

ENVIRONMENTAL AUDIT OF TIMBER PRODUCTION ON PUBLIC LAND

«FMA» FMA

COUPE: «*CoupeName*»
 «*Recce_allCoupe*»

DISTRICT OFFICE: «DistrictName»

Summary Page

Positive Observations: (including non-compliances identified & rectified)		
<ul style="list-style-type: none"> • • • • • 	<ul style="list-style-type: none"> • • • • • 	
Elements of Code Non-Compliance:		
Focal Area	Score	EIA
Areas for Improvement:		
<ul style="list-style-type: none"> • • • • • 	<ul style="list-style-type: none"> • • • • • 	

Coupe Planning Checklist

Q1 in relation to Recommendation 3

Are these special issues relating to this coupe identified during the WUP and TRP processes?

Comments:

Q2 in relation to Recommendation 4

How have coupe boundaries been identified on the coupe map?

Comments:

Q3 in relation to Recommendation 5

Has a coupe planning checklist been used?

Comments:

Q4 in relation to Recommendation 6

Are both gross and net coupe areas listed?

Comments:

Coupe Planning Checklist

Q5 in relation to Recommendation 8

Does the coupe map have a unique identifier to distinguish the current coupe map?

Comments:

Q6 in relation to Recommendation 11

Have the appropriate cross-functional checks been carried out?

Comments:

Q7 in relation to Recommendation 12

Does the coupe diary include coupe marking activities?

Comments:

Q8 in relation to Recommendation 13

Does the coupe diary note any markings as planned or boundary modifications?

Comments:

Coupe Planning Checklist

Q9 in relation to Recommendation 15/16

Does the coupe diary include appropriate documentation on coupe boundary modifications?

Comments:

Q10 in relation to Recommendation 17

Does the coupe diary note the responsible forest officer?

Comments:

Q11 in relation to Recommendation 18

If the coupe is adjacent to a National Park, have the required inspections been carried out by Parks Victoria?

Comments:

Forest Audit – Coupe Information

Coupe number:	«Recce_allCoupe»	Coupe name:	«CoupeName»						
District:	«DistrictName»	Coupe area:	«MaxOfProposedNetArea» ha -						
Elevation (m): ASL:	«Elevation» m	Stand Description / Vol:	e.g. Mature	«MaxOfLogVolume» m3					
General aspect:	e.g. SE	Forest type:	«ForestType»						
Supervisor (FO):	Supervisor – «LastOfSupervisor» Team Leader – «LastOfTeamLeader»	Endorsement Categories:	Flora & Fauna	Catchment	Parks	Forest Mgt	Forestry Victoria	Fire Mgt	DSE Regional
Contractor:	«LastOfContractor»		«Flora Fauna»	«Water»	«Parks»	«ForestMgmt»	«VicForests»	«FireMgmt»	«RegMgmt»
Silvicultural system:	«SilvicultureSystem»	SEH topsoil / subsoil:	«TopsoilErosion»/ «SubsoilErosion»						
Machinery used:	Skidder / Hand Fallen / Mechanical Harvest	Soil Permeability:							
Coupe Operation:	«MinOfStartDate» to «MaxOfFinishDate»	Grid Reference:	E: «EastingADG66»N«NorthingADG66»						
Comments:	Flora: «FloraValues» Fauna: «FaunaValues»	Absolute Risk Rating:	«Abs_risk»						
		Selection Values: Slope Class – Soil Erosion Hazard – Silvicultural System, Property Restrictions	Slope – «Slope_risk»Soil erosion – «Soil_erosion_risk»Silviculture – «Silv_risk»and Protection – «Protection_risk»						
Special (salvage) plan?	«Type»	Slope (°) Low-High:	«SlopeMin»- «SlopeMax»						
Are there SPZ / SMZs?	«ManagementZone»	Season of operation:	«HarvestSeason»						
People present:	Auditors (cross out if not present): GB, PM, AH EPA representative: AB District / other staff (name):	Audit date:							

AA = Alpine Ash, BG = Blue Gum, CT = Cut Tail, CY = Mountain Grey Gum, DA = Mountain Gum, MA = Mountain Ash, MM = Messmate, OS = Other Species, PM = Peppermint Spp, SG = Shinning Gum, ST = Silvertop Ash, VM = Manna Gum, WS = White Stringybark

Forest Audit – Coupe Map

Include coupe map from harvest plan, note on map:

- Location and identification of roads, buffers, landings and skid tracks audited
- Any other relevant information

General comments and observations on the coupe

General notes:

Local prescriptions and FMP / Statewide Management Procedures:

Where the code or audit criteria refer to FMP / Statewide Management Procedures, the relevant document(s) will depend on when the operation started (i.e. Prior to 1 August 2004 – local prescriptions apply; Between August 2004 and 30 September 2005 – FMP / 2004 Statewide Management Procedures apply; and after 30 September 2005 FMP / October 2005 Statewide Management Procedures apply).

Interpretation of 'should' vs 'must':

The use of the term 'should' within the code is interpreted within the context of this audit as being a specific requirement of the code. DSE comments on the interpretation of 'should' vs 'must', have been reviewed for reference included in the 'comments' column of the workbook, where appropriate. Where the Code states"should....., where necessary,..... , " this is taken to mean that this is a requirement in certain circumstances, but not all the time.

Active coupes:

The approach for auditing active coupes is outlined 'Active Coupe' section of this workbook.

GPS use:

With to regard to GPS measurements, the auditor will review the data and adopt a practical approach to specific situations and localities.

Coupe planning

Roading

Harvesting

Regeneration

Coupe Plan

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.1.1	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the coupe location and cutting area boundaries.	0 = Not specified; 1 = Coupe location and cutting area boundaries specified.	..... / 1		See Sections 2.4.1(a), 4.5 & 4.6 of October 2005 Statewide Management Procedures. <i>DSE comment: Interpretation of Code is that it is not 'must'. Coupe Planning Guidelines provide further specifications.</i>
2.3.1.10	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the regeneration procedures to be applied including the genetic base of seed or planting stock to be used.	N / A = Regeneration procedure not necessary; 0 = Regeneration procedure not specified; 1 = Regeneration procedure specified or, plan completed and genetic base specified.	..... / 1		<i>DSE comment: Silviculture Guidelines and Management Procedures part 5 covers this (note Mgt Procedures refers to Guidelines but does not specify that they 'must' be followed ie, they are a Guideline only). Wherever Mgt Procedures say 'should' does not mean 'must' as specific consideration went into choice between these two words in this document.</i>
2.3.1.11	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the wet weather and seasonal restrictions.	N / A = No wet weather restrictions; 0 = Not specified; 1 = wet weather and season restrictions specified.	..... / 1		<i>Harvest Season: «HarvestSeason»</i> <i>DSE comment: FCPs are not required to state seasonal and weather restrictions. Wet weather restrictions included in season, also schedule 7 UPs & S14 UPs.</i>
2.3.1.12	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the fire protection restrictions.	N / A = No fire protection restrictions required; 0 = Restrictions not specified; 1 = Restrictions specified.	..... / 1		<i>Fire Mgt Endorsement: «FireMgmt»</i> <i>DSE comment: Fire protection restrictions are not required on the FCP, covered in UPs S16.</i>
2.3.1.13	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the procedures for approving amendments to be plan.	0 = Approvals not specified where necessary; 1 = Procedures specified (Part 6a).	..... / 1		<i>DSE comment: WUP guidelines cover extent of boundary changes etc. UPs 1.3 enable authorised officer to vary procedures (which are recorded on coupe variance section of FCP).</i>
2.3.1.2	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the period during which operations are to occur.	0 = Not specified; 1 = Specified.	..... / 1		<i>Harvest Season: «HarvestSeason»</i> <i>DSE comment: The requirement for coupe plans to specify the period when operations are to occur is specified in CIS where the FCP is generated. It is generally not necessary for the FCP to have this as it is implied that the coupe plan will be issued when it is appropriate for it to be operated. This is an operational rather than an environmental issue as all other restrictions will control the environmental outcome (ie if the coupe inappropriate for wet weather working, the wet weather prescriptions severely limit the number of days it will operate).</i>
2.3.1.3	4.2	Coupe Plan	The coupe plan should include and specify where necessary the methods	0 = Methods of marking not specified;	..... / 1		<i>Section 2.4.2(e) of the 2005 Statewide Management Procedures "the method used in locating the coupe mapped coupe boundary</i>

