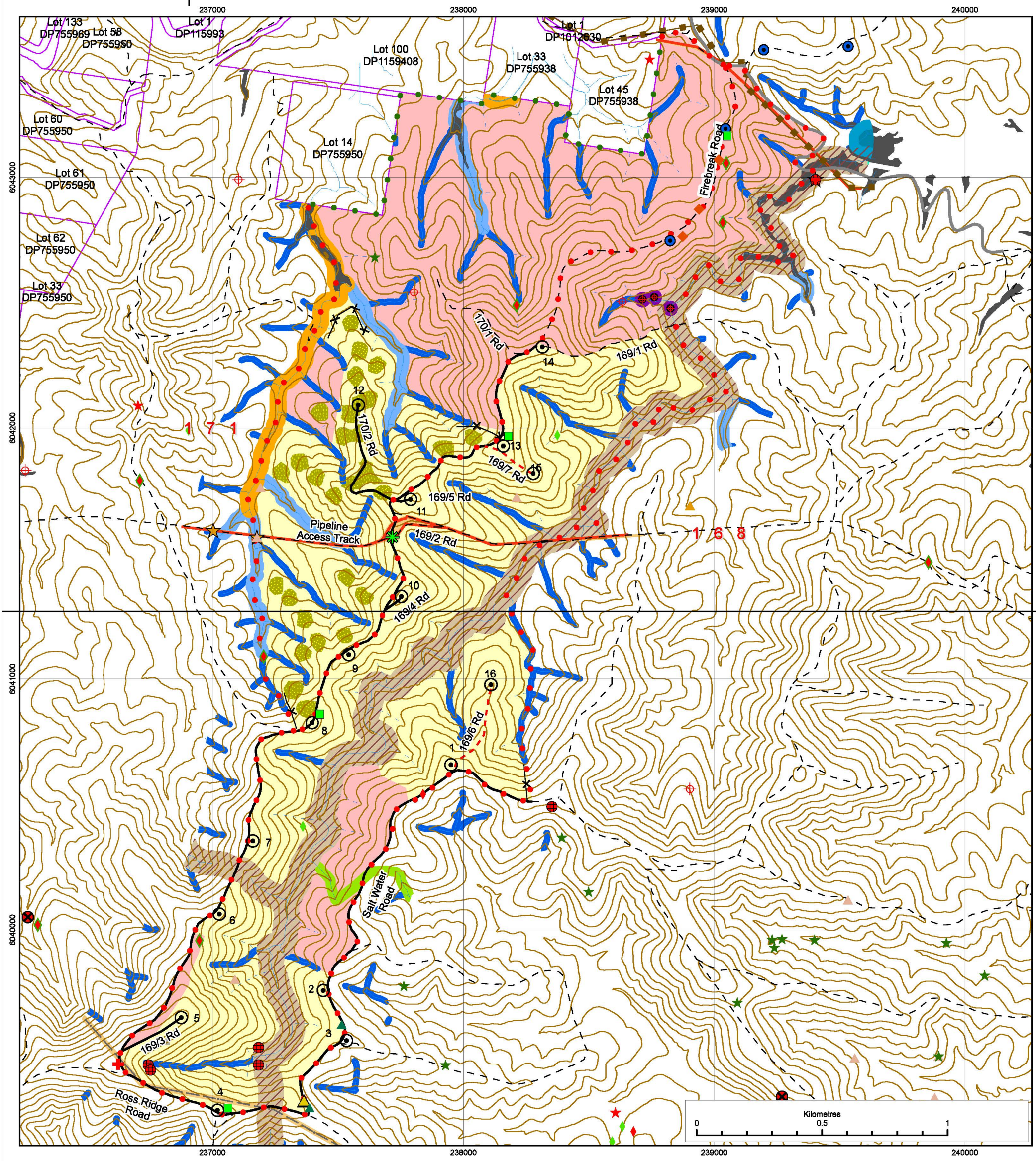
Contour Interval 10m

GDA

State Forest Name: Mogo
State Forest No: 549
Compartments: 169 & 170
Management Area: Batemans Bay
Mapsheet: Nelligen 8926 & Mogo 8926

Southern IFOA : South Coast
PlanName: HP_BB_169_170_15
Plan No: 10819
Version: 1
Approved: Lee Blessington

