



LOCALITY MAP

Western Region - Harvest Plan

Management Area: GILGANDRA

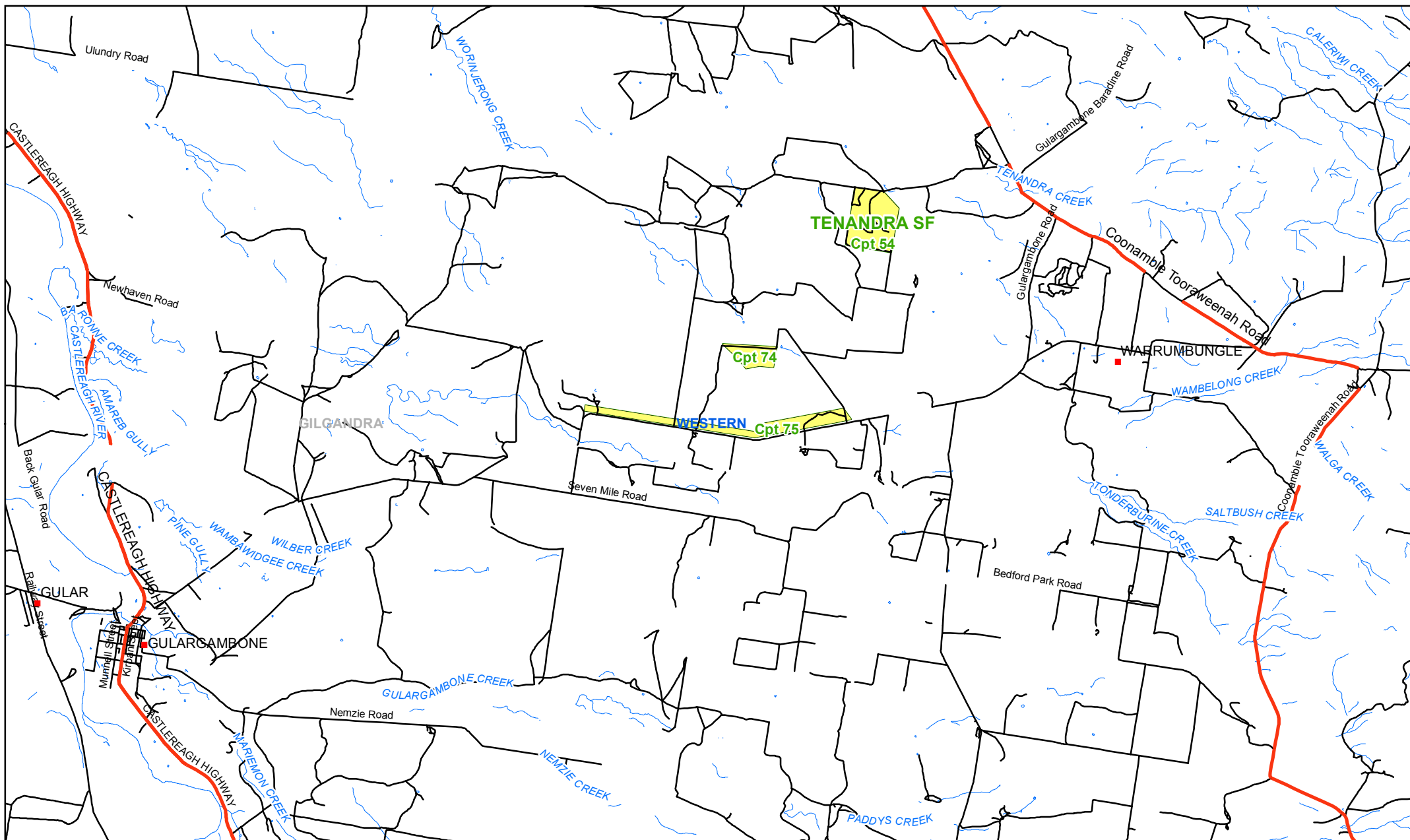
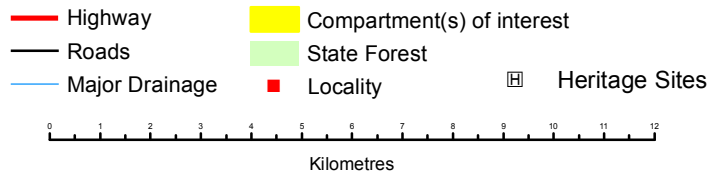
State Forest No: 166