Coupe Plan

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
		(1, 2, 10, 12)	of marking.	1 = Methods specified.			<i>must be recorded in CIS</i> ”.
2.3.1.4	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the expected timber volumes to be removed.	0 = Not specified; 1 = Volumes and grades specified.	..... / 1		<i>Note should be made to what products were specified in the WUP, i.e. grades.</i> <i>Volume extracted: «MaxOfLogVolume»m³</i> <i>DSE comment: WUP / coupe plan specifies the expected timber volumes to be removed. DSE does not consider it a ‘must’. For VicForests it could depend on markets. In EG full utilisation is often not possible so there is likely to be a difference between available vol and vol expected to be removed. MFP coupes may not require this as vol. This may be more important in selection type systems where it is expected that only part of the vol will be removed. U.P.s (6.4) define what may be left on the coupe and how this may be varied.</i>
2.3.1.5	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the definition of soil erosion hazard class (or classes) of the coupe area.	0 = Not specified; 1 = Topsoil specified; 2 = Subsoil specified; +1 = Special constraints to operations noted.	..... / 2		<i>Topsoil SEH: «TopsoilErosion»</i> <i>Subsoil SEH: «SubsoilErosion»</i> <i>DSE comment: It is a requirement for the FCP to specify the soil erosion hazard classes for the coupe. Soil erosion hazard class is a mandatory field in CIS, therefore this is a ‘must’.</i>
2.3.1.6	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the areas to be excluded from harvesting or to which special prescriptions apply (e.g. for flora and fauna protection or habitat enhancement water quality protection landscape protection or significant sites) and details of any special conditions or prescriptions appropriate to those sites.	N / A = No areas of exclusion; 0 = No exclusion areas specified; 1 = Area and special conditions specified.	..... / 1		<i>Flora Notes: «FloraValues»</i> <i>Fauna Notes: «FaunaValues»</i> <i>F&F Endorsement: «FloraValues»</i> <i>See Sections 2.4.1(a) & 4.14(b) & 4.5 (a) of October 2005 Statewide Management Procedures.</i> <i>DSE comment: It is a requirement for FCPs to include and specify the areas to be excluded from harvesting, however not necessarily on the map.</i>
2.3.1.7	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the measures to be employed to protect and rehabilitate soils and to ensure maintenance of water quality.	0 = No measures specified as to the protection and rehabilitation of soil and maintenance of water quality; 1 = Measure(s) specified.	..... / 1		<i>Season: «HarvestSeason»</i>

Coupe Plan

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.1.8	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary; the location, design, construction, maintenance and closure of log extraction roads.	0 = Coupe plan does not specify the location of log extraction roads; 1 = Coupe plan specifies the location; 2 = design, maintenance or closure of log extraction roads where necessary.	..... / 2		
2.3.1.9	4.2	Coupe Plan (1, 2, 10, 12)	The coupe plan should include and specify where necessary the design, siting, construction, use and rehabilitation of log landings and dumps and where necessary siting and rehabilitation measures for major snig tracks.	0 = Location and design of landing or dumps not specified; or location doesn't comply with FMP / Statewide Management Procedures; 1 = Location and design of landings / dumps specified and comply with FMP / Statewide Management Procedures; +1 = Where necessary, location of major snig tracks specified.	..... / 1		<i>Conversion sites that are not by Code definition loadings must not be marked as loadings on the FCP or relevant site plan. Section 3.3(j) of the October 2005 Statewide Management Procedures.</i>
2.3.5.2	4.2.1	Slope Limitations	Generally harvesting operations should be excluded from slopes greater than 30° although the actual limit applied will vary having regard to an assessment of the capability of land to support harvesting activities. Lower slope limits will apply as necessary according to the soil types and its stability the intensity of the harvesting the type and size of logging machinery and the season and likely soil moisture conditions when the operation is scheduled to occur.	0 = Harvesting not restricted in accordance to FMP / Statewide Management Procedures; 1 = Harvesting restricted in accordance with FMP / Statewide Management Procedures or limit acceptable considering other factors.	.... / 1		<i>Slope Range: «SlopeMin» - «SlopeMax»</i> <i>Harvesting limits lower than 30 degrees are prescribed in some Forest Management Plans and Special Area Plans.</i> <i>With the exception of the above, coupes that have small areas of merchantable timber on slopes greater than 30 degrees may be harvested provided that:</i> <i>(i) Soil erodibility classification is low or medium;</i> <i>(ii) The total area greater than 30 degrees comprises <20% of the coupe</i> <i>(iii) Over-slope harvesting does not adversely affect buffers or filter strips</i> <i>(Statewide Management Procedures, 2004 & 2005, Section 4.2)</i>
2.3.5.3	4.2.1	Slope Limitations	The Forest Coupe Plan or equivalent plan must specify the maximum slope on which the particular harvesting operations will be carried out.	0 = Forest Coupe Plan does not state maximum harvesting slope OR Stated Value is greater than FMP / Statewide Management Procedure limits; 1 = Forest Coupe Plan states maximum harvesting slope.	.... / 1		<i>Max Slope: «SlopeMax»</i>

Coupe Plan

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.5.1	4.2.1	Slope Limitations	Soil and water values must be protected by the limitation of harvesting operations on steep slopes or on lesser slopes of unstable soil where erosion hazard is high.	0 = Slope restrictions haven't been followed; 1 = Slope restrictions followed.	.... / 1		<i>Soil Erosion Hazard</i> <i>Topsoil: «TopsoilErosion»</i> <i>Subsoil: «SubsoilErosion»</i>

