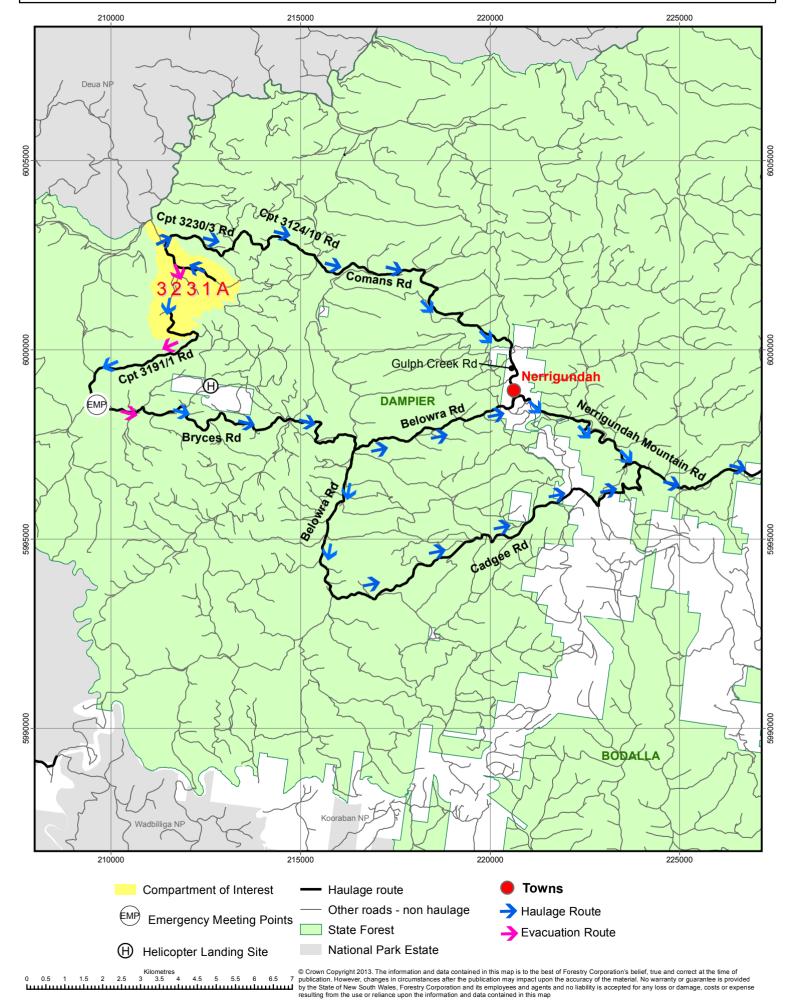
#### Scale 1:100,000 FORESTRY CORPORATION OF NSW, HARDWOOD FORESTS DIVISION Datum: GDA94 HARVEST PLAN LOCALITY SITE SAFETY MAP

Map Sheets: Mapsheet:NERRIGUNDAH(8825-1N); Plan No:200000101

**DAMPIER Forest** Plan Name:HPRP\_DAMPIER\_3231A\_2019 **Cpt No: 3231A** MANAGEMENT AREA Prepared by: emily.baggs Date: 12/11/2019

Version 1





Scale 1:15,000 Datum: GDA94 Map Sheets: Mapsheet:NERRIGUNDAH(8825-1N) Plan No:200000101 Plan Name:HPRP\_DAMPIER\_3231A\_2019