Date 7/7/2016



WaterTank	Yellow-bellied Glider (Heard)	Eastern Freetail-bat	Water Pipe	Softline EZ (FMZ3A)
Bees Present	Yellow-bellied Glider	State Forest Boundary	LiDAR Corrected Drainage	Zone 7 - (Powerline & Pipeline)
Dump Dry Weather	Yellow-bellied Glider (Feed Tree)	Cpt Boundary	Indicative Unmapped Drainage Features	Ridge and Headwater Habitat EZ
Emergency Meeting Point	Glossy Black-Cockatoo	Shire Owned Roads	Owl Landscape EZ	Stream PZ 1st Order (10m)
Bee Set Down	Glossy Black-Cockatoo (Feed Tree)	Haulage Roads (new)	Slopes>30 (IHL 4)	Stream PZ 2nd Order (20m)
Grey-headed Flying-fox	Sqaure-tailed Kite	Haulage Roads (existing)	Wetland	Stream PZ 3rd Order (30m)
Powerful Owl Roost	Gang-gang Cockatoo	Other Roads	Wetland Buffer	Private Property
Sooty Owl	Scarlet Robin	Powerline	Riverflat Eucalypt EEC	FMZ4 RU2 No Harvesting
Powerful Owl	Little Lorikeet	Proposed Control Line	Rare & NCFE	FMZ4-RU1-Harvest Area STS Heavy
Masked Owl	Varied Sittella	Underground Cable	30m Powerful Owl Roost Exclusion	FMZ4-RU3 Excluded Forest

FORESTRY CORPORATION OF NSW, HARDWOOD FORESTS DIVISION
HARVEST PLAN FOREST TYPE MAP

Forestry Corporation

GN MN 13°

1:15,000

Contour Interval 10m

GDA

State Forest Name: Mogo
State Forest No: 549
Compartments: 169 & 170
Management Area: Batemans Bay
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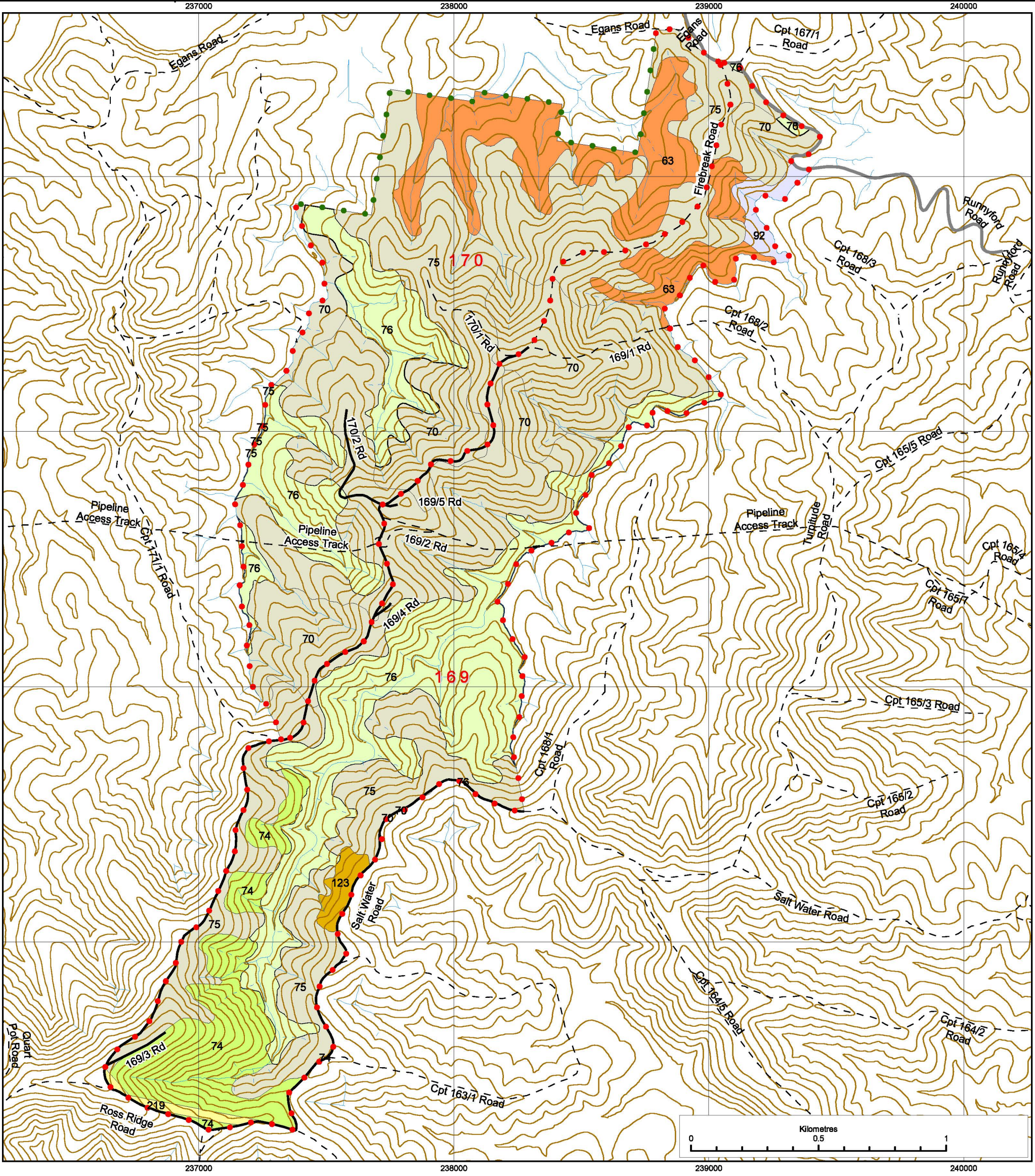


