Central Region - Kempsey MA
Locality / Site Safety Map
Compartments 59 & 60
Tamban State Forest

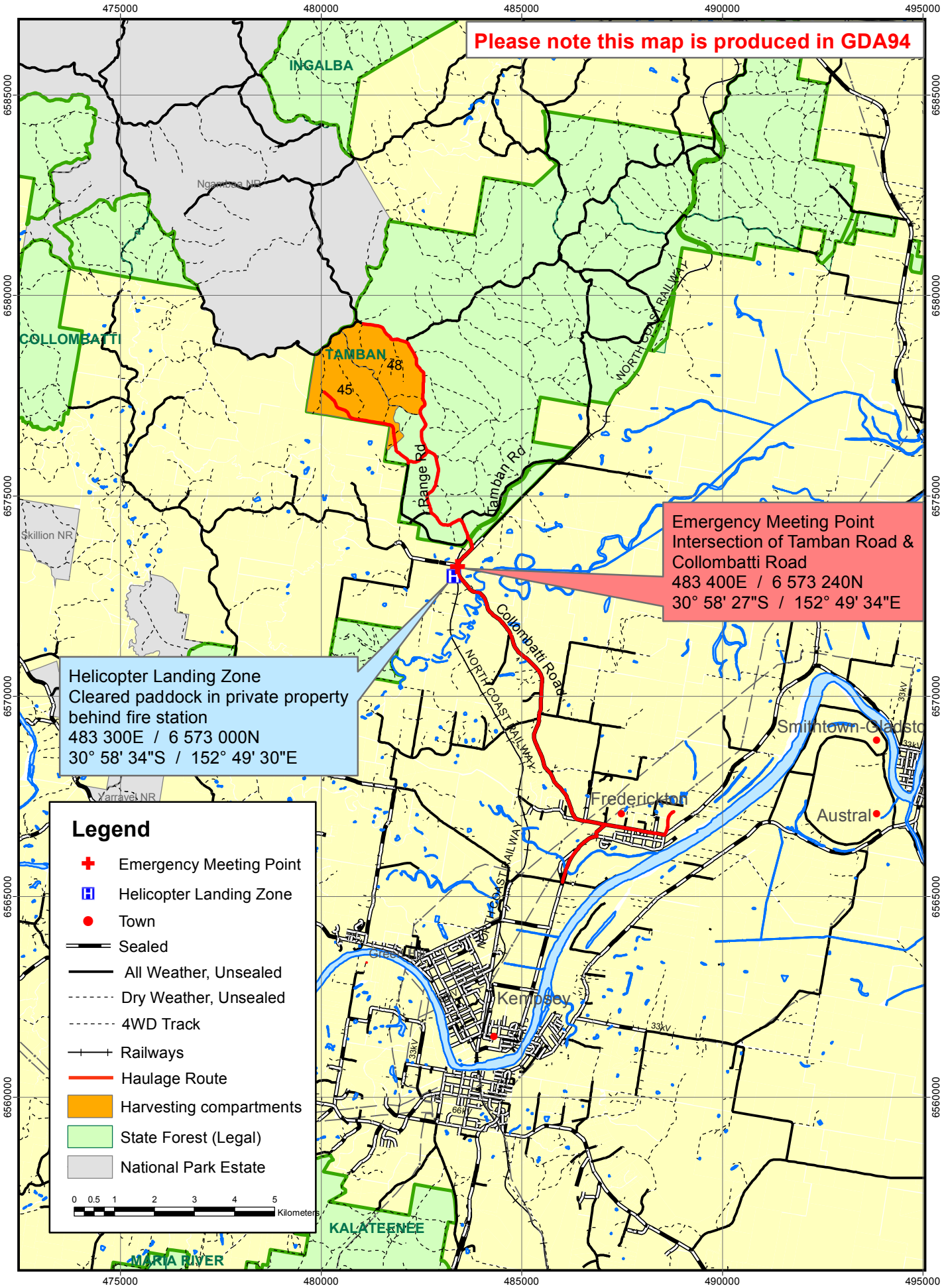
N

Scale: 1:130,000
Datum: GDA94
Map Sheets
1:25,000; Clybucca 9436-2S
1:100,000; Macksville 9436