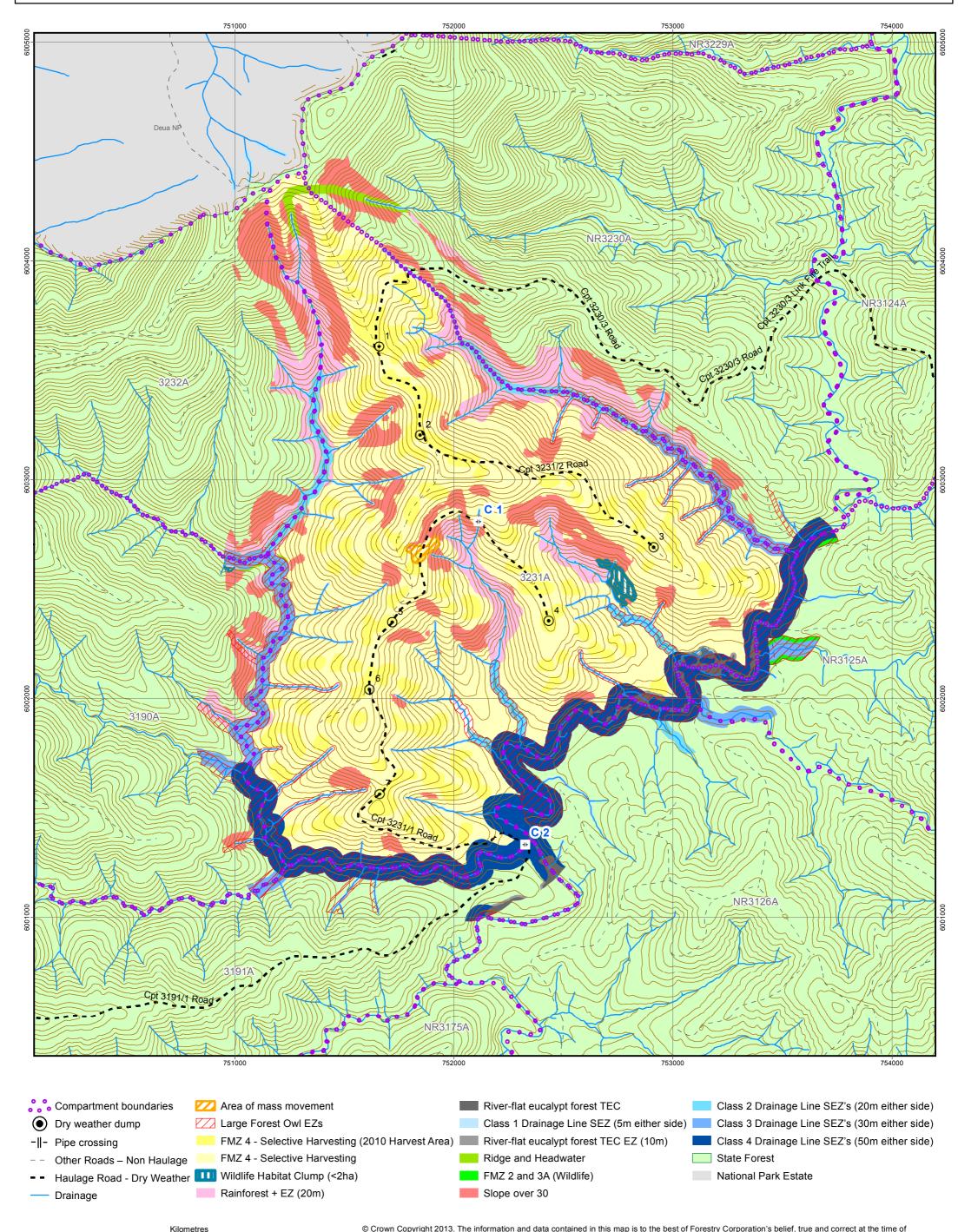
0.5

FORESTRY CORPORATION OF NSW, HARDWOOD FORESTS DIVISION **HARVEST PLAN HARVEST MAP DAMPIER Forest Cpt No: 3231A** 

**MANAGEMENT AREA** 

Version: 1





# **Hardwood Forests Division**

# **Harvest and Haul Plan**



**Operational Area Identification** 

Type of Forestry Operation		Harvesting and Roading Operation		
State Forest/s	Dampier	Compartment/s 3231A		
Crown-timber Land	NA	Local Landscape Area	cape Area Dampier_1	
Harvesting Zone	Selective	Regrowth Zone Regrowth Zone		
Operational Area	Selective Harvesting (FMZ 4) area and Haulage Roads within compartment 3231A – refer to Operational Area map. Forestry operations may only be carried out within the operational area.			
Plan ID	200000101			
Legal Conditions	Native Forest Harvesting in a Approval conditions.	accordance with Coastal	Integrated Forestry Operations	
	To implement this plan you m	ust hold a current Contra	actor's Licence.	
	Standard Operating Procedure	es apply.		
	Survey expiry date for this plan is 06/09/2026			
Certification	Responsible Wood Certificate	604224 and ISO14001 C	ertificate 604225	
Certification	Timber products removed from the plan area are within the Defined Forest Area covered by the Australian Standard for Sustainable Forest Management (AS4708:2013) Certificate 604224.			
Prepared by	Emily Baggs	Elager	Date: 05/09/2019	
Approved by	Shane Clohesy	All	Date: 11/12/2019	
Abbreviations	CH = Cultural Heritage CIFOA = Coastal Integrated For Operations Approval Crew = Harvest Contractor/For Operators ESA = Environmentally Significate EZ = Exclusion Zone FMA = Fisheries Management FT = Forest Technician HC = Harvesting Coordinator	orestry OM = Ope OPM = Ope orest PS = Plant PtS= Prot cant Area RC = Road SOP = Sta	resting Supervisor Perational Map Perational Planning Manager Perational Planning Manager Peration Supervisor Peration Supervisor Perating Coordinator Perating Procedure Peration Clump Peration Clump Peration Clump	