- State Forest Boundary
- Cpt Boundary
- Shire Owned Roads
- Haulage Roads (existing)
- Other Roads
- LiDAR Corrected Drainage
- Indicative Unmapped Drainage Features

Forest Type (RN17)

- Type 63 Woollybutt
- Type 70 Spotted Gum
- Type 74 Spotted Gum - Ironbark / Grey Gum
- Type 75 Spotted Gum - Yellow / White Stringybark
- Type 76 Spotted Gum - Blackbutt
- Type 92 Forest Red Gum
- Type 123 Coastal Stringybark
- Type 219 Settlements, Roads, gravel Pits, etc.

Main Type No.	Gross Area (ha)
63	43.6
70	78.6
74	31.2
75	188.3
76	103.5
92	3.9
123	3.2
219	1.9

Forestry Corporation

HARDWOOD FORESTS- SOUTHERN IFOA SOUTH COAST HARVESTING PLAN

Mogo State Forest - Compartments 169 & 170

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 South Coast apply to this operation.

Prepared By: Harvest Planner	Kate Halton	Approved By: Operations Planning Mgr	Lee Blessington
Signature	Kate Halton	Signature	Lee Blessington
Date	7.7.16	Date	7.7.16

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 and Cultural Heritage (limited distribution).

Description of Proposal

Harvesting of Hardwood forest

Harvesting of Hardwood forest, using Single Tree Selection, Silviculture subject to the Southern IFOA requirements will be undertaken within this planning unit. **Timber harvesting and road construction will not be licensed under the EPL.**

The primary product of the harvesting is high quality large sawlogs (quota logs), small high quality sawlogs, veneer logs, girders, poles & piles where timber markets are available. Parts of felled logs that do not meet high quality log specifications are segregated and graded into other classifications such as salvage sawlogs, pulp logs & miscellaneous timbers e.g. split & round posts, firewood, mining timbers & craftwood. The availability of miscellaneous timbers depends mainly on forest types, log defectiveness & market conditions at the time of harvesting.

Clause 22 – Integrated Forestry Operations Approval (IFOA) Consideration

All relevant factors have been reviewed taking into account the volume and monetary value of each forest product to supply Term Agreement Holders. The harvesting operation also complies with Clause 22 of the 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

FT = Forest Technician, HC= Harvesting Coordinator, PtS= Protection Supervisor, HS = Harvesting Supervisor, RC = Roading Coordinator, IFOA = Integrated Forestry Operations Approval.

Area Identification and Yield Estimates

State Forest	Compartment/s	IFOA Region	Management Area	Certification
Mogo	169 & 170	Southern	Batemans Bay	AFS 604224 AS4708:2013

	Cpt 169	Cpt 170	Total
Plan Compartment ID	**22276**	**22278**	NA
Gross Area (ha)	251	204	455
Net Harvestable Area (ha)	190	164	354
Harvest Area (ha)	140	60	200
Poles, Piles, Veneer & Girders	0m³	0m³	0m³
Quota Logs (HQL)	450m³	150m³	600m³
High Quality Small	200m³	60m³	260m³
Salvage	820m³	270m³	1090m³
Pulp E1	450t	150t	600t
Firewood/Misc	400t	150t	550t

Note: The yield estimates in the table above are derived from the Plan of Operations.

Slope Classes (percent of harvest area)

Slope Class	Cpt 169 % of harvest area	Cpt 170 % of harvest area
0-15º	37.3	63
15-20 º	43.1	27.1
20-25 º	17.7	9.2
25-30 º	1.9	0.7
30 º +	0.1	0

Forestry Corporation

ATTACHMENT 1: SITE SAFETY PLAN

Worksite Information	
Is this Declared Hunting Area: Yes Has it been excluded from Hunting: No	Comments: Exclusion zone 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

Only roads that are shown on the HPOM as haulage roads may be used for haulage. Additionally all haulage roads within compartments 169 and 170 must comply with EPL.

The haulage route endorsed by this harvest plan is south on Firebreak Road or Saltwater Road turning left onto Ross Ridge Road (all FCNSW roads), then turning right onto Runnyford Road (Eurobodalla Shire Council Road) to the Princes Hwy where trucks may turn left or right.

- From from compartment 169 trucks may travel east on Saltwater Road for a short distance to turn around at an existing dump in adjacent compartment 164, however they must NOT continue east to turn at the intersection of Saltwater and Runnyford Road.
- The intersection of Ross Ridge Road and Runnyford Road does not meet the minimum sight distance of 200m on the eastern approach of the intersection. Ensure “TCP_195_Runnyford_RossRidge” (attached to this plan) is in place prior to haulage commencing.