Wood Utilisation Planning

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.12.4	4.1	Wood Utilisation Planning Process	Where conditions such as seasonal weather patterns and soil type create unsuitable working conditions consideration should be given to seasonal closure of the forest to timber harvesting.	N / A = Seasonal weather patterns and soil type do not create unsuitable conditions leading to seasonal closures; 0 = WUP does not consider seasonal closure of FMA or localised area; 1 = WUP considers seasonal closures within the FMA and coupe being harvested outside of specified closure period.	.... / 1		<p><i>Water Catchment: «Catchment»</i></p> <p><u>Western FMAs – DSE Management</u></p> <p><i>In the west of the state DSE manages timber harvesting activities in state forest and prepares a Wood Utilisation Plan (WUP) to schedule harvesting operations and fulfil license commitments. When assessing coupes in the west of the state the interpretation of 'WUP' in the code does not change.</i></p> <p><u>Eastern FMAs – VicForests Management</u></p> <p><i>In the east of the state the WUP is no longer used for the planning of coupes from which sawlog is to be harvested in state forest. Since the creation of VicForests the Timber Release Plan (TRP) process has replaced the WUP in the east for sawlog operations. When assessing coupes in the east of the state any reference to 'WUP' in the code should be interpreted as a reference to the TRP.</i></p> <p><u>Overview Timber Release Plans (TRPs)</u></p> <p><i>The TRP specifies the location of coupes within the allocated stands. The 2004/05 – 2008/09 TRP is based on the existing Wood Utilisation Plans (WUP) for 2004/05 to 2006/07 and unharvested approved coupes from previous WUPs in these FMAs. The approval processes for the inclusion of coupes on the current TRP followed those outlined in the 2003 Wood Utilisation Planning Guidelines.</i></p> <p><i>Therefore where the code refers to the "Wood Utilisation Planning Process" it would be suitable to interpret this as the "Timber Release Planning Process" which includes both the allocation order and the TRP.</i></p>
2.3.2.10	4.1	Wood Utilisation Planning Process	The WUP should show location of major access roading.	0 = WUP does not state location of major access roads; 1 = WUP states / shows location of major roads.	.... / 1		<p><i>The WUP maps are no longer used and have been replaced with TRP maps. These are available from DSE's website.</i></p>
2.3.2.11	4.1	Wood Utilisation Planning Process	The WUP should be available for public scrutiny.	0 = WUP not publicly available; 1 = WUP is available to the public.	.... / 1		<p><i>The Allocation Order and TRP are published in the government gazette.</i></p> <p><i>Prior to the preparation of the Allocation Order, DSE will prepare a Sustainable Timber Resource Plan (STRP). The STRP will be used for the public consultation process in the future, however as the current TRP was developed from a WUP the majority of coupes were</i></p>

Wood Utilisation Planning

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
							<p>available for public scrutiny. New coupes added to the TRP in December 2004 as an amendment to the TRP were not subject to public scrutiny before approval by DSE as there is no current requirement for this. TRPs are available for public inspection at DSE and VF Regional Offices and on the internet.</p> <p>Therefore 'WUP' in this instance should be interpreted as 'TRP'.</p>
2.3.2.12	4.1	Wood Utilisation Planning Process	Special (salvage) plans must take into account the needs for urgency in timber recovery.	N / A = Not a salvage plan; 0 = Salvage plan not in accordance with need for urgency; 1 = Salvage plan satisfactory.	.... / 1		Coupe Type: «Type»
2.3.2.13	4.1	Wood Utilisation Planning Process	Special (salvage) plans must take into account the need to modify prescriptions as required to meet environmental care goals and address recovery strategies for other forest values such as fauna.	N / A = Not a salvage plan ; 0 = Salvage plan not in accordance with need to modify as required; 1 = Salvage plan satisfactory.	.... / 1		Coupe Type: «Type»
2.3.2.14	4.1	Wood Utilisation Planning Process	Coupe size Clear-felled seed tree or shelterwood coupes will generally be less than 40 ha. Such coupes may be aggregated up to 120 ha over a period of up to five years where deemed appropriate.	0 = CF Coupe > 40 ha and / or aggregate area >120ha 1 = Coupe satisfactory or appropriate aggregate with notice to silvicultural system.	.... / 1		Coupe Area: «MaxOfProposedNetArea»ha See Section 2.1 "Coupe Size, Shape and Distribution" of 2004 and 2005 Statewide Management Procedures.
2.3.2.15	4.1	Wood Utilisation Planning Process	Coupe size Where selection or thinning systems are used the area of forest to be harvested by any individual operation must be determined by the forest type its stand condition and other relevant environmental factors.	N / A = No Selection or Thinning system used; 0 = Net area has no consideration for forest type or other criteria; 1 = Consideration for forest type and stand condition.	.... / 1		SS: «SilvicultureSystem». See Section 2.1 "Coupe Size, Shape and Distribution" of 2004 and 2005 Statewide Management Procedures.
2.3.2.16	4.1	Wood Utilisation Planning Process	Coupe size Characteristics of coupes for salvage of timber in forests damaged by fire disease or other events may differ from the above guidelines and should be described in a special plan or an amended coupe plan. However salvage harvesting must take as much account of environmental care as any other harvesting operation.	N / A = No salvage plan required for coupe (see comments) 0 = Special or amended coupe plan not completed; 1 = Special or amended coupe plan completed.	.... / 1		Coupe Type: «Type» DSE comment: Variation to coupe size limits do not need to be described on the coupe plan.

Wood Utilisation Planning

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.2.7	4.1	Wood Utilisation Planning Process	The WUP should be prepared for a multi-year period except in the case of salvage planning.	0 = WUP for FMA not prepared for multiple years; 1 = WUP for FMA prepared for multiple years.	.... / 1		<i>Coupe Type: «Type»</i> <i>The TRP is prepared for a period not exceeding 5 years as required by the Sustainable Forests (Timber) Act 2004. The Code's reference to 'WUP' in this instance should be interpreted as 'TRP'</i>
2.3.2.8	4.1	Wood Utilisation Planning Process	The WUP should be prepared using appropriate specialist expertise.	0 = WUP for FMA not endorsed by other DSE business units; 1 = WUP endorsed.	.... / 1		<i>Endorsement Type: FF / CAS / Parks / FIRE / FM / FV</i> <i>«FloraFauna»/ «Water»/ «Parks»/ «FireMgmt»/ «ForestMgmt»/ «VicForests»/ «RegMgmt»</i> <i>The standard process for development of the TRP will involve VicForest producing a plan of coupes to be harvested within the allocated forest stands. These coupes are then submitted to DSE for approval. For the 2004-05 year this process has only occurred for new coupes that weren't listed in the previous FMA WUPs.</i> <i>In the majority of instances, the original coupe endorsements should be available for selected coupes. Where coupes selected are new, this information may not be available and therefore the auditor may be required to seek further information from DSE or VF.</i>
2.3.2.9	4.1	Wood Utilisation Planning Process	The WUP should specify the location of the coupes.	0 = WUP does not state location or name of coupe; 1 = WUP states coupe location and name.	.... / 1		<i>WUP should be interpreted as the TRP (inc. appendices) and TRP maps. The location of coupes is stated in appendix 1 of the TRP and TRP maps provide for the placement of coupes in a geographical context.</i>
2.4.1.5	4.1	Wood Utilisation Planning Process	Forward planning of extensions to or upgrading of the permanent road network shall be outlined in WUPs. Roding to obtain access into a particular coupe from an existing road shall be outlined in the Forest Coupe Plan.	N / A = No extensions / upgrading of permanent road in existing coupe; 0 = Permanent road extension upgrade leading to coupe not noted in WUP or FCP; 1 = Where present – extension upgrade noted in WUP or access road leading into coupe noted.	.... / 1		<i>All coupes are referred to in a table provided in Attachment 1 of the TRP.</i> <i>Within the 'Silviculture Type' section of the table, road line coupes are referred to as 'Road Alignment – Improvement' or 'Road Alignment – Construction' and the 'Road Alignment Length (km)' provided.</i>