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 1 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

### 1. Harvesting Operation Details

	Cpt 3231A
Gross Area	427
Base Net Area (BNA)	306.9
TRC area	15.3
Estimated NHA	290.4
Slope (% 0-20 degrees)	30
Slope (% 20-25 degrees)	30
Slope (% 25-30 degrees)	28

All areas are in hectares

# 2. Expected Species and Yield

Species for harvest	Species Mix % (sawlog)	
YS	55	
STA	35	
OTHER	10	

Product Removal	Volume (m3)
HQ Large Sawlog (Quota)	2000
HQ Small Sawlog	50
Low Quality (Salvage)	900
Pulpwood	800
Firewood	1200
Total	4950

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

# 3. Management Conditions

Boundary	Conditions	
SMZ / FMZ	FMZ 3A – Harvesting Excluded and FMZ 4 – General Management occur within the compartment and are shown on the OM.	
	FMZ 3A – Harvesting and harvesting machinery are not permitted in these areas.	
Research	Any inventory plots located during the harvesting operation are to be treated the same as the surrounding area.	
National Park	National Park forms the northern boundary of the compartment and is shown on the OM. The crew must apply the boundary as mapped. The crew must ensure access roads to the National Park are not impeded by forestry activities and the roads condition is maintained.	
Cultural Heritage	Surveys have been conducted. Exclusion zones for heritage items/places occur within the compartment and have been marked for protection. Immediately prior to harvesting the marking must be checked by the HC.	
	Crew induction must involve a visual inspection of all CH sites prior to the commencement of harvesting/roading operations.	
	If any potential heritage sites are identified they should be recorded on FCMapApp, and the ACHO notified immediately. A 20m interim buffer must be observed pending further investigation.	