Scale: 1:150,000

State Forest Name: TENANDRA

Compartments: 54, 74, 75

Compartment Areas: 233ha, 77ha; 182ha



HARVEST PLAN OPERATIONAL MAP

Western Region - Harvest Plan WCc1612

Tenandra State Forest

Compartments: 54, 74, 75

Date: 14/6/16

Approved: *[Signature]*

Non-Harvest Area

- Special Protection (FMZ 1)
- Special Management (FMZ 2)
- Harvesting Exclusion (FMZ 3A)
- Flora/Fauna Exclusion Units

Harvest Area

- Available for Harvesting (FMZ 4)
- Modified Harvest Area (FMZ 3B)
- Crown Timber Reserve

General Features

- Mature Tree Site
- Inventory/Research Plots
- Log Dump
- Trig/Repeater Station
- Contour
- Transmission Line
- Railway
- Heritage Points
- Aboriginal Points

Roads

- Highway
- Road
- Crossing
- Roads Class
- Operation
- Proposed
- Water Features
- Drainage
- Dam

Drainage Buffers

- 50m Stream Buffer (5th Order)
- 40m Stream Buffer (4th Order)
- 30m Stream Buffer (3rd Order)
- 20m Stream Buffer (2nd Order)
- 10m Stream Buffer (1st Order)