GDA

Prepared by:Dirk van Dijk
Date: 20/07/2017

Forestry Corporation



Emergency Telephone 000 Forests NSW (02) 6585 3744

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

Forestry Corporation

GN MN 13°

1:15,000

Contour Interval 10m

GDA_1994_MGA_Zone_56

TAMBAN State Forest
NO. 526
Cpt No: 45, 48
Management Area:KEMPSEY
Mapsheet: CLYBUCCA 9436-2S

Plan Name: TAMBAN_45_48

Plan No:60822

APPROVED
PS Approval Date: 12/10/2017
Amendment Date:
Controlled Map: Tamban45_48_HPOM.pdf

Date Printed: 23/10/2017

480000 481000 482000 483000

6579000 6578000 6577000 6576000

NON-HARVEST CODES
NG - Basal Area Retention
NT - Topographically Inaccessible
NP - Pre-merchantable
NS - Steep
NL - Logistics
(i.e. unable to fall trees onto road)
NE - Not economic
(i.e. harvestable but poor quality)
NU - Unfinished
NM - Missed
NN - Non-commercial forest types
NH - Harvested in last five years
NO - Not forest (cleared)
NQ - Research
NK - Rock
NW - Wildlife
NC - Catchment, unmapped creeks

HARVESTED CODES
HS_H - STS heavy
HS_M - STS medium
HS_L - STS light
HS_R - Regen STS
HA - AGS
HM - Mixed silviculture
HT - Thinning

Logged Area
(Indicate Month & Harvest Type)
eg: 08/12 H-STS

Available Area NOT Logged
(Indicate Reason for Non-Harvest)
eg: NE

Un-mapped Drainage Line Harvesting NOT Permitted
Harvesting operations in these compartments WILL BE licenced under the EPL.
ALL conditions of the EPL will apply
Regrowth Zone

CPT 46/3 TRAIL
CPT 46/2 TRAIL
BUDS CROSSING ROAD
CPT 46/1 TRAIL
Glossy Black-Cockatoo
Sooty Owl
Grey-headed Flying-fox
Brush-tailed Phascogale
BRIGGS TOWER ROAD
JAMIESONS ROAD
CPT 48/5 TRAIL
CPT 48/4 TRAIL
CPT 48/3 TRAIL
CPT 48/2 TRAIL
MUD CHUTE ROAD
Wompoo Fruit-Dove
TAMBAN
FISHERS ROAD
Koala
CAMP ROAD
PPP284
PPP205
SEARLES ROAD
RABBITS RIDGE ROAD
CPT 48/1 TRAIL
JOCKS ROAD
CPT 49/2 TRAIL
HARGANS ROAD
SANDERS ROAD
CPT 45/1 TRAIL
COOKS ROAD
CPT 49/1 TRAIL
RANGE ROAD

MAP FEATURES
State Forest
State Forest Boundary (Line)
Compartment Boundary
LiDAR Contours 10m
Water Bodies
Building
Emergency Meeting Point
Helicopter Landing Zone

Lidar Slopes Over 30
Mapped IHL4 Exclusion Zone

ROADS, DUMPS & CROSSINGS
Dry Weather Dump
Wet Weather Dump
Crossing

Roads
Sealed
All Weather, Unsealed
Dry Weather, Unsealed
Four Wheel Drive
Roads not to be used for haulage

HARVEST AREA & EXCLUSION ZONES
Inherent Hazard Class = 2

HARVEST AREA
Net Harvest Area (FMZ4 - Available)

EXCLUSIONS
Offset / Non-harvest Areas
Modified Harvest Area (see HP for details)