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 2 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

Haulage	Route - North east via Cpt 3230/3 Rd, Cpt 3124/10 Rd, Comans Rd, Gulph Creek Rd, Nerrigundah Mountain Rd, Eurobodalla Rd to the Princes Hwy. Or south via 3191/1 Rd, Bryces Rd, Belowra Rd, Cadgee Rd, Nerrigundah Mountain Rd, Eurobodalla Rd to the Princes Hwy.	
	School Bus Routes - Eurobodalla road and Nerrigundah Mountain Road are used by school buses between the hours of 7:00am to 9:30am and 3:20pm to 5:00pm. On weekdays, to the greatest extent practicable, log haulage should avoid school bus tir on the above roads.	
	Dust & Mud - Where log haulage routes pass close to rural housing along natural surface/gravel roads dust and noise must be minimised to the greatest extent practicable. Trucks should reduce speed, restrict use to daylight hours and minimise the use of engine brakes through these areas.	
	Operating Hours - Restrictions apply to haulage contractors travelling through Nerrigundah where operating hours will be limited to between 7am and 7pm Monday to Sunday. Outside of these hours trucks must use the alternate route of Cadgee Road.	
Community	Notifications - All relevant notifications have been conducted. A notification list for FCNSW staff is available from the planner.	
Infrastructure	Existing Fire Trails - Roads used for haulage should be left in a trafficable condition, free of harvesting debris and any installed rollovers must be trafficable.	
Control Lines for Post Log Burning	Any new tracks constructed for use as control lines must comply with SOP 8.	

# 4. Harvesting Conditions

Silviculture Type	Harvesting Objectives and Stand Condition		
Selective	The compartment is uneven-aged and variable. Parts of the compartment were previously harvested in 2008 under an AGS operation.		
	The objective is to harvest the merchantable component of the mature aged crop and retain vigorous younger age class trees for a future cut.		
	Crew is to select trees for removal and avoid dama	age to growers.	
Regeneration Requirements	Retain advance growth (growers) and create a seed bed via mechanical disturbance across the harvested area.		
Regeneration Risks and Mitigation	Risk of regeneration failure in this compartment is low. No special mitigation measures are required.		
BA Monitoring	The HC must conduct Basal Area monitoring as per CIFOA Protocol 7 in areas treated with Selective Harvesting. The minimum BA limits are shown below.		
	Cpt 3231A		
	Harvest Intensity	Selective	
	Selective Harvesting Limits – Minimum BA (m²)	10	

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 3 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

# 5. Operational Responsibilities

Prescription	Condition/Responsibility		
Mark-Up – the FT is responsible fo Tree Retention and Tree Retention		nd of harvesting operations consistent Area Habitat Searches	with SOP 4 –
Broad Area Habitat Search	Broad Area Habitat Searches must be completed in a 10 hectare patch before harvesting operations can commence in that patch.  Broad Area Habitat Searches must extend to cover areas up to 100m outside of the base net area and must search for threatened and protected species feature as described in SOP 3.		
Known or Potential Habitat	The following subject specarea:	cies have known or potential habitat i	n this operational
	Species	Habitat feature	]
	Gang-gang Cockatoo	Nests	1
	Square-tailed Kite	Nests	1
	Scarlet Robin	Nests	
	Sooty Owl	Nests and roosts	
	Powerful Owl	Nests and roosts	
	Regent Honeyeater	Nests and roosts	
	Masked Owl	Nests and roosts	
	Spotted-tailed Quoll	Dens and latrine sites	
	Greater Glider	Dens	
	Yellow-bellied Glider	Dens	
	Stuttering Frog	Conspicuous frog and tadpoles	
Marking Retained Trees	FT must select and mark trees to meet the requirements below. The location of retained trees must be recorded on FCMapApp.		
	Hollow-bearing tree condition – 8 per ha must be retained where available (marked with "H")		
	Giant trees – 160cm (BBT only) / 140cm (all other spp) at stump height (30cm) (marked with "L")		
	Glider Sap feed trees – All (marked with "E")		
	Glossy-black Cockatoo feed trees – All (marked with Pink tape)		
Tree Retention Clumps	FT must select and mark 5% of the BNA in each compartment (see Harvesting Operation Details) with pink and yellow tape, and/or on FCMapApp; Refer to SOP 4		
	Tree retention clumps are to be a minimum 0.1 ha and maximum 2 ha.		
Identification of channel heads	FT will mark the location of Class 1 Drainage Line and Unmapped Drainage Line channel heads in the field with pink tape, and on FC MapApp; Refer to SOP 1		
Operational Management; The HC consistent with SOP 1, SOP 4, Impl	_	sponsible for the management of operiptions and monitoring BA	erations