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 gravel roads unless otherwise signposted. Compliance with FCNSW lights on policy.		
2. Overhead powerlines or cables	Assess every individual tree for directional felling and degree of risk. Do not fall trees towards overhead hazard if within two tree lengths. Note snigging under powerlines is required in this operation.		
3. Underground cables, pipelines	Minimise ground disturbance across or along cables & pipelines. Increase depth of earth cover if required.		
4. Cliff lines & rocky very steep terrain	Operators to assess work site within two tree lengths to identify immediate hazards. Communicate to other operators and mark sites.		
5. Mine shafts/quarries	Assess snig track routes and tree felling paths prior to operating. Identify and mark site accordingly. There are no known mine shafts in the compartments, however this section of Mogo State Forest is a known mine shaft area.		
6. 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.**		
7. 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.**		
8. 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.		
9.			

- **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

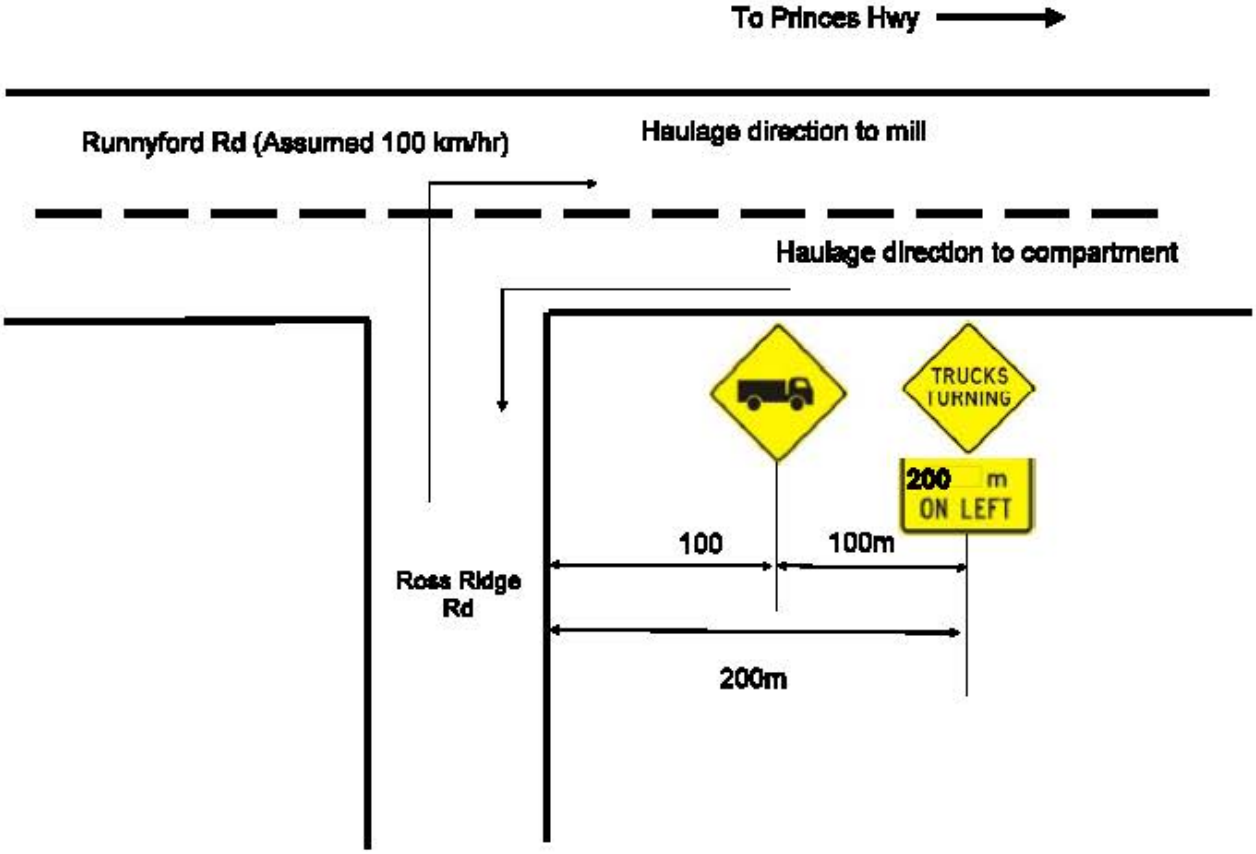
MEDICAL EMERGENCY EVACUATION PLAN

Nearest reliable mobile phone reception (describe location)			
Next G Network: Good (in patches)	GSM: N/A	Satellite: N/A	
GPS Lat/Long: 35° 45' 13" S / 150° 05' 15" E	MGA: 236656E 6039449N	Datum: GDA 94	Zone: 56
Location description: Intersection of Firebreak Road and Ross Ridge Road.			
Emergency meeting point for ambulance / police (refer to attached locality map)			
GPS Lat/Long: 35° 45' 13" S / 150° 05' 15" E	MGA: 236656E 6039449N	Datum: GDA 94	Zone: 56
Location description: Intersection of Firebreak Road and Ross Ridge Road.			
Helicopter landing place (refer to attached locality map)			
GPS Lat/Long: 35° 45' 15" S 150° 04' 56" E			
Location description: Intersection of Quartpot Road and Ross Ridge Road.			