4 Bar Exclusions
Lowland Rainforest on Floodplain TEC, & Buffer
Rainforest
FMZ 2 Exclusion

3 Bar Limited Falling
Ridge and Headwater Habitat EZ

DRAINAGE FEATURES
Spatially correct LIC (GeoNet/LiDAR)
Un-mapped drainage features (GeoNet/LiDAR)
If field verifited, No UMDL harvesting - 5m filter strip & 5m protection zone apply
Drainage Line (5m Operational Zone)
Stream PZ 1st Order (10m)
Stream PZ 2nd Order (20m)
Stream PZ 3rd Order (30m)
Stream PZ 4th Order (50m)
Dam - 10m exclusion
Old Camp

ECOLOGY
Threatened species requiring prescription
Dendrobium melaleucaphilum Spider Orchid
(50m exclusion on individuals)
Parsonsia dorrigoensis Milky Silkpod see Ecologist for monitoring program
Calyptorhynchus lathami Glossy Black-cockatoo: protect feed trees

Prepared By Dirk van Dijk Date: 23/10/2017

CHECKED BY.....DATE.....

Kilometres
0 0.5 1 1.5

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Hardwood Forests Division

Harvest and Haul Plan

State Forest	Tamban	Compartments	45, 48
Management Area	Kempsey	IFOA Region	Lower North East
Harvest Plan No.	60822	Supply Zone / Price Zone	3 / Kempsey Coastal
Legal Conditions	Native Forest Harvesting in accordance with IFOA conditions. To implement this plan you must hold a current Contractors Licence. Standard Harvest Plan Conditions and Operating Procedures apply. Survey expiry date for this plan is 2/3/2021. Unmapped drainage lines are managed under EPL and are not to be logged. FT/HC to assess whether UMDL encountered are drainage lines or drainage depressions. Refer to SOP 1 for further information.		
Certification	Timber products removed from the plan area are within the Defined Forest Area covered by Australian Forestry Standard and ISO14001 Certificate 13761		
Prepared by	Planner Dirk van Dijk		Date: 12/10/2017
Approved by	Planning Supervisor Brent Bailey		Date: 12/10/2017
Abbreviations	FT = Forest Technician, HC = Harvesting Coordinator, PtS= Protection Supervisor, HS = Harvesting Supervisor, RC = Roading Coordinator, Crew = Harvest Contractor/Forest Operators, IFOA = Integrated Forestry Operations Approval, TSL = Threatened Species Licence, EPL = Environment Protection Licence, FL = Fisheries Licence, CH = Cultural Heritage, SOP = Standard Operating Procedure.		

1. Harvest Area Details

	Cpt 45	Cpt 48		Total
Event ID	**130277**	**130276**		
Gross Area (ha)	315	256		571
Total Net Harvest Area	229	216		445
Tac Plan Harvest Area	78	72		150
Estimated NHA *	78	72		150
Estimated Yield *	1250	1150		2400
Yield/ha *	16	16		
Slope (% >0 - 15°)	97	80		
Slope (% >15 - 20 °)	3	13		
Slope (% >20 - 25 °)		6		
Slope (% >25 - 30 °)		1		

** Based on actual area expected to be harvested, ie. ha. Slopes > 30° have been removed from NHA*

Contractor must ensure timber removed is allocated to the correct compartment when entered into Electronic Delivery Docket.

2. Management Conditions on Boundaries

Boundary	Conditions
Private Property	The southern edge of this block adjoins PP. Marking is generally not required on private property boundaries as fencing is generally good. Contractor is responsible to mend fences that they break.
Neighbourhood Noise	There are EPA regulations that relate to noise control when operating machinery within 100m from residential establishments. When working in areas adjacent to Jock's Road there is potential for noise associated with timber harvest and haulage to affect residential areas that occur within 100m of the active operation. Restrictions on forest operations will apply according to the EPA regulations on neighbourhood noise. • If working within 100m of a residential establishment, machinery (including chainsaws) operating hours will be limited to between 7am and 8pm Monday to Saturday, and 8am to 8pm on Sundays and Public Holidays. • Timber haulage trucks may enter or exit the site between 7am and 8pm Monday to Friday, and 8am to 8pm on Weekends and Public Holidays.