Landscape Values

Coupe Planning and Management

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.2.6	3.1	Protection of Landscape Values	WUPs to meet wood supply commitments must be designed To reduce adverse effects on visual landscape values.	0 = Relevant coupe within scenic drive network; 1 = WUP / FMP takes account of FMP landscape management guidelines.	.... / 1		
2.3.8.1	3.1	Protection of Landscape Values	In areas of high landscape sensitivity , adverse visual impact should be minimised by modification of coupe design and distribution. The objective is to blend harvesting scenes with natural features of the landscape and minimise skyline impact;	N / A = Coupe not in high landscape sensitive area; 0 = No efforts to minimise visual impact; 1 = Coupe design or distribution reduce impact; 2 = Coupe design and distribution reduce impacts.	.... / 2		<i>Management Zone: «ManagementZone»</i>
2.3.8.2	3.1	Protection of Landscape Values	Landscape values should be protected along major tourist roads within constraints imposed by fire protection requirements.	0 = Coupe doesn't take account of landscape values; 1 = Coupe design protects landscape values or not along major tourist route; +1 = Viewshed analysis undertaken.	.... / 1		<i>Management Zone: «ManagementZone»</i>

Water Yield Protection

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.2.3	1.1	Water Yield Protection	WUPs to meet wood supply commitments must be designed to minimise the impact of harvesting on water quality and quantity over a period of time within any particular catchment.	0 = Capped harvest area in catchment area exceeded over set period; 1 = Capped harvest area not exceeded over set period, WUP makes note of water supply catchment prescriptions and SAPS.	.... / 1		<i>Water Catchment = «Catchment»</i> <i>CAS Endorsement = «WaterCatchment»</i> <i>Statewide Management Procedures, 2004, pg 6 and 2005, pg 8 and pg 16)</i>

Log Landings and Dumps

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.9.1	1.5.4	Rehabilitation (part 3)	Landings must not be located within areas excluded from harvesting, nor adjacent to major roads unless specifically authorised	0 = Landings located outside harvest area and / or adjacent to major roads 1 = Landings located within harvest area and not adjacent to major roads.	.... / 1		<i>See measurement sheet for definition of major roads. A landing is defined as a "place where trees or parts of trees are snigged for sorting and processing and loaded for transport from the forest. Storage areas of cross-cut, forwarded logs placed by knuckleboom cranes where there has been no significant soil disturbance .. are not regarded as landings. Code of Forest Practices, App 1</i>
2.3.9.2	1.5.4	Rehabilitation (part 3)	Log landings and dumps should, where appropriate, have their top soil stockpiled for later use in rehabilitation.	N / A = Not appropriate to stockpile top soil; 0 = Topsoil not stockpiled; 1 = Topsoil stockpiled.	.... / 1		
2.3.9.3	1.5.4	Rehabilitation (part 3)	Log landings and dumps must be rehabilitated when no longer required by using techniques which will provide suitable soil conditions for the establishment and growth of vegetation. These techniques include draining the site, removing bark heaps, dismantling skids, ripping to reduce compaction, and respraying topsoil. Revegetation should be assessed after a period and where found inadequate remedial action taken.	N / A = Landing or dump still in use; 0 = No rehabilitation undertaken of landing or dump; 1 = Ripped to suitable depth; 2 = Topsoil respread; 3 = Bark heaps removed and drained as required.	.... / 3		<i>All landings must be rehabilitated except if required for the purpose of: Future Shelterwood 2 operations Adjacent coupes that will be harvested within 3 years Future management operations (Statewide Management Procedures, 2004, pg 6)</i>
2.3.12.2	1.5.3	Wet weather activities (16)	Landing operations must be temporarily suspended before conditions become so wet that their continuation would result in significant deterioration of the landing surface.	0 = Evidence of deteriorated surfaces believed to be a result of landing operations during wet weather conditions; 1 = No evidence of deterioration of landing surface.	.... / 1		
2.3.13.3a	3.7	Silviculture and Regeneration (21)	All works specified for the drainage and rehabilitation of landings snig tracks and roads and the removal of fuel and oil drums other rubbish and temporary structures must be completed as soon as practicable after the completion of the harvesting operation.	N / A = Harvesting operations not complete 1 = Drainage and rehabilitation of landings completed after harvesting.	.... / 1		<i>REFER TO MEASUREMENTS</i>

Log Landings and Dumps (pre October 2005)

Measurement

Measurement Methodology:

Locate and inspect at least 1 and up to 2 landings. Note the number and location of landing(s) including the approximate distance from permanent and temporary streams, drainage lines and wetlands against FMP / Statewide Management Procedure requirements. Record approximate landing size (see code definition) and assess against FMP / Statewide Management Procedure limits for relevant forest type. Where rehabilitation works have occurred, record rip depth and spacing against FMP / Statewide Management Procedure requirements.

Specification source: Utilisation Procedures, Section 8 pg 14 / 15

<p><u>Landing One</u></p> <p>Location (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> located at least 40 m from any permanent stream, wetland or any permanent Class 1 or 2 road; and, <input type="checkbox"/> located at least 20m from temporary stream, drainage line or permanent Class 3 or lower class of road. <input type="checkbox"/> Where practical, snig tracks are located in ways which avoid them converging downhill to a landing <p>Rehabilitation Works (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> landing is leveled and drained <input type="checkbox"/> ripping depth of at least 0.4m <input type="checkbox"/> ripping lines no more than 2m apart <input type="checkbox"/> re-spreading of sawdust to not> 3 cm depth <p>Area / Size where significant soil disturbance associated with the landing establishment is present:</p> <p>Width of landing: m (x)</p> <p>Length of landing: m (y)</p> <p>Area of landing: (0.5ha in Ash / 0.3 ha in other)..... ha</p> <p>Rip Tests (diagonal #1) / / / / /</p> <p>Rip Tests (diagonal #2) / / / / /</p> <p>No. rip tests >= 0.4m / 10</p> <p>Ave rip spacing m</p> <p>* A rip test is where the depth of a rip is tested using a metal rod or similar.</p>		<p>Environmental Impact</p> <ul style="list-style-type: none"> <input type="checkbox"/> Negligible <input type="checkbox"/> Minor <input type="checkbox"/> Moderate <input type="checkbox"/> Major <input type="checkbox"/> Severe
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<p><u>Landing Two</u></p> <p>Location (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> located at least 40 m from any permanent stream, wetland or any permanent Class 1 or 2 road; and, <input type="checkbox"/> located at least 20m from temporary stream, drainage line or permanent Class 3 or lower class of road. <input type="checkbox"/> Where practical, snig tracks are located in ways which avoid them converging downhill to a landing <p>Rehabilitation Works (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> landing is leveled and drained <input type="checkbox"/> ripping depth of at least 0.4m <input type="checkbox"/> ripping lines no more than 2m apart <input type="checkbox"/> re-spreading of sawdust to not> 3 cm depth <p>Area / Size where significant soil disturbance associated with the landing establishment is present:</p> <p>Width of landing: m (x)</p> <p>Length of landing: m (y)</p> <p>Area of landing: (0.5ha in Ash / 0.3 ha in other)..... ha</p> <p>Rip Tests (diagonal #1) / / / / /</p> <p>Rip Tests (diagonal #2) / / / / /</p> <p>No. rip tests >= 0.4m / 10</p> <p>Ave rip spacing m</p> <p>* A rip test is where the depth of a rip is tested using a metal rod or similar.</p>		<p>Environmental Impact</p> <ul style="list-style-type: none"> <input type="checkbox"/> Negligible <input type="checkbox"/> Minor <input type="checkbox"/> Moderate <input type="checkbox"/> Major <input type="checkbox"/> Severe
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Log Landings and Dumps (post October 2005)

Measurement

Measurement Methodology:

Locate and inspect at least 1 and up to 2 landings. Note the number and location of landing(s) including the approximate distance from permanent and temporary streams, drainage lines and wetlands against FMP / Statewide Management Procedure requirements. Record approximate landing size (see code definition) and assess against FMP / Statewide Management Procedure limits for relevant forest type. Where rehabilitation works have occurred, record rip depth and spacing against FMP / Statewide Management Procedure requirements.