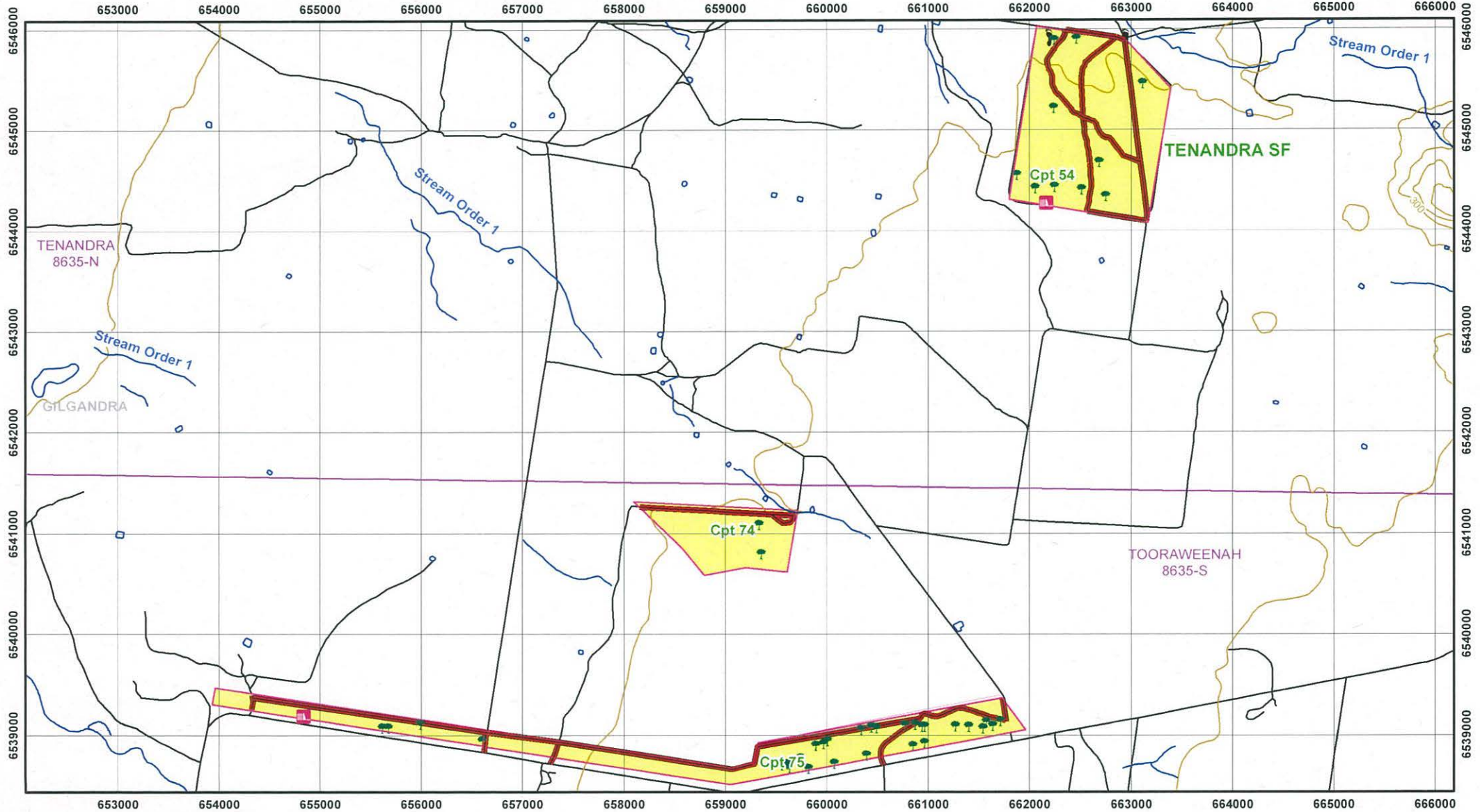
Other Exclusions

- EEC
- Wetlands
- Heath
- Compartment of Interest
- State Forest Boundary
- NPWS



0 0.25 0.5 1 1.5 2 2.5 3 3.5 4 4.5 Kilometers

Scale: 1:50,000


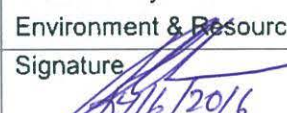
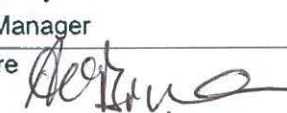


FORESTRY CORPORATION OF NSW - WESTERN REGION
NATIVE FOREST HARVESTING PLAN No. WCc1612

Refer: FPC 2010/01

Tenandra State Forest – Compartments 54, 74 & 75
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 Standard Harvest Plan Conditions for Native Forest Operations in Western Region – South-Western Cypress v.3 apply to this operation.

Prepared By: Adam Kirby Harvest Planner Signature:  Date: 27/5/2016	Endorsed By: Ross Irvine Environment & Resources Mgr Signature:  Date: 1/6/2016	Approved By: Andrew O'Brien Senior Manager Signature:  Date: 14/6/2016
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Note: Approval includes the Harvest Plan Operational Map (HPOM) with the corresponding approval date displayed on the map, verifying final approved version. Locality and forest type maps may be included for information only and do not form a part of this approval.

PRE-OPERATIONAL BRIEFING (SUPERVISING FOREST OFFICER ACKNOWLEDGMENT)

I confirm that I have received a copy of the Harvest Plan for the above Compartment. I have been briefed on the conditions of the Plan. I understand the requirements for supervision and operational control as explained to me by the Forest Manager or his/her delegate.

SUPERVISING FOREST OFFICER: _____

Signature: _____ Date: _____

PRE-OPERATIONAL BRIEFING (LICENSEE/CONTRACTOR ACKNOWLEDGMENT)

I confirm that I have received a copy of this Harvest Plan and that:

- ☐ I understand the conditions of the Plan,
- ☐ I will inform all relevant people not present at this briefing, prior to them starting operations, of these aspects of the Plan, as explained to me by a Forestry Corporation officer.

Signature: _____ Name: _____ Date: _____

Position: _____ Licence No: _____

Principal licensee/contractor/other (explain)

Description of Proposal

White cypress sawlogs and green residue will be harvested under regulation of the Integrated Forest Operations Approval for South-Western Cypress Region.