	The HC will monitor noise and dust resulting from the operation and take the appropriate action to minimise the effect on surrounding property owners.
RHW	Areas of Ridge and Headwater Habitat occur and must be avoided. Crew responsibility.
Research	One PGP plot (PPP 234) occurs west of dump 8 in FMZ2 and will therefore not be harvested. No research plots nor plus trees were detected during planning. If any other sites are identified, notify the planner immediately.
Cultural Heritage	Surveys have been conducted. If any potential heritage sites are identified, place an interim 20m buffer around the site, create a record on the FCMapApp and notify the planner and ACHO immediately.
Old Camp site	An old workers camp site is located within the non-harvest area adjacent to Camp Road and access must be avoided.
Modified Harvest Areas	Modified Harvest areas are shown on the HPOM. Four sites within these compartments have been marked for exclusion in the field with another one near dump 6 in compartment 49. Existing roads through buffers may be used.

3. Expected Yields

Product Estimates	Volume (m3)
HQ Large Sawlog (Quota)	300
HQ Small Sawlog	750
Poles, Piles and Girders	300
LQ Sawlog (Salvage)	1050
Residue	0
Total	2400

Species	Species Mix (Sawlog)
BBT	15%
SPG	29%
TWD	14%
NEH	
BBX	4%
OTHER	38%

4. Haulage

Haul Route	All haulage to go from Buds Crossing Rd and Jocks Rd east to Range Road and Collombatti Road, through Frederickton and on to Pacific Highway.
School Bus Routes	All road users must be aware of school bus usage and private traffic. Haulage contractor must apply School Bus Communication protocol.
Traffic Control Plan	Traffic control is not required for this event, but normal road and trail closure conditions apply when falling within 2 tree lengths and at active dump sites.
Dust and Mud	HC must ensure mud is not dragged onto Collombatti Road during haulage.

5. Community

Issue	Detail	Conditions
Neighbours	Many PP owners	All relevant notifications have been conducted. A notification list for FCNSW staff is available from the planner.
Forest Permits	Bee permit	Browns Bees Australia hold a bee permit over these compartments. Contact planner for contact details if active bee hives are located during harvesting.

6. Infrastructure

Infrastructure	Conditions
Utilities Underground	No
Transmission lines	No
Gravel Pits	Outside harvest area.
Fire Trails	All mapped trails servicing dump locations must remain in a trafficable condition post-harvest in order to assist HR burning and other post logging management activities.

7. Harvesting Conditions

Silviculture Type	Harvesting Objectives and Condition for each stand condition
STS Medium	The net harvest area in these compartments will be treated with STS medium. The objective is to harvest the merchantable component of the mature aged crop and retain the vigorous younger age class trees. FTs to mark growers for retention where operationally appropriate. Crew to remove all merchantable stems not marked for retention and ensure mechanical disturbance creates a suitable seed bed for regeneration. Retain a canopy cover of greater than 50%. Crew responsibility. The crew must avoid damage to areas of advanced regeneration/pre-merchantable stems where possible to minimise damage to retained trees.
Future Treatment Area	As mapped. To be retained for future harvesting treatments and to manage IFOA basal area limits in this harvesting event.
	Planning assumptions have been made as below, and therefore the HC must conduct Basal Area Monitoring in areas treated with Medium STS & Regen STS. HC is to monitor BA retention during harvesting using a minimum of 40 BA post-harvest sweeps, randomly located across different stand types to ensure average BA is maintained.