Specification source: Statewide Management procedure, 2005 pg 7/8

<p><u>Landing One</u></p> <p>Location (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> located at least 40m from any permanent Class 5A or Class 5B road; <input type="checkbox"/> located at least 20 m from any permanent stream, wetland or any permanent Class 5C or lower class of road; <input type="checkbox"/> located at least 10m from temporary stream or drainage line. <input type="checkbox"/> Where practical, snig tracks are located in ways which avoid them converging downhill to a landing <p>Rehabilitation Works (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> landing is leveled and drained <input type="checkbox"/> ripping depth of at least 0.4m <input type="checkbox"/> ripping lines no more than 2m apart <input type="checkbox"/> re-spreading of sawdust to not> 3 cm depth <p>Area / Size where significant soil disturbance associated with the landing establishment is present:</p> <p>Width of landing: m (x)</p> <p>Length of landing: m (y)</p> <p>Area of landing: (0.5ha in Ash / 0.3 ha in other)..... ha</p> <p>Rip Tests (diagonal #1) / / / / /</p> <p>Rip Tests (diagonal #2) / / / / /</p> <p>No. rip tests >= 0.4m / 10</p> <p>Ave rip spacing m</p> <p><small>* A rip test is where the depth of a rip is tested using a metal rod or similar.</small></p>
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<p><u>Landing Two</u></p> <p>Location (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> located at least 40m from any permanent Class 5A or Class 5B road; <input type="checkbox"/> located at least 20 m from any permanent stream, wetland or any permanent Class 5C or lower class of road; <input type="checkbox"/> located at least 10m from temporary stream or drainage line. <input type="checkbox"/> Where practical, snig tracks are located in ways which avoid them converging downhill to a landing <p>Rehabilitation Works (tick if compliant):</p> <ul style="list-style-type: none"> <input type="checkbox"/> landing is leveled and drained <input type="checkbox"/> ripping depth of at least 0.4m <input type="checkbox"/> ripping lines no more than 2m apart <input type="checkbox"/> re-spreading of sawdust to not> 3 cm depth <p>Area / Size where significant soil disturbance associated with the landing establishment is present:</p> <p>Width of landing: m (x)</p> <p>Length of landing: m (y)</p> <p>Area of landing: (0.5ha in Ash / 0.3 ha in other)..... ha</p> <p>Rip Tests (diagonal #1) / / / / /</p> <p>Rip Tests (diagonal #2) / / / / /</p> <p>No. rip tests >= 0.4m / 10</p> <p>Ave rip spacing m</p> <p><small>* A rip test is where the depth of a rip is tested using a metal rod or similar.</small></p>
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Camp and Maintenance Sites

Other Values and Issues

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.4.4.7	3.4	Managem ent of camp and Maintenanc e sites (15)	Contamination Refuelling and maintenance of machines must not take place close to sensitive sites as spills of fuel and oil can enter drains and water courses and can seriously affect water quality.	0 = Evidence that refuelling and / or maintenance close to sensitive sites has led to contamination of water courses or drains; 1 = No evidence of contamination as a result of refuelling / maintenance.	.... / 1		<p><i>Camp sites must not be located in any excluded area or <20m from any stream, wetland or drainage line.</i></p> <p><i>Lavatories must be approved by FO and located >100m from any stream, wetland or drainage line.</i></p> <p><i>No waste to be disposed within State Forest.</i></p> <p><i>Section 3.8 of October 2005 Statewide Management Procedures.</i></p>

Litter Removal

Other Values and Issues

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.11.1	3.5	Litter Removal (7)	No fuel or oil dumps shall be located and no machinery serviced at a site from which pollution of streams or wetlands could result. Waste oil all empty drums discarded machinery parts and other waste must be removed from the forest.	N / A = No fuel or oil dumps; 0 = Evidence that fuel / oil dumps or machinery servicing sites have lead to pollution of streams / wetlands or oil drums, machinery waste found onsite; 1 = Fuel / oil dump and machinery servicing areas have not lead to pollution of streams / wetlands; 2 = Oil drums, machinery waste removed.	.... / 2		
2.3.13.3b	3.7	Silviculture and Regeneration (21)	All works specified for the drainage and rehabilitation of landings snig tracks and roads and the removal of fuel and oil drums other rubbish and temporary structures must be completed as soon as practicable after the completion of the harvesting operation.	N / A = Harvesting operations not complete 1 = Rubbish and temporary structures removed after harvesting.	.... / 1		<i>REFER TO MEASUREMENTS</i>

Habitat Trees

Flora and Fauna

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.6.5	2.5	Retention and Protection of habitat trees (18)	Flora and fauna: Retention of habitat trees and old-age understorey elements in appropriate numbers and configurations and provision for replacement of old hollow-bearing trees within or around coupes. Consideration must be given to both the protection of habitat trees during harvesting and subsequent management and the effects of retained trees on the growth of future crop trees.	0 = FMP or FMP / Statewide Management Procedures not met; 1= Habitat trees retained in required numbers but poorly selected / marked and / or protected; 2 = Habitat trees well protected and retained in required numbers.	.... / 2		<p><i>F&F Endorsement Category: «FloraFauna»</i></p> <p><i>Flora Notes: «FloraValues»</i></p> <p><i>Fauna Notes: «FaunaValues»</i></p> <p><i>Where regeneration burning operations are planned, slash must not be deliberately heaped, or permitted to be accumulate, within 3m of the base of any habitat tree or Shelterwood One tree (Statewide Management Procedures, 2004 & 2005 Section 3.1.1).</i></p> <p><i>See also Section 2.4 of the 2004 Statewide Management Procedures & Section 2.4.1 4.13 and 4.14 of the October 2005 Statewide Management Procedures.</i></p>

Habitat Trees

Measurement

Habitat Tree Prescriptions: See Schedule 2 of 2004 Statewide Management Procedure and Schedule 1 of October 2005 Statewide Management Procedures.

Net Area Coupe Area: «MaxOfProposedNetArea»

Required No. Retained Habitat Trees: 7 trees (*0 within 150m of SPZ*)

Approximate number of trees retained:

Number of suitably selected and protected habitat trees:

Number of retained trees excluded due to poor selection or protection:

Comments:

Measurement Guidelines: Assess coupe for retention of prescribed numbers of habitat. Record the number inspected and where retained trees are damaged by harvesting operations and / or where debris accumulated around the tree base does not comply with prescriptions. Record general comments on selection and protection of retained trees.