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 4 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

Protection of Retained Trees	Trees marked or selected for retention must not be felled or damaged.  Damaged trees must be replaced with a comparable tree. Where a comparable tree is not available, it must be replaced with a mature tree, with healthy crown.  Damaged and replaced trees must be recorded in the FCMapApp.  Harvesting debris should not accumulate within 5 m of retained trees. Where debris does accumulate the crew must remove or flatten to <1m high. Where	
	removal or flattening of debris will damage a retained tree, or deliver a worse outcome, this must be documented in the FCMapApp.	
Dead Standing Tree Retention	Stags/dead standing trees must be retained where safe to do so.	
Coarse Woody Debris	Coarse woody debris is not permitted to be removed from this compartment due to Scarlet Robin record (Table 3 Condition 62).	
Accidentally Felled Trees	The crew must record each tree accidentally felled into an ESA in accordance with SOP 4.	
Dangerous Trees	The crew must record each dangerous tree or stag removed in accordance with SOP 4.	
Elite/Plus Trees	Retain and protect the elite tree/s identified on the OM, and any others encountered (whether marked or not).	
Impenetrable Understorey	In areas mapped by the FT as Impenetrable Understorey, the required number of retained trees identified must be retained and recorded in the FCMapApp by the Crew.	

# 6. Riparian Protection

#### Prescription

See SOP 1 for instruction and guidance around marking of riparian zones.

Table 6b below identifies exclusion zone and ground protection zone widths for all streams within Compartment 3231A.

Table 6b

Duninga Catagony	Riparian Exclusion Zone		GPZ	Marking
Drainage Category	Minimum width (m)	ESA Category	Minimum width (m)	Responsibility
Drainage depression (mapped or unmapped)	n/a	n/a	5	Crew + GPS
Unmapped drainage line	5	Category 1 ESA	10	Crew + GPS
Class 1 classified drainage line	5	Category 1 ESA	10	Crew + GPS
Class 2 classified drainage line	20	Category 2 ESA	0	Crew + GPS
Class 3 classified drainage line	30	Category 2 ESA	0	Crew + GPS
Class 4 (and above) classified drainage line	50	Category 2 ESA	0	Crew + GPS

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 5 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

# 7. Ecologically Significant Areas

FT's are responsible for identifying; Harvesting Crews are responsible for protection of the following ESA's in line with requirements of SOP 2:

Condition	Mapped Known Features	Boundary ID	
ESA 1	Rainforest	GPS	
(bard baundary)	Threatened Ecological Communities (certified)	GPS	
(hard boundary)	Wildlife habitat clumps <= 2 hectares	GPS	
	Tree retention clumps	Pink & Yellow Tape and/or GPS	
ESA 2	Ridge & headwater habitat	GPS	
	Large Forest Owl Exclusion Zones	GPS	
(soft boundary)	EZ's associated with a Threatened Ecological Community	GPS	
	Land mapped as FMZ 2 or FMZ 3A that is not also ESA 1	GPS	
	IHL 4	GPS	
Features identified during broad area search / harvesting	Tree retention clumps and field identified ESA's will be marked on the FCMapApp.  Harvesting contractors must synchronise their FCMapApp before commencing operations in each patch. All field identified features must be protected according to the relevant ESA Category boundary type.		