	Evidence of BA monitoring and the plot location must be documented by HC. Ideally monitoring of BA should occur prior to leaving each dump to ensure any variance to planned outcomes can be rectified. Retained BA can be lower in high-quality BBT stands if suitable offset is used in other areas. Any changes to treatment and non-harvest areas need to be endorsed by the Planning Supervisor.		
IFOA Limits	STS Medium Cpt 45	STS Heavy Cpt 48	Total
	Mixed-age coastal dry hardwood types	Dry coastal BBT forest types	
Total NHA	229	216	445
STS Tract (ha)	78	72	150
% of NHA	18%	16%	34%
Pre-harvest BA In tract (m2/ha)	21	21	
Post harvest BA In tract (m2/ha)	13	6	
Standing BA Pre-harv	2846	2664	5510
Standing BA Post-harv	2222	1584	3806
BA remaining	78%	60%	69%
BA removed	22%	40%	31%

Assumption based on BA plots measured: BA of areas not to be harvested are conservatively estimated at 8m2/ha.

8. Tree Retention - refer to TSL booklet for full conditions

Prescription	Condition/Responsibility
Mark-Up – the FT is responsible for marking up the forest ahead of harvesting operations consistent with SOP 2 - Exclusion Zone Boundary Mark Up, and SOP 3 - Forest Mark Up and Tree Retention.	
Compartment Mark-Up Survey (5.1h, 5.2 & 5.13)	Compartment mark-up surveys must be conducted at least 300m in advance of operations. The survey must search for threatened and protected species features listed in conditions 5.1h, 5.2 and 5.13 of the TSL. *Impenetrable Understory* may be identified and indicatively mapped by the FT. FT must map these areas during mark-up and handover unmarked areas to the HC.
Hollow-bearing and Recruitment tree retention (H and R)	**Regrowth Zone** - 5.6 d, e & f, conditions apply. Additional H trees for Greater Glider condition does not apply. FT must select and mark 5 H trees/ha where available and one R for each H retained.
Significant Food Resources (5.6 g)	Glossy Black Cockatoo feed trees – 5.6 (g) (iii) applies. Avoid damage to stands of *Allocasuarina* and *Casuarina* spp. and individuals where evidence exists of feeding by Glossy Black-cockatoos.
Harvesting - crew and HC responsibilities	
Protection of Retained Trees (5.6g)	Trees marked or selected for retention must not be felled. The crew must minimise damage to H, R and E trees by using directional felling. Harvesting debris should not accumulate within 5 m of retained trees. Where debris does accumulate, the crew must remove or flatten to < 1m high. The HC must be notified of any badly damaged retained trees and they must assess and record if a replacement retained tree is required.
Stag Retention (Dead standing trees 5.6e)	The crew should retain stags where safe to do so. The crew must record the date, DBH, risk and location of unsafe stags removed
Significant food resources	The crew should avoid damaging flowering or fruiting banksias or grass trees.
Elite/Plus Trees	None detected during planning. Protect any elite trees encountered.

Impenetrable Understory	In areas mapped by the FT as Impenetrable Understory procedures for harvesting in un-marked forest must be implemented by the HC and Crew.

9. Site-Specific Flora and Fauna

Condition	Boundary Type	Prescription
Riparian Habitat Protection (5.07) *(The HPOM indicates LIC drainage order corrected by LiDAR/Geonet)*	2 bars	Implement filter strip (hard) and protection zone (soft) around drainage features as shown on the HPOM. Refer to SOP1. UMDL: An assessment must be made by FT/HC to determine whether features are drainage lines or drainage depressions. In these licenced compartments UMDL receive the same protection as mapped 1st order drainage lines. FT must mark the location of UMDL protection zone boundary with 2 bars. Refer to SOP1. The crew will locate and protect all 2nd order and above streams with GPS.
Ground Habitat (5.17 d)	N/A	Commercial firewood collection is permitted in these compartments.
Threatened Flora (6.23)	Machinery	Mapped exclusion, 50 m buffer on records, *Dendrobium melaleucaphilum,* Spider Orchid.
Ridge and Headwater habitat (5.08)	Limited	Mapped exclusion
Fish		Potential Purple Spotted Gudgeon habitat occurs downstream of this harvest area. TFL Class 1 Aquatic Habitat conditions apply. UMDL harvesting is not permitted.
Threatened Flora (6.27)		NPWS approved monitoring program or alternative protection measures as approved by NPWS: *Parsonsia dorrigoensis,* Milky silkpod.
Eucalyptus ancophila	N/A	An area of *Eucalyptus ancophila* has previously been identified in Cpt 49. This species is not listed and is recognised as a distinct species and is a minor variant of *E. paniculata*. If found it should be protected from harvesting as it is limited in its distribution and its conservation status is poorly known. The area concerned has been searched, however the species was not identified. The indicative area should be mapped on the harvest plan and the species should be searched for during markup. It is recognised from *E. paniculata* by having slightly discolorous leaves