Forest Management Plan prescriptions – Habitat trees:
See Section 4.13 of Statewide Management Procedures

Management of Area Exclusions and Boundaries

Flora and Fauna

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.6.8	2.3	Protection and marking of area exclusions	Flora and fauna: Areas reserved or specifically management for flora and fauna conservation should be described shown on the Forest Coupe Plan and identified in the field.	N / A = No areas reserved or specifically managed for F&F conservation; 0 = Areas identified on coupe plan but not in field; or not shown on FCP; 1 = Areas identified and described on coupe plan.	.... / 1		<i>F&F Endorsement Category: «FloraFauna»</i> <i>Flora Notes: «FloraValues»</i> <i>Note Section 4.14 of October 2005 Statewide Management Procedures for the protection of giant trees.</i> <i>Fauna Notes: «FloraValues»</i>
2.3.2.18	1.2.5	Marking of Coupe boundaries	Coupe shape: Coupe boundaries should take advantage of topographic and artificial features with due regard to operational requirements landscape values and environmental values.	0 = No consideration to landscape; 1 = Consideration of; topographic / artificial features; +1 = Operation requirements; +1 = Landscape or environmental values.	.... / 1		
2.3.2.19	1.2.5	Marking of Coupe boundaries	Coupe shape: Where coupe boundaries do not follow obvious natural or artificial features they must be clearly marked on site.	0 = Coupe boundaries not clearly marked on site; 1 = Coupe boundaries clearly marked.	.... / 1		
2.3.13.1	3.7	Silviculture and Regeneration (21)	Prescribed burning to produce suitable seedbeds for regeneration and to reduce fire hazard within the coupe must be planned and controlled so as to protect as far as practicable any defined areas and retained vegetation.	N / A = Prescribed burn not completed or required; 0 = Prescribed burn has significantly damaged / affected defined areas or retained vegetation; 1 = Prescribed burn completed with no significant damage to defined areas and / or retained vegetation.	.... / 1		

Comments:

Slope Correction Table																			
<i>Horizontal distance (LHS), slope (top) and slope distance</i>																			
m	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°	40°
20	20			21			22			23			24			25			26
60	60	61			62	63	64	65	66	67	68	69	71	72	74	76	78		
80	80		81		82		83	84	85	86	88	89	91	92	94	96	99	102	104
100	100	101		102		103	104	105	106	108	109	111	113	115	118	121	124	127	131
200	200	201	202	203	204	206	208	210	213	216	219	223	227	231	236	241	247	254	261

Reserved Area Protection – Buffers

Flora and Fauna, Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.6.6	2.3	Protection and marking of area exclusions	Flora and fauna: Provide appropriate unlogged buffer areas around significant habitats.	N / A = No significant habitats in proximity to coupe; 0 = Buffers do not meet FMP / Statewide Management Procedures or aren't present around significant habitats; 1= Buffer meet FMP / Statewide Management Procedures requirements.	.... / 1		<i>F&F Endorsement Category: «FloraFauna»</i> <i>Flora Notes: «FloraValues»</i> <i>Fauna Notes: «FloraValues»</i>
2.3.3.14	1.2.2	Protection and marking of streamside buffers (1)	Operations within buffer strips: Trees must not be felled <u>from within</u> buffer strips unless approval is given to permit the selective removal of trees for management purposes.	0 = Tree(s) felled from within buffer strip and not noted on coupe plan; 1 = No tree(s) felled from within buffer strips or noted in FCP.	.... / 1		
2.3.3.15	1.2.2	Protection and marking of streamside buffers (1)	Operations within buffer strips: Buffers must be protected from damage caused by trees felled in adjacent areas. Trees accidentally felled into buffers may be removed if significant damage and disturbance to vegetation and soils of the buffer can be avoided.	0 = Tree(s) felled into buffer strip and removed causing significant damage and disturbance; 1 = Tree(s) knocked into buffer by accident and reported in coupe plan.	.... / 1		
2.3.3.16	1.2.2	Protection and marking of streamside buffers (1)	Operations within buffer strips: Machinery must not enter a buffer strip except for the construction and use of approved stream crossings.	0 = Machinery entered buffer strip in non-approved stream crossing; 1= Machinery did not enter buffer strip except at approved crossing.	.... / 1		
2.3.3.9b	1.2	Reserved Area Protection	Buffer and filter strips must be shown on FCPs and identified in the field.	0 = Buffer not shown; 1 = Buffer shown on Coupe Plan; 2 = Buffer shown on coupe plan and identified in field.	.... / 2		
2.3.3.11b	1.2.1	Width and configuration of filter and buffer strips	The width of buffer and filter strips must be measured in the horizontal plane.	0 = Buffer widths not measured at horizontal plane; 1 = Buffer widths measured at horizontal plane or suitably greater than FMP / Statewide Management Procedures.	.... / 1		

Reserved Area Protection – Buffers

Flora and Fauna, Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.3.12b	1.2.1	Width and configuration of filter and buffer strips	The width of buffer and filter strips must be measured from the edge of the saturated zone for streams and drainage lines or if no evidence of such a zone from the edge of the channel.	0 = Buffer widths not measured at saturated zone; 1 = Buffer widths measured appropriately or suitably greater than FMP / Statewide Management Procedures.	.... / 1		<i>Note this will vary depending on season (i.e. A buffer marked from the edge of the wetted or saturated area in January may bear little resemblance to the same buffer measured in June).</i> <i>Specific FMAs have different definitions of drainage lines. See Statewide Management Procedures, Section 4.3.2)</i>
2.3.3.13b	1.2.1	Width and configuration of filter and buffer strips	The width of buffer and filter strips must be measured from the edge of the current saturated zone for swamps wetlands springs and other bodies of standing water.	0 = Buffer widths not measured at saturated zone; 1 = Buffer widths measured appropriately or suitably greater than FMP / Statewide Management Procedures.	.... / 1		
2.3.3.8	1.2.1	Width and configuration of filter and buffer strips	Buffers must be protected from damage caused by trees felled in adjacent areas.	0 = Buffer damaged from tree fallen from adjacent area; 1 = Buffer intact.	.... / 1		
2.3.3.1b	1.2.1	Width and configuration of filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of The erodibility of soils.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer widths compliant with FMP / Statewide Management Procedures.	.... / 1		<i>SEH Topsoil: «TopsoilErosion»</i> <i>SEH Subsoil: «SubsoilErosion»</i>
2.3.3.4b	2.3	Protection and marking of area exclusions	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of The riparian habitat value.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer widths compliant with FMP / Statewide Management Procedures.	.... / 1		
2.3.3.2b	1.2.1	Width and configuration of filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of rainfall erosivity.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer widths compliant with FMP / Statewide Management Procedures.	.... / 1		
2.3.3.3b	1.2.1	Width and configuration of Filter and buffer	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of topography.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer / filter widths compliant with FMP / Statewide Management	.... / 1		<i>Slope Range: «SlopeMin»- «SlopeMax»</i>

Reserved Area Protection – Buffers

Flora and Fauna, Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
		strips		Procedures.			
2.3.3.5b	1.2.1	Width and configuration of filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of intensity and magnitude of the harvesting operation.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer widths compliant with FMP / Statewide Management Procedures.	.... / 1		
2.3.3.6b	1.2.1	Width and configuration of filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of any particular requirements of a water supply 'take-off' point.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer widths compliant with FMP / Statewide Management Procedures.	.... / 1		<i>Water Supply: «Catchment» The water supply 'take-off' point is defined as the point at which the water from the catchment enters the pipe to the water supply network.</i>
2.3.3.7b	1.2.1	Width and configuration of filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of any other requirements set out in Special Management Plans under the Catchment and Land Protection Act 1994.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer widths compliant with FMP / Statewide Management Procedures.	.... / 1		
2.3.3.10b	1.2.1	Width and configuration of Filter and buffer strips	The width of buffer and filter strips must be set locally in relation to water pollution hazard having reference to the Statewide minimum width and having reference to the specific factors mentioned above.	0 = Buffer widths less than FMP / Statewide Management Procedures; 1 = Buffer widths compliant with FMP / Statewide Management Procedures.	.... / 1		

Reserved Area Protection – *Buffers / streamside reserves*

Measurement

Measurement Methodology:

If available, assess at least two and up to four 200m sections of buffer and measure widths of buffer strips for at least 2 and up to 4 points along two 200-metre strips where necessary to determine compliance to relevant FMP / Statewide Management Procedures.