The operation will use mainly mechanical harvesting and processing to produce logs and forward them to dumps. The logs will be removed from the forest by truck.

Natural regeneration is planned. No after-harvest burning or planting is proposed.

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

No construction, reopening or upgrading of roads or bush tracks is proposed. Existing roads and tracks will be maintained in accordance with the Standard Harvest Plan Conditions for Native Forest Operations in Western Region – South-Western Cypress v.3

Area Identification and Yield Estimates

State Forest	Compartment/s	Region	Management Area	Plan Number
Tenandra	54, 74, 75	Western	Gilgandra	40773

COMPARTMENT	54	74	75
Plan Compartment ID	52158	52159	52160
Gross Area (ha)	233	77	182
Net Harvest Area (ha)	230	75	180
High Density Area (Y/N)	Y	N	Y
Estimated Yield Cypress Sawlog (m ³)	1000	800	700
Estimated Yield Residue (t)	50	20	40

Note: The Gross Area, or net mapped operational area, is 492 ha approximately. In accordance with clause 32 of the South-Western Cypress IFOA areas selected for logging must not exceed 80% (NHA) of the net mapped operational area. Harvesting operations will be closely monitored by the most appropriate method to ensure compliance.

Silviculture and Harvesting Prescriptions

The planning area has a history of silvicultural treatment with reliable records going back to the late 1970's.

The mature cypress stands within these compartments were established during regeneration events in the 1890's and 1950's. They have been non-commercially thinned on several occasions with the last thinning event occurring in 1990. Stand improvement resulting from these treatments has created conditions now suited to a combination of commercial thinning and Cypress release operations.

The area of these silvicultural treatments must be mapped and recorded in the Post-logging information section of this plan.

Silvicultural Planning

The cypress thinning operation is aimed at reducing competing stems whilst concentrating growth on the retained, higher quality, future sawlogs. This stand will require further thinning in around 20 years.

The cypress 'release' operation is aimed at releasing established regeneration from competition with the mature overstorey. Once released, the stand will require thinning in the next 10-20 years.

Harvesting Prescription

Stand type	% of net area	Area (refer to HPOM for details)	Treatment Refer to <i>Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3</i> for more detail.
Mature Cypress with regeneration	50% NHA	All	<ul style="list-style-type: none"> Release silviculture
Mature Cypress without regeneration	50% NHA	All	<ul style="list-style-type: none"> Thinning silviculture

The SFO will ensure that all relevant tree retention and silvicultural prescriptions are met during harvesting operations.

The operation must, as far as practicable, not damage individual plants of good form regeneration or sapling size of white cypress, especially where there are few others nearby.

Tree Marking

The area will be **primarily** tree marked for **removal**. The operation must, as far as practicable:

- For the allowed species, fall each tree marked for removal, unless it clearly does not meet the product standard, *AND*
- Not fall or damage trees not marked for removal, particularly those marked for retention or marked as boundary trees.

At the discretion of the SFO, areas of merchantable Cypress may be tree marked for **retention** if stand conditions dictate. Any change in marking technique must be noted in the SFO's Notes, and these areas annotated on the Operational Map. Boundaries between the different marking strategies must be clearly defined in the field, with harvest contractors advised of the change in marking strategy.

In any such areas the operation must, as far as practicable:

- For the allowed species, fall each tree not marked for retention, unless it clearly does not meet the product standard, and
- Not fall or damage trees marked for retention, or marked as boundary trees.

4. Special Conditions

Critical boundaries

The Compartments are bounded by roads and fences on all sides. Refer to the Operational map for more detail. Marking of the compartment boundaries is not proposed.

Private Property – Fences and roads define property boundaries.

National Park – There are no National Parks or other reserves adjoining the operational area.

Research / Inventory Plots

No research plots or trials are known in these Compartments.