Procedures to obtain ambulance assistance	
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: • 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)	Contact nearest Forestry Corporation office on: Channel: 236 Telephone: 1300 880 548 Give details of the situation and ask for a 000 call to be placed.

000 operator question:	Response:
1. Police, Fire, Ambulance?	NSW Ambulance,
2. Suburb?	State Forest name: Mogo Nearest town or locality: Mogo Nearest ambulance station: Batemans Bay
3. Address?	Ross Ridge Road
4. Nearest road junction/cross street?	Ross Ridge and Runnyford Road
5. Local government area?	Eurobodalla
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 Batemans Bay head south on the Princes Highway travel approx. 7.5km to intersection with Runnyford Road, turn right and continue 1 km to intersection with Ross Ridge Road, turn left and continue for 5.5 km to intersection with Firebreak Road (on right).	
8. 4WD ambulance required 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:	

Forestry Corporation TCP_195_Ross Ridge/Runnyford: Intersection of Ross Ridge Rd (FCNSW owned) with Runnyford Rd (Eurobodalla Shire Council Owned) Modified from RTA Traffic Control at Work Site TCP 195)



Notes:

1. Log Haulage - Intersection of Ross Ridge Road with Runnyford Road (100km/hr). Sight distance restricted to <200m on southern approach to this intersection.

LONG TERM USE
ADT < 1500, <20 Truck Movements, Sight Distance Restricted
Prepared by Kate Halton, Red Card Certificate No. 5192033076 on 14/03/2014

Silviculture and Harvesting Prescriptions

Year	1944	1970	1978	1981/82	1994	2001	2005/6	2007/8	2012
TSI	X	X	X	X	X	X	X	X	X
HR Burning	X	X	X	√	X	X	√	√	√
Wildfires	√	√	X	√	√	X	√	X	√
Logging m^3	0	0	24	4455	0	6000	0	1500	0

√ - applies, **X** – not applicable

Compartment	Resource Unit	No. of Sweeps	BA Average (m^2/ha)	BA Range (m^2/ha)
169 & 170	1 & 3	38	19	6-32

Silvicultural Planning

Single Tree Selection

The STS tract (RU1, and RU3 – 354 ha) is a predominantly mixed aged mature forest and will be harvested under a heavy single tree selection (STS) regime. The objective within the 200 ha harvest area for this operation (resource unit 1) is to remove 47% of the basal area to create canopy openings for regeneration, whilst retaining and minimising damage to young regenerating stems, seed trees, habitat and recruitment trees.

It is envisaged that the next harvesting operation in this compartment would be in approximately 30 years.

The STS tract for IFOA purposes includes resource unit 1 and 3 of compartments 169 and 170 as indicated on the HPOM.

Single Tree Selection (STS) must remove no more than 45% of the basal area (BA), while retaining a minimum BA of 10m^2 per hectare within the tract.

Resource Unit (Refer to HPOM for detail)	Species Composition	Stand Structure and Condition
1 & 3	Overstorey dominated by spotted gum, ironbark, woollybut, blackbutt, yellow stringybark, white stringybark and silvertop ash	Generally mature to over mature stand that has reached endpoint with limited further growth potential. Some smaller age class regrowth from 30 year old harvesting which may have growth potential.
2	Overstorey dominated by spotted gum, ironbark, woollybut, blackbutt, yellow stringybark, white stringybark and silvertop ash	Regeneration from AGS operation in 2008. This regeneration is generally good quality and good height, a mixture of seed and coppice regen.

Harvesting Prescription

Resource Unit (Refer to HPOM for detail)	% of Harvest Area	Silvicultural Treatment
1	94%	STS heavy: • Retain and protect from harvesting/fire damage: -poles/advanced growth (<40cm DBHOB) with good form and vigour, -habitat and recruitment trees as per TSL, • Retained trees should be evenly spaced throughout the resource unit. • Ensure no more than 45% of the BA within the resource unit is removed, while retaining a minimum BA of $10m^2$ per hectare within the tract. • All other products should be removed markets permitting. If this objective cannot be achieved the following options should be considered: -reject tree felling (HC must first obtain approval from HS), -defer harvesting until ideal market conditions prevail, -consider harvesting under a light or medium STS regime
2	6	Exclude from harvesting (BA in this area does not contribute to the basal area retention). Directional falling techniques must be utilised around regeneration gaps to avoid damage to regeneration. Where possible do not snig through this area. If it is impractical to snig around, snigging through is permitted providing existing snig tracks are used and damage to regeneration is minimised. Control lines should be constructed around tracts of these areas to protect regeneration from post log burning.
3	0	Exclude from harvesting. Has been excluded due to insufficient survey area at the time of planning. To be planned and harvested at a later date.

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

Special Requirements

Noxious Weeds/Disease/Pests Hygiene Requirements

Compartments 169 & 170 are within Eurobodalla 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 Eurobodalla 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.