#### 8. Soil & Water

Issue	Assessment	Conditions
Inherent hazard level	2	
Soil regolith types	R1 R2	
Dispersible Soils	No	
Existing or potential Mass Movement hazard	Yes	An area of mass movement occurs on Cpt 3231/1 Rd and is shown on the OM. This area has been excluded from harvesting and is recommended to be mapped as a Tree Retention Clump. Apply site-specific operating conditions as per SOP 14.
		<ul> <li>Localised mass movement forming hollows around the heads of 1st order streams are not uncommon in this terrain. HC should pay extra attention around these areas when locating extraction tracks.</li> </ul>
		Fill batters on slopes >30º must be compacted and extra protection around drainage features may be required.
Historical or existing erosion	No	Nil
Seasonality Restrictions	No	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	HC is responsible for monitoring road and crossing drainage and stability during haulage.

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 6 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

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
Track Crossings (snig or extraction tracks)	SOP 8	HC is responsible to ensure snig track crossings are approved prior to use and rehabilitated upon completion.

# 9. Snig Track Crossing Approvals

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

Crossing Name	Crossing Type	Approval	Class 1 Aquatic Habitat	Site Specific Works and other conditions

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 7 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

**10. 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
1	Riparian Protection
2	Management of ESAs
3	Broad-area habitat search
4	Tree Retention and Tree Retention Clumps
5	Log Dumps
6	General Soil and Water for harvesting contractors
7	Safety Requirements
8	Snigging & Snig Track Crossings
9	Tree Felling & Servicing of Logs & Products
10	Fire Precautions & Other Miscellaneous Requirements for Harvesting Contractors
14	Mass Movement

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 8 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026

11. Roading Plan: Works not completed by RC must be recorded and passed onto the HC for completion and documentation. The start and finish dates of all maintenance and construction must be recorded on the individual roading sheets within the HC Notes excel document in OneDrive, 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.

Summary of roading requirements				
Feature	Details	Works Required		
Existing roads to be used.	5,928m/2	Yes		
New roads to be constructed	0	NA		
Existing crossings used	2	Yes		
New crossings to be constructed	0	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		
Potential or existing erosion	No	NA		
Flora Road Management Plans apply	No	NA		

Fish Habitat (Protocols 17 & 18)	Nil
----------------------------------	-----

There is no Class 1 Aquatic Habitat in this roading area.

Roading Work Summary Table – The following roads are to be constructed, upgraded or maintained in accordance with and to standards detailed within roading SOP's

See HC Notes documentation (on OneDrive) for Roading Works Completed information						
Road Name	<b>Existing or New</b>	Site-specific works and other conditions				
Cpt 3231/1 Rd (3,255 m) Contractor Responsibility	Existing	<ul> <li>Grade pavement.</li> <li>Remove/lop roadside vegetation, as required.</li> <li>Clean pipes and lateral drainage as required to ensure water is diverted off the road surface. Refer to drain spacing guidelines in roading SOP.</li> <li>Apply site-specific operating conditions as per SOP 14 for area of mass movement.</li> </ul>				
Cpt 3231/2 Rd (2,672 m) Contractor Responsibility	Existing	<ul> <li>Grade/reshape pavement with crown and outfall.</li> <li>Reinstate existing lateral drainage and install additional drainage as required to ensure water is diverted off the road surface. Refer to drain spacing guidelines in roading SOP.</li> <li>Remove/lop roadside vegetation, as required.</li> </ul>				

Road Crossing Summary Table – The following crossings are to be constructed, upgraded or maintained in accordance with and to standards detailed within roading SOP's

See HC Notes documentation (on OneDrive) for Roading Works Completed information

Crossing Name	Existing or New	Туре	Stability of structure and surface	Site-specific works and other conditions
C1	Existing	Culvert pipe, 375mm	Stable	Clean inlets/outlets
C2	Exiting	Culvert pipe, 375mm	Stable	Clean inlets/outlets

Document title: HPRP_DAMPIER_3231A_2019.docx	Version No.: 1	Page 9 of 9
Plan ID: 200000101	Approval Date: 11/12/2019	Expiry Date:06/09/2026