Leases/OPs

The area is covered by several Occupation Permits for beekeeping and grazing. In particular:

- Fences. No fence may be damaged except at places approved by the Supervising Forest Officer. Any damage to a fence by the Contractor must be immediately reported to the lessee via the Supervising Forest Officer and fixed immediately by the Contractor.
- Gates and roads. The Contractor must keep the gate(s) on the property as found (open or closed). Existing roads must not be blocked or damaged. Any damage must be repaired immediately.
- Debris. Logging debris must be prevented from accumulating within 5 metres of any protected tree during a logging operation. If it does accumulate, then it must be flattened to a height less than one metre, minimising disturbance to the ground.
- Apiary Sites. A 20m buffer must be applied around each bee hive encountered.

Transmission Lines/Cables/Pipelines

There are no known transmission lines/cables/pipelines in the planned area.

Contractors are reminded that if they encounter a transmission line not identified then they must adhere to the restriction below:

- *Harvesting machinery must not operate within 20m of any transmission line.*

Forest Management Zoning Conditions

FMZ 4 'General Management' occurs within the compartment (shown on HPOM). Normal harvesting prescriptions apply in this area.

Cultural Heritage Conditions

During pre-harvest traverse survey, a potential Aboriginal site was identified in the harvest area. A 20m harvest exclusion zone is to be marked & implemented around this tree. No other cultural heritage sites (Aboriginal or non-Aboriginal) are known in this compartment. If a site that might be a cultural heritage site is found:

- Its location must be promptly reported to the Forestry Office via Supervising Forest Officer.
- A 20m no-harvest zone must be applied around this site until advised otherwise.
-

Flora and Fauna Conditions

The SFO must search for threatened species and mark-up the block as per the Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3.

Mark-up Conditions

Refer to Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3 for prescriptions.

Tree retention Conditions

Refer to Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3 for prescriptions.

Site-Specific Conditions, Exclusion Zones & Modified Harvest Areas

There are no known areas of heath, rocky outcrops, cliffs and/or endangered ecological community (EEC) occurring within the net operational area that need additional harvest exclusions or modified harvesting zones implemented.

The SFO should watch out for any of these areas that may occur, and record them in their SFO notes and on their maps.

Large habitat trees (LHTs) recorded during traverse survey are shown on the operational map. Additional LHTs may be identified as mark-up progresses.

Refer to Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3 for prescriptions.

Leaseholders and neighbours are to be advised prior to any harvest activity commencing- this will be the responsibility of either the Harvest Planning Forester or the Supervising Forest Officer.

If harvesting is to occur within two tree lengths of the sealed road to the south of Compartment 75 (the Gulargambone-Tooraweenah Rd), traffic control measures may need to be put in place. If required, this will be the responsibility of the principle licensee.

Species Known or Likely to Occur

There are no known records of Threatened fauna or flora present within the planning area that require prescriptions within this plan.

Contractors and supervisory staff must immediately report any sightings of TSC Act, Schedule 1 and 2 species to the Supervising Forester. Appropriate action must then be taken, which may include amending the Harvesting Plan to include additional prescriptions if necessary. Refer to Section 6 and/or Section 6.2 of the Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3.

Fisheries Licence Conditions

Applicable Fisheries Licence conditions are detailed in the South-Western Cypress – IFOA. Refer to Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3 for prescriptions.

Soil and Water Protection Conditions

Applicable Environmental Protection Licence conditions are detailed in the South-Western Cypress – IFOA. Refer to Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3 for prescriptions.

Site-specific EPL conditions – The following features occur within the planned area. Refer to operational map for more detail.

Elements	Conditions
Unmapped Drainage Lines	5m Drainage Feature Protection Zone
1st order mapped drainage line or mapped drainage depression	10m Drainage Feature Protection Zone
Dams	10m protection zone

It is the responsibility of the SFO to identify any exclusion areas which will need to be crossed during harvesting. The SFO should then contact the Planning Forester to obtain the necessary approval.

There are no road, snag / extraction track drainage line crossings anticipated or approved for use on drainage features within this operation.

Road Works Conditions

Approximately 16km of existing roads and tracks will be maintained in accordance with the Standard Harvest Plan Conditions for Native Forest Operations in Western Region– South-Western Cypress v.3

Legal Conditions

This operation may only proceed while this operational plan, the relevant site safety plan and the Standard Harvest Plan Conditions for Native Forest Operations in Western Region. – South-Western Cypress v.3 are held on site.