Occupation permit Pipeline

Occupation permit (permit 14827) for Eurobodalla Shire Council water pipelines/tank site occurs within compartments 169 and 170. The permit consists of underground pipe lines and above ground tank (shown on HPOM).

Harvesting and road maintenance and should be conducted in a manner which minimises the risk of damaging the pipes and tank, especially in areas where pipes may be shallow or exposed. The following conditions apply:

- Use directional falling techniques to avoid trees falling across the pipeline or towards the tank.
- Do not snig timber along “Pipeline Access Track”
- Wherever snigging across the pipeline is required the HC and Contractor must choose designated crossing points where the pipe appears to be well covered. The HC must liaise with Barry Jones (Eurobodalla Shire Council) to inspect the crossing points and determine if additional earth/gravel/logging slash over the crossing points is required.
- The pipe crosses under Firebreak Road just north of the tank. This crossing point was inspected with Barry Jones (Eurobodalla Shire Council) during planning and the pipe location has been flagged with white tape. A new rubber flap should be installed just north of the crossing point and the existing mitres between the new rubber flap and tank should not be reopened. Light grading of this section of road is permitted.

Permanent Growth and Research Plots

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

Private Property

- No harvest disturbance is permitted on private property.
- Harvesting debris must not be left within five metres of the boundary fence lines.
- Any damage to fences must be repaired by the contractor.
- Access roads must be maintained free of debris and in a trafficable state.

Occupation Permits

Apiary

- The HC must provide the apiary permittees with at least two weeks advance notice when bee boxes need to be removed or relocated.
- During planning bees were present throughout the compartments at four locations, shown on HPOM.

Underground Cables

A dial before you dig request query of the compartment indicates that underground Telstra cables are present on the eastern side of the compartment. Dial before you dig and field markers (where located) have been used to indicate the approximate location of the cable on

the HPOM. Prior to any harvesting or roading activity taking place in the vicinity of the cables, the HC should inspect the area for markers or other evidence of the cables and flag with marking tape.
When carrying out harvesting or road maintenance activities near cables, minimise ground disturbance across or along and increase depth of earth cover if required.

From time to time above ground infrastructure associated with the cables occurs. Where this infrastructure is detected, the FT should pass the location and details on to the burning supervisor who should consider if extra protection measures (eg rake hoe line) are required.

Any damages to cables must be immediately reported to Telstra on 13 22 03.

Forest Management Zoning

FMZ 3A Harvesting Excluded FMZ 7 Non Forest and FMZ 4- General Management (normal harvesting prescriptions apply) occur within the compartment. Refer to HPOM for more detail.

FMZ 2, FMZ 3A -**–** Logging operations are restricted as per condition 18(b) of the IFOA. Refer to Harvest Plan Standard Conditions for Hardwood Forest Operations in South Coast for detail of what logging operations are permitted in this zone.

FMZ 7 – Refer to “Site Safety Plan” and “Occupation Permit Pipeline” sections of this harvest plan for the safety requirements when working in the vicinity of powerlines and conditions relating to working in vicinity of water pipe lines. No other conditions apply.

IFOA Required Approval of Forestry Activities

Operations Planning Mgr approvals have been obtained for routine road maintenance and log haulage in FMZ 3A where Ross Ridge Road Crosses FMZ3A. No other crossings of these features are approved. Forestry Operations within the plan area must minimise impacts to the exclusion zones and meet the requirements of the EPL and General Exclusion Zones in section of this plan.

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

- Operations Planning Mgr approval required for Stream Exclusion Zones.

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

Flora and Fauna

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:

Sooty Owl (*Tyto tenebricosa***), Glossy Black-Cockatoo** *(Calyptorhynchus lathami)*, **Eastern Freetail-bat** *(Mormmopterus norfolkensis)*. **Square-tailed Kite** (*Lophoictinia isura)*, **White-footed Dunnart** (*Sminthopsis leucopus)*, **Grey-headed Flying Fox** *(Pteropus poliocephalus)*, **Varied Sittella** (*Daphoenositta chrysoptera*), **Little Lorikeet** (*Glossopsitta pusilla,* **Scarlet Robin** (Petroica boodang), **Gang Gang Cockatoo and** (Callocephalon fimbriatum).
Tree Retention

Zone	Hollow bearing Trees/ha	Recruitment Trees /ha	Protection of Retained Trees	Dead Standing Trees (only if safe)	Significant Food Resource*
Regrowth	**Up to 5**	**1 for every tree retained under 5.6d**	√	√	√
TSL condition	5.6d	5.6e	5.6h	5.6f	5.6 g

√ - Condition applies
*1 Glossy black cockatoo feed tree and 8 Yellow Bellied Glider sap feed trees, occur within the compartments at locations shown in the table below.