Source: Code of Forest Practices, 1996. Refer also to FMPs and Statewide Management Procedures Section 4.3.2 for definition of drainage lines.	<i>Soils with high permeability and low potential for overland flow</i>	<i>Soils with low permeability and high potential for overland flow</i>	
Slope / stream class	0-30 degrees	0-20 degrees	21-30 degrees
1. Permanent streams (flow >90% of year)	20m Buffer	30m Buffer	40m Buffer
2. Temporary streams (defined stream bed, obvious incision, distinctive riparian veg, carry water at wetter times of the year)	10m Filter	10m Buffer	20m Buffer
3. Drainage lines (Shows evidence of periodically flowing water / and or a channel more than 30cm deep with obvious bed and banks. Carry water during, or immediately after heavy rainfall. Riparian veg may or may not be present)	10m Filter	10m Filter	15m Filter
4. Wetlands	20m Buffer	30m Buffer	40m Buffer

<u>Buffer Strip One</u>			
Total Measured length:		..... m	
Total Affected / Damaged length:		..... m	
Relative percentage intact:	%	
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

<u>Buffer Strip Two</u>			
Total Measured length:		..... m	
Total Affected / Damaged length:		..... m	
Relative percentage intact:	%	
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

Reserved Area Protection – Significant Habitat Areas - Landscape

Measurement

Measurement Methodology:

If available, assess at least two and up to four 200m sections of buffer and measure widths of buffer strips for at least 2 and up to 4 points along two 200-metre strips where necessary to determine compliance to relevant FMP / Statewide Management Procedures.

Forest Management Plan prescriptions - Landscape:

<u>Significant Habitat Buffer Strip One</u>			
Total Measured length:		..... m	
Total Affected / Damaged length:		..... m	
Relative percentage intact:	%	
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

<u>Significant Habitat Buffer Strip Two</u>			
Total Measured length:		..... m	
Total Affected / Damaged length:		..... m	
Relative percentage intact:	%	
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

Reserved Area Protection – Filters

Flora and Fauna, Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.3.19	1.2.3	Protection and marking of filter strips (2)	Where log culverts are used they should be removed immediately following completion of harvesting (or any subsequent regeneration work for which they are required) using a technique that minimises soil disturbance.	0 = Log culverts not removed; 1 = Log culverts removed; 2 = Log culverts removed minimising soil disturbance.	.... / 2		
2.3.3.17	1.2.3	Protection and marking of filter strips (2)	Trees located in filter strips may be felled but care must be taken to direct them out of the strip. Slash accumulation in the filter strip should be minimised. Soil disturbance within the filter strip from the removal of felled trees should be minimised.	0 = Trees felled within strip and not directed out of strip or excessive soil disturbance or slash accumulation evident; 1 = Code guidelines followed.	.... / 1		<i>Consideration should be made with respect to; Tree crown, lean, stocking, health and condition; Felling technique, hand / machine; and Slope, prevailing wind, levels of slash with coupe. Note Section 4.3.2(b) of October 2005 Statewide Management Procedures.</i>
2.3.3.18	1.2.3	Protection and marking of filter strips (2)	Machinery must not enter filter strips except at agreed crossing points and soil disturbance must be minimised.	0 = Machinery entered filter strips in non-agreed points; 1 = Machinery entered filter strip in agreed points only; 2 = Machinery entered filter strip in agreed points and minimised soil disturbance.	.... / 2		
2.3.3.9f	1.2	Reserved Area Protection	Buffer and filter strips must be shown on FCPs and identified in the field.	0 = filters not shown; 1 = filters shown on Coupe Plan; 2 = filter shown on coupe plan and identified in field.	.... / 2		
2.3.3.11f	1.2.1	Width and configuration of Filter and buffer strips	The width of buffer and filter strips must be measured in the horizontal plane.	0 = filter widths not measured at horizontal plane; 1 = filter widths measured at horizontal plane or suitably greater than FMP / Statewide Management Procedures.	.... / 1		
2.3.3.12f	1.2.1	Width and configuration of Filter and buffer strips	The width of buffer and filter strips must be measured from the edge of the saturated zone for streams and drainage lines or if no evidence of such a zone from the edge of the channel.	0 = filter widths not measured at saturated zone; 1 = filter widths measured appropriately or suitably greater than FMP / Statewide Management Procedures.	.... / 1		<i>Note this will vary depending on season. I.e. A buffer marked from the edge of the wetted or saturated area in January may bear little resemblance to the same buffer measured in June.</i>

Reserved Area Protection – Filters

Flora and Fauna, Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.3.13f	1.2.1	Width and configuration of Filter and buffer strips	The width of buffer and filter strips must be measured from the edge of the current saturated zone for swamps wetlands springs and other bodies of standing water.	0 = Filter widths not measured at saturated zone; 1 = Filter widths measured appropriately or suitably greater than FMP / Statewide Management Procedures.	.... / 1		
2.3.3.1f	1.2.1	Width and configuration of Filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of The erodibility of soils.	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths compliant with FMP / Statewide Management Procedures.	.... / 1		<i>SEH Topsoil: «TopsoilErosion»</i> <i>SEH Subsoil: «SubsoilErosion»</i>
2.3.3.4f	2.3	Protection and marking of area exclusions	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of The riparian habitat value.	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths equal to FMP / Statewide Management Procedures.	.... / 1		<i>Flora Notes: «FloraValues»</i> <i>Fauna Notes: «FloraValues»</i>
2.3.3.2f	1.2.1	Width and configuration of Filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of rainfall erosivity.	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths compliant with FMP / Statewide Management Procedures.	.... / 1		
2.3.3.3f	1.2.1	Width and configuration of Filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of topography.	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths compliant with FMP / Statewide Management Procedures.	.... / 1		<i>Slope Range: «SlopeMin»- «SlopeMax»</i>
2.3.3.5f	1.2.1	Width and configuration of Filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of intensity and magnitude of the harvesting operation.	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths compliant with FMP / Statewide Management Procedures.	.... / 1		
2.3.3.6f	1.2.1	Width and configuration of Filter and buffer strips	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account of any particular requirements of a water supply 'take-off' point.	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths compliant with FMP / Statewide Management Procedures.	.... / 1		<i>Catchment: «Catchment»</i> <i>The water supply 'take-off' point is defined as the point at which the water from the catchment enters the pipe to the water supply network.</i>
2.3.3.7f	1.2.1	Width and configuration of Filter	Buffer and filter strips must be increased beyond the measures listed whenever appropriate to take account	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths compliant with FMP /	.... / 1		

Reserved Area Protection – Filters

Flora and Fauna, Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
		and buffer strips	of any other requirements set out in Special Management Plans under the Catchment and Land Protection Act 1994.	Statewide Management Procedures.			
2.3.3.10f	1.2.1	Width and configuration of Filter and buffer strips	The width of buffer strips and filter strips must be set locally in relation to water pollution hazard having reference to the Statewide minimum width and having reference to the specific factors mentioned above.	0 = Filter widths less than FMP / Statewide Management Procedures; 1 = Filter widths compliant with FMP / Statewide Management Procedures.	.... / 1		

Reserved Area Protection – *Filters*

Measurement

Measurement Methodology:

If available, assess at least 200 metres of filter strip during coupe inspection. Measure widths for at least 2 and up to 4 points along one 200-metre strip where necessary to determine compliance to relevant FMP / Statewide Management Procedures.