TEC check		A check for mapped TEC's has been undertaken. No TEC's are mapped to occur within this planning unit.

10. Soil & Water – Refer to EPL Booklet for full conditions

Issue	Assessment	Conditions
EPL Scheduled Activity	No	Not scheduled
Licenced/ Unlicenced	Licenced	
Unmapped drainage Line harvesting	Not Permitted	Revert to 10m 1st order protection. All conditions of the EPL apply.
Inherent hazard level	2	See SOP 1
Dispersible Soils	Yes	Dispersible soils have been identified. The HC must monitor installed armoring at crossings during the event. If armoring becomes ineffective the HC must coordinate required maintenance prior to ongoing use.
Mass Movement / Instability	No	Nil
Acid Sulphate Soils	No	Nil
Seasonality Conditions	No	None
Historical or existing erosion	Yes, minor	Road & drainage structures must remain effective at all times. Drainage works should be implemented immediately following the completion of harvesting.
Ground cover	>70%	Nil
Burning conditions	No	Nil
Log Dumps	SOP 5	HC is responsible for authorising moving the location of a log dump.
Roading management during harvesting	SOP 6	Refer to SOP 6. HC is responsible for monitoring road and crossing drainage during haulage.
Wet Weather and Rutting	SOP 6	Crew is responsible for implementing automatic closures and following notified closures. HC is responsible for ensuring crew notified when notified closure is lifted.
Snigging	SOP 8	Crew is responsible for progressive drainage of snig tracks
Snig Track Crossings	SOP 8	HC is responsible to ensure snig track crossings are approved prior to use and rehabilitated upon completion.

11. Crossing Approvals

All crossing approvals are shown on the operational map – any other feature crossings must be assessed, recorded below and approved by the Planning Supervisor before use.

Crossing	EPA Approval	Conditions

12. Operational Plan Briefing: A briefing of this operational plan was conducted by

Person	Role	Nature of Briefing	Date

13. Acknowledgement of Briefing: I acknowledge that I have received a copy of the plan documents and that I have been briefed on the conditions of the Plan. I understand the operational control requirements as outlined in the plan and take responsibility for the implementation of plan conditions relevant to my responsibilities

Name	Role	Signature	Date

14. Standard Operating Procedures: The following SOP's apply to this plan. FCNSW staff and the crew must hold a copy on site whilst operating and comply with the conditions set out in each SOP.

Procedure Number	Title
1N	Drainage Feature Protection
2N	Exclusion Zone Boundary Management
3N	Forest Mark-Up and Tree Retention
4	Operating in Inherent Hazard Level 3 Areas
5	Log Dump Operation and Use
6	Road and Crossing Management and Wet Weather Controls
7	Safety Requirements
8	Snigging & Snig Track Crossings
9	Tree Felling & Servicing of Logs & Products
10	Fire Precautions & Other Miscellaneous Requirements for Harvesting Contractors
	Threatened Ecological Community (TEC) Management

Operational Diary:

Date	Issue	Action Required	Action Completed	Initials
Record: Daily activities (eg tree marking, dump 2); Condition 5.2 of TSL items - EEC locations, rocky outcrops, koala scats, feed tree identification etc), discussions with stakeholders/neighbours/ site visitors; areas of impenetrable understorey; unviable areas not marked, non-conformances; harvesting issues identified, twice weekly road and crossing drainage checks				