Species	Feature	Zone	GDA Easting	GDA Northing	Comments
Glossy Black-Cockatoo	Feed tree	56	237648	6042683	Recorded during tactical inventory, not marked during planning and is within Excluded Forest.
Yellow Bellied Glider	Feed tree x2	56	238375	6041971	Marked with orange tape, is in harvest area.
Yellow Bellied Glider	Feed tree x6	56	237360	6040412	Marked with orange tape, is in excluded forest.

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	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Riparian Protection Zones	5.7	Yes-LiDAR corrected LIC drainage.
Ridge & Headwater Habitat	5.8	Yes
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 as a risk that Riverflat Euc. Forest EEC may occur in the field. May require further investigation#. **Harvesting, harvesting**

		machinery and post harvest burning must be excluded from all areas of EEC. **Note: Area shown on HPOM map has not been field verified but is to be marked and excluded as mapped by the FT/HC.**

#FT/HC 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 169 & 170	Licence conditions under the TSC Act
Threatened Frog General Protection Measures	No	5.12
Bird Nest and Roost Site Protection	Yes-3 powerful owl roosts in compartment 170 at the following coordinates (GDA94): 1. 238715E, 6042512N 2. 238762E 6042521N 3. 238826E 6042477N	5.13 (30m radius exclusion zone around each roost, to be marked by FT)
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

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 169 & 170	Licence conditions under the TSC Act or relevant Site-specific prescription
Powerful Owl *Ninox strenua,* **Masked Owl** *Tyto novaehollandie.*	Yes Yes	6.4 *Owl Landscape Exclusion Zones occur in compartments 169 & 170.*
Spotted tailed Quoll *Dasyurus maculatus*	No	6.10
Yellow-bellied Glider *Petaurus australis*	Yes	6.13
Correa baeuerlenii	No	6.16.1 Exclusion of specified forestry activities from 100% of individuals and no buffer. To assist burning crew exclude burning individuals, minimise accumulation of debris around the base or retained trees within a 10m radius of each record.

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

Spatially Corrected LIC Drainage
Spatially corrected LIC drainage has been built using LiDAR derived drainage in compartments 169 and 170. Protection zones and filter strips have been rebuilt based on spatially correct LIC drainage and an additional mean stream bed width included for each stream order. Stream based Owl Landscape, Ridge and Headwater and FMZ 3A have been rebuilt based on spatially corrected LIC drainage (mean stream width is not built in to these exclusions).The FT or Harvest Contractor may use the HPOM and GPS mapping to locate exclusion boundaries or traditional measure and mark up methods. If GPS mapping is being used to locate boundaries, as a minimum the FT must mark with flagging tape all unmapped and 1st order drainage features.

Site-specific EPL Conditions

Elements	Conditions
Unmapped Drainage Lines	EPL does not apply: refer to drainage feature protection below.
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	2
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

Drainage Feature Protection

Filter strips (EPL), Protection Zones (EPL), Operational Zones (EPL), Protection Zones -hard (TSL) and Protection Zones -soft (TSL) must be retained along all drainage lines, prescribed streams and watercourses within the net planned area of the compartments at minimum widths as stated in the Table below.

Table 1: Minimum filter strip, protection zone and operational zone widths for mapped and unmapped drainage lines, prescribed streams and watercourses in hardwood forests in Inherent Hazard Level 1 & 2 (metres – measured along the ground surface)

Stream Order	EPL Filter Strip TSL Protection (hard)	EPL Protection Zone TSL Protection* (soft)	EPL Operational Zone	Drainage Feature Protection: FT/HC marking instruction
Unmapped	**N/A#**	**N/A#**	**N/A#**	**5m (Red)**
1st order	**5**	**5**	**10**	**10m (Pink)**
2nd order	**5**	**15**	**10**	**20m (Pink)**
3rd order	**5**	**25**	**10**	**30m (Pink)**
4th order +	**5**	**45**	**10**	**50m (Pink)**

for this operation FCNSW has chosen to harvest this area without EPL coverage. All EPL conditions continue to apply **except** for the rules applying to filter strips, protection zones and operational zones of the **unmapped drainage lines**. Refer to Best Management Practices for unmapped drainage lines in the standard conditions. Harvesting of unmapped drainage lines, MUST NOT occur in unmapped drainage lines which are running or holding water. It is the responsibility of the HC to inspect each unmapped drainage line prior to harvesting it, to determine if it is running or holding water.

Log Dump Location

16 log 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 2 Conditions 26, 27, 28, 30, 31 and 33 of Schedule 4 of the EPL must apply.

Drainage Feature Crossings

There are no crossings relevant to this plan.

Mass Movement

Compartments 169 & 170 are 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 or road crossings in the compartments.

Condition 47 of Schedule 4 of the EPL must apply.

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 HC 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 HC 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 169 & 170. 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
FMZ 3A/Rare Non Commercial Forest Ecosystem	
Ridge and Headwater	

The table below lists critical boundaries in compartments 169 & 170. 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, HC must instruct contractor to construct a bare earth break (drained as per EPL snig track conditions) as close as possible to the critical boundary.