This operation must comply with the following:

- ☐ Standard Harvest Plan Conditions for Native Forest Operations in Western Region – South-Western Cypress v.3
- ☐ Tree-marking Protocol for Native Forest Operations in Western Region – South-Western Cypress
- ☐ Licence conditions issued by Forests NSW under the Forestry Act (2012).
- ☐ Forest Practices Code, Part 2, Timber Harvesting In Native Forests (4th edition 1999).
- ☐ Forest Practices Code, Part 4, Forest Roads and Fire Trails (1999).
- ☐ Integrated Forestry Operations Approval issued under Part 4 of the Forestry and National Parks Estate Act 1998 (IFOA) as amended July 2013 including associated licences:
 - Threatened Species Conservation Licence (TSCL) issued under the Threatened Species Conservation Act 1995
 - Fisheries Management Licence issued under Part 7 (Div 3) Fisheries Management Act 1994
 - Environmental Protection Licence (EPL) issued under the Protection of the Environment Operations Act 1997.

SFO FEATURE USAGE RECORD – LOG DUMPS

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

[illegible]

* GPS coordinates in GDA 94 MGA Zone 55:

**** If a downhill extraction track enters a log dump from the uphill side, then at the end of each day on which it is used during a logging operation, a drainage structure must be in place on the extraction track within 40 metres of the log dump, on its uphill side.**

Supervising Forest Officer's Notes

[illegible]

Certificate Of Clearance To Move From Current Compartment(s)

To: _____, Supervising Forest Officer.

I request approval to move my logging crew and all associated machinery from Compartment(s) _____ in _____ State Forest to the next area in accordance with Section 5.5 of the Forest Practices Code Part 2 Timber Harvesting In Native Forests.

I certify that:

- ☐ all permanent roads, trails and mitre drains have been cleared of harvesting debris;
- ☐ butt damage to retained trees has been kept to acceptable limits;
- ☐ all trees marked for removal have been felled;
- ☐ utilisation limits have been satisfactorily met;
- ☐ stump heights conform to requirements;
- ☐ all hanging trees have been brought down;
- ☐ all log dump sites have been satisfactorily restored as required;
- ☐ harvesting debris is not accumulated around retained trees;
- ☐ all accumulated litter has been disposed of properly;
- ☐ all modified harvesting conditions have been complied with;
- ☐ all snig track and road drainage has been installed satisfactorily and other required rehabilitation work has been completed;
- ☐ all necessary repairs to damaged roads, signs, fences and other structures have been carried out.

I believe that I have met all my obligations under the conditions of the Timber Licence that applies to the area just completed and any N&PW Act Licence that applies to the area just completed, as stated in this Harvest Plan.

Signature: _____
Licensee/Contractor

Licence No: _____

Date: _____

As a result of inspections of the logging operations carried out in accordance with this Harvest Plan, I am satisfied that, to the best of my knowledge, the harvesting licensee/contractor responsible for this harvesting operation has satisfactorily completed all work. Approval is given for her/him to remove her/his machinery and equipment and leave the area/commence operations in another harvesting plan area, being:

Compartment(s): _____, in _____ State Forest.

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

Date of last inspection of the area by the Supervising Forest Officer: _____

Supervising Forest Officer _____
Signature Name

Date: _____

HARVEST PLAN AMENDMENT RECORD

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Amendment No. & type			Date Prepared	Amendment Details	All Copies Amended	Signature
Number	Major	Minor				
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Note: The purpose of this log is to track amendments to the Harvest Plan from time of first approval. All maps, Harvest Plans etc. are to be clearly identified with a version # and date so that changes to the Plan may be clearly identifiable. The Harvest Planner is responsible for ensuring all amendments are implemented, recorded and filed

Supervising Forest Officer's Hand-Over Acknowledgment

I confirm that I have received a copy of the Harvest Plan for the above Compartment. I have been briefed on the conditions of the Plan and the progress of the operation. I understand the requirements for supervision and operational control, as explained to me by the current SUPERVISING FOREST OFFICER.