Source: Code of Forest Practices, 1996. Refer also to FMPs and Statewide Management Procedures Section 4.3.2 for definition of drainage lines.	<i>Soils with high permeability and low potential for overland flow</i>	<i>Soils with low permeability and high potential for overland flow</i>	
Slope / stream class	0-30 degrees	0-20 degrees	21-30 degrees
1. Permanent streams (flow >90% of year)	20m Buffer	30m Buffer	40m Buffer
2. Temporary streams (defined stream bed, obvious incision, distinctive riparian veg, carry water at wetter times of the year)	10m Filter	10m Buffer	20m Buffer
3. Drainage lines (Shows evidence of periodically flowing water / and or a channel more than 30cm deep with obvious bed and banks. Carry water during, or immediately after heavy rainfall. Riparian veg may or may not be present)	10m Filter	10m Filter	15m Filter
4. Wetlands	20m Buffer	30m Buffer	40m Buffer

<u>Filter Strip One</u>			
Total Measured length:		m
Total Affected / Damaged length:		m
Relative percentage intact:		%
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

<u>Filter Strip Two</u>			
Total Measured length:		m
Total Affected / Damaged length:		m
Relative percentage intact:		%
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

Rainforest

Flora and Fauna

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.7.3*	2.1	Protection of Rainforest	(i) for stands of lesser significance - 40 m buffers or 20 m exclusion plus a 40 m modified harvesting strip (> 40% of basal area retained low machine disturbance minimal burning);	N / A = No rainforest areas; 0 = Rainforest not adequately protected; 1 = Protected to FMP / Statewide Management Procedure requirements.	.... / 1		<i>Mgt Zone: «ManagementZone»</i>
2.3.7.4*	2.1	Protection of Rainforest	(ii) for stands where Nothofagus makes up >20% of the canopy - buffers of 60 m or 40 m buffer with 40 m modified harvesting zone (> 40% of basal area retained low machine disturbance minimal burning);	N / A = No Nothofagus stands; 0 = Nothofagus not adequately protected; 1 = Protected to FMP / Statewide Management Procedure requirements.	.... / 1		
2.3.7.5*	2.1	Protection of Rainforest	(iii) for stands containing nationally significant rainforest - the highest degree of protection generally sub-catchment level except where full protection can be provided by other measures which are / will be outlined in approved plans.	N / A = No areas of nationally significant rainforest; 0 = Sub-catchment protection not implemented and other measures inadequately; 1 = Protected to FMP / Statewide Management Procedure requirements	.... / 1		
2.3.7.6	2.3	Protection and marking of area exclusions	Rainforest: areas must be shown on the Forest Coupe Plan and buffers identified in the field.	N / A = No rainforest areas; 0 = Rainforest not shown or marked in coupe plan; and Rainforest not marked to prescriptive requirements; 1 = Rainforest marked in coupe plan; 2 = Rainforest marked and buffers identified in field; 3 = Protected to prescriptive requirements.	.... / 3		<i>Flora & Fauna comments:</i> <i>«FloraValues»</i> <i>«FaunaValues»</i>
2.3.7.7	2.3	Protection of Rainforest	Buffers must be protected from damage caused by trees felled in adjacent areas	N / A = No areas of rainforest; 0 = Buffers not adequately protected; 1 = Buffers adequately protected.	..../1		

Rainforest – and Myrtle Beech

Measurement

Measurement Methodology:

If available, assess at least two and up to four 200m sections of buffer and measure widths of buffer strips for at least 2 and up to 4 points along two 200-metre strips where necessary to determine compliance to relevant FMP / Statewide Management Procedures.

Forest Management Plan prescriptions - Rainforest:

- Section 4.8 of Statewide Management Procedures states rainforest buffers should be measured from the outer extent of the rainforest canopy, not from the trunks of rainforest trees

<u>Rainforest / Myrtle Buffer One</u>			
Total Measured length:		m
Total Affected / Damaged length:		m
Relative percentage intact:		%
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

<u>Rainforest / Myrtle Buffer Two</u>			
Total Measured length:		m
Total Affected / Damaged length:		m
Relative percentage intact:		%
n	Chain (m)	Width (m)	Comments / Details of Breach
1			
2			
3			
4			
5			
6			
7	-		
8	-		
9	-		
Avg			TOTAL

Snig and Forwarding Tracks

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.10.3	1.4.3.2	Blading off	Snig tracks must not be bladed-off except with specific authorisation.	0 = Snig tracks bladed off with no authorisation; 1 = Snig tracks bladed off with specific authorisation or no evidence of blading off.	.... / 1		
2.3.10.5	1.4.2	Construction and Drainage	Tracks must be outsloped or cross-drained immediately following completion of snigging operations on a section of a coupe or when tracks will not be used again for some time due to transfer of operations. The relevant time should be specified in local prescriptions. Cross-drains must be spaced and angled according to local prescriptions and soil erosion hazard class so as to interrupt any flow of surface water down the track and disperse it onto undisturbed or uncompacted areas avoiding direct discharge into drainage lines or streams.	0 = Tracks have no drainage structures or outsloping following prescribed time since use OR tracks have drainage structures that do not meet FMP / Statewide Management Procedures; 1 = Tracks have drainage structures or outsloping that meet FMP / Statewide Management Procedures.	.... / 1		
2.3.10.1	1.4.1	Planning and Location	Snig and forwarding tracks must not closely parallel the beds of drainage lines and should be located where they can be effectively cross-drained and outsloped. Preference should be given to uphill snigging using spurs and ridge tops where possible. Tracks must be designed with a view to minimising slope and crossfall to assist drainage.	0 = Tracks parallel bed of drainage lines or located where they can not be effectively drained; 1 = Tracks designed to minimise slope crossfall and assist drainage; +1 = Where possible, well drained tracks located on spurs and ridge tops.	.... / 1		
2.3.10.4	1.4.1	Planning and Location	Crossing of filter strips should be minimised. Approved crossings should be designated on the Forest Coupe Plan. Where crossings involve the use of log culverts these should be removed when harvesting is completed.	N / A = No crossings of filter strips; 0 = No effort to minimise filter strip crossings, approved crossing not designated on FCP, or where present log culverts not removed following completion of harvest; 1 = Approved crossing designated on FCP and where present, log culverts removed.	.... / 1		

Snig and Forwarding Tracks

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.10.2	1.4.3	Wet weather activities (6)	Rutting and compaction should be minimised by use of appropriate snigging / forwarding equipment, not snigging / forwarding when the soil is too wet and by <u>placement of slash on the tracks.</u>	0 = Inappropriate snigging / forwarding equipment used AND / OR evidence of snigging / forward operations in wet weather leading to significant rutting / compaction; 1 = No evidence of significant rutting / compaction.	.... / 1		
2.3.12.1	1.4.3	Wet weather activities (6)	Snigging and forwarding operations must be suspended when the soil is so wet that significant compaction rutting or soil mixing is likely to be caused by machine traffic and / or if water begins to flow along tracks threatening stream water quality.	0 = Evidence of rutting believed to be a result of Snigging / Forwarding operations occurring during wet weather conditions; 1 = Evidence of suspension of operations during wet weather conditions.	.... / 1		<i>See Sections 3.4(b) and (c) of the October 2005 Statewide Management Procedures.</i>
2.3.12.3	1.4.3	Wet weather activities (6)	The suspension of snigging and forwarding operations should be flexible and may be