Critical boundary	Completed Yes /No
Private Property (the harvest area is not in the immediate vicinity of the private property. Firebreak Road, Runnyford Road, 169/1 Road and 2nd /3rd Order drainage lines, and a control line from dump 13 east to the nearest drainage line will be the control lines to stop fire entering private property. The HC is to instruct the contractor to reopen 169/1 Road and to construct the control line from dump 13 to the drainage line.	
EEC.	
Large tracts of AGS gaps where successful advanced regeneration occurs (to be determined by HC).	
Boundary between cpt 169 and 168 (and boundary between cpt 170 and 171 (sections where these boundaries are not a drainage line)	

Pre-Operational Briefing

I acknowledge that I have received a copy of the Harvesting Plan for Compartments 169 & 170 in Mogo 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 HS or his/her delegate.

Position	Name	Signature	Date

Post Harvest Mapping Features Confirmation Checklist

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

HC Feature Usage Record

Dates of commencement and cessation of logging

Date of commencement of logging:_____

Date of cessation of logging: _____

DUMP USAGE RECORD

- Record the commencement and completion of harvesting at each dump
- Record the occurrence of temporary stopping of harvesting at each dump.

Dump number	Start date	Finish date	*Track drainage completed within 2 days (yes/no)	Date of temporary cessation	**Temporary track drainage completed within 5 days (yes/no)	Date resumed

*At completion of snig track/dump, track drainage must be completed within **2** days unless soil is saturated.

*At temporary cessation of snig track use, track drainage must be completed within **5** days unless soil is saturated.

Situations where drainage could not be completed due to saturated soils must be recorded in HC/FT Notes.

HC/FT Notes

Date	Event	Signed

HC/FT Notes (continued)

Date	Event	Signed

HC/FT Notes (continued)

Date	Event	Signed

HC/FT Notes (continued)

Date	Event	Signed

HC/FT Notes (continued)

Date	Event	Signed

Clearance Certificate

COMPARTMENTS: 169 & 170, Mogo STATE FOREST

To .....HC

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).....
HC

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 (HC estimate)	Number of AGS gaps created	Comments
Australian Group Selection			
Single Tree Selection			
Thinning/Spacing			
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

Sample point	GPS (GDA 94)	Pre-harvest (B) BA m^2/ha	Post-harvest(A) BA m^2/ha	Difference (D) (B – A) m^2/ha	% BA removed D/B x100	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
Total averages						

Comply with maximum STS BA removal of 45% or Thinning BA removal of 60% Y/N

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

Summary of Roading Requirements

Feature	Details	Works Required
Existing roads to be used.	7525m/7	Yes
New roads to be constructed	660m/2	Yes
Existing crossings used	0	NA
New crossings to be constructed	0	NA
Length of road >10°	0m	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 HC for completion during harvesting 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
Ross Ridge Road 750m	Grade Pavement and clean 3 existing pipes. Mitres and spoons are already open. **RC/HC Comments:**			
Saltwater Road 2050m	Grade pavement, open existing mitres and spoons. Install additional mitres and rubber flaps to EPL spacing.* **(** **HC/HC Comments:**			
Firebreak Road 3780m	Roadside clearing entire length. Do avoid damage to the pipeline which crosses under Firebreak Road north of the water tank (pipeline marked with white tape) install a RU just north of the pipe crossing (tree marked with "RU", do not open the existing mitres between the new RU and the tank and do a light grade only in this section. Except for the section mentioned above, grade pavement, open existing mitres and spoons. Install			

	additional mitres and rubber flaps to EPL spacing.* **RC/HC Comments:**			
169/3 Road 270m	Grade pavement, and roadside clearing entire length. Open existing mitres. If required install additional mitres or rubber flaps to EPL spacing (rubber flaps not required grade is 3 degrees).* **RC/HC Comments:**			
169/4 Road 85m	Grade pavement. Open existing mitres. If required install additional mitres or rubber flaps to EPL spacing (rubber flaps not required grade is 3 degrees).* **RC/HC Comments:**			
169/5 Road 60m	Grade pavement, and roadside clearing entire length. Open existing mitres. If required install additional mitres or rubber flaps to EPL spacing (rubber flaps not required grade is 3 degrees).* **RC/HC Comments:**			
170/2 Road 530m	Grade pavement and clear roadside entire length. Open existing mitres and spoons. Install additional mitres and rubber flaps to EPL spacing.* **RC/HC Comments:**			

*Planner has not assessed where additional drainage is required to bring the road up to EPL standard. Once existing drains are opened, RC or HC to assess the road and ensure that additional and suitable drainage (mitres or RU's) are installed and the road meets EPL drainage specifications.

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
169/6 Rd	420m	7m	10º	18º	1m	150m	No	Retain	Contractor		
169/7 Rd	240m	7m	10º	22º	1m	80m	No	Retain	Contractor		

169/6 and 169/7 Roads have not been taped in during planning stage. HC must tape prior to construction and may make minor changes to alignment of these roads.