Signature: _____

Date: _____

Position: Incoming Supervising Forest Officer

Signature: _____

Date: _____

Position: Incoming Supervising Forest Officer

Signature: _____

Date: _____

Position: Incoming Supervising Forest Officer

Signature: _____

Date: _____

Position: Incoming Supervising Forest Officer

Signature: _____

Date: _____

Position: Incoming Supervising Forest Officer

Signature: _____

Date: _____

Position: Incoming Supervising Forest Officer

RECORD OF INCIDENTAL THREATENED PLANT OR THREATENED FAUNA FEATURE SIGHTING

- For each occurrence/population sighted/identified, a separate form 5 must be filled out and provided to the Region Ecologist as soon as practicable. The details must also be recorded on this form in the Supervising Forest Officer's copy of the operational plan, with the date the separate form 5 went to the Ecologist.
- Some features or species require no further prescription but should still be recorded while other features or species require an immediate prescription and/or further survey before logging may continue in the vicinity.
- Locations of species/features recorded on this form should be noted on the operational map.

IR form = incidental record form 5. ECO = Regional Ecologist

[illegible]

Supervising Forest Officer's Post-Harvesting Notes

Record significant circumstances about harvesting this area. Draw or attach an annotated operational scale map.

ACTUAL AREA HARVESTED (by silvicultural treatment)

Treatment	code on map	Area (ha) treated	REGEN QUALITY			REGEN DENSITY			COMMENTS
			Good	Fair	Poor	Dense	Fair	sparse	
THINNED	T1								
	T2								
RELEASED	R1								
	R2								
SALVAGE	S1								
	S2								
Not Harvested	NH1								
	NN2								
	NH3								

POSSIBLE NEXT HARVEST

C = cypress H = hardwood

		Main product type (put C or H in each relevant cell)	Anticipated volume		
			High	Medium	Low
		High quality large sawlog			
		High quality small sawlog			
		Low quality sawlog			
		Fencing/posts			
		Vineyard posts (cypress)			
		Residue			
		Habitat trees / Non-merchantable			
Code on map	Comment				
	<input type="checkbox"/> 0 to 5 years to next harvest				
	<input type="checkbox"/> 5 to 10 years to next harvest				
	<input type="checkbox"/> 10 to 20 years to next harvest				
	<input type="checkbox"/> 20 to 30 years to next harvest				
	<input type="checkbox"/> 30 plus years to next harvest				

1. Noxious or environmental weed problems; high levels of feral animal use.

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2. Sites of soil erosion for attention.

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3. Boundary compromised; neighbour issues resulting from logging or haulage.

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4. Operation map errors for attention (e.g. forest type; roads) of appropriate staff (e.g. GIS, Planner)

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5. Any other comments – SUPERVISING FOREST OFFICER / FA / Forester

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RECORD OF BASAL AREA SWEEPS OF ALL RETAINED STEMS - 10cm dbh or larger

Date (and GPS grid ref optional)	Before or after harvest	Category	Component			
			All trees	White cypress	Ironbark	Other species
	<input type="checkbox"/> Before	merchantable				
	OR	pre-merch				
	<input type="checkbox"/> After	non-merch				
		total				
	trees marked for (circle correct one): retention / removal					
	<input type="checkbox"/> Before	merchantable				
	OR	pre-merch				
	<input type="checkbox"/> After	non-merch				
		total				
	trees marked for (circle correct one): retention / removal					
	<input type="checkbox"/> Before	merchantable				
	OR	pre-merch				
	<input type="checkbox"/> After	non-merch				
		total				
	trees marked for (circle correct one): retention / removal					
	<input type="checkbox"/> Before	merchantable				
	OR	pre-merch				
	<input type="checkbox"/> After	non-merch				
		total				
	trees marked for (circle correct one): retention / removal					
	<input type="checkbox"/> Before	merchantable				
	OR	pre-merch				
	<input type="checkbox"/> After	non-merch				
		total				
	trees marked for (circle correct one): retention / removal					
	<input type="checkbox"/> Before	merchantable				
	OR	pre-merch				
	<input type="checkbox"/> After	non-merch				
		total				
	trees marked for (circle correct one): retention / removal					
	<input type="checkbox"/> Before	merchantable				
	OR	pre-merch				
	<input type="checkbox"/> After	non-merch				
		total				
	trees marked for (circle correct one): retention / removal					

BA is measured at 1.3m above the ground, and does not include stems less than 10cm diameter at that point.

Operational plan distribution and amendment control sheet ('DACS')

Date approved by RM		Plan number	See page header	State Forest or Property/County	See page header
Date Environment & Resources Manager review is required				Compartment or Parish/Portion or Lot/DP	See page header

Amendment: Normally the supervising Forester would amend the Office, Forester and SFO copies on explaining the amendment to the SFO, and should annotate the Amendment record (Form 11) in them. The SFO (or Forester as applicable) should amend the bush crew copy/copies when explaining it to the bush operators, and should annotate the Amendment record (Form 11) in it/them.

Plan copy	Name of recipient	Delivery to recipient			Amendment affected in plan copies										Plan recall	
		Method H = hand E = email M = mail	Date done	By (initials)	1		2		3		4		5		Date received	Date destroyed
					Date done	By (initials)	Date done	By (initials)	Date done	By (initials)	Date done	By (initials)	Date done	By (initials)		
RO																
Ops Centre																
Supervising Forester																
SFO																
Bush crew supervisor																
Contractor																
Customer																

CERTIFICATION OF COMPLETION OF THE OPERATION

This checklist is intended to comprise the top page in the planning documentation folder / wallet

Region:	see page header	State Forest OR	see page header
		County/parish	
Management Area:	see page header	Compartment OR	see page header
		Portion, lot/DP, property	

Tick when added to set	Documentation	Comment
1. <input type="checkbox"/>	Data search results – flora and fauna	
2. <input type="checkbox"/>	Data search results – indigenous cultural heritage	
3. <input type="checkbox"/>	Data search results – non-indigenous cultural heritage	
4. <input type="checkbox"/>	Copy (if any) of the flora/fauna survey report(s) (Ecologist retains the original survey data sheets)	
5. <input type="checkbox"/>	Copy (if any) of the indigenous cultural heritage survey report(s) and original data	
6. <input type="checkbox"/>	Copy (if any) of the non-indigenous cultural heritage survey report(s) and original data sheets	
7. <input type="checkbox"/>	Records of consultation with regulators, including specific license, consent, concurrence, etc (eg individual s120 TSL, Native Veg Act consent, concurrence from RLPB)	
8. <input type="checkbox"/>	Records of consultation with lessees and/or permittees	
9. <input type="checkbox"/>	Records of consultation with stakeholders and the community	
10. <input type="checkbox"/>	Copies of notifications sent (eg neighbours, Lands)	
11. <input type="checkbox"/>	Environmental impact assessment	
12. <input type="checkbox"/>	Due diligence checklist (form 10.1)	
13. <input type="checkbox"/>	Quality control checklist (form 10.2)	
14. <input type="checkbox"/>	Operational plan with signed approval pages	
15. <input type="checkbox"/>	The Distribution Control Sheet for the plan	
16. <input type="checkbox"/>	The Amendment Control Sheet for the plan	
17. <input type="checkbox"/>	Copies of all revisions of and amendments to the plan	
18. <input type="checkbox"/>	Supervising Forest Officer's copy of the plan, with diary notes (form 4), incidental records (eg forms 5, 20, 22), briefing records, post-harvest notes (form 6), other notes/annotations	
19. <input type="checkbox"/>	Completed clearance certificate (form 7) – only harvesting	

I certify that:

- ☐ This file contains all documents associated with planning, implementation and recording for this operation as identified in the table above and is complete for internal/external audit purposes;
- ☐ The relevant information from them has been transferred to the compartment history data set; *and*
- ☐ The Region's geodatabase has been updated for the area completed in this operation.

Position	Signature	Date
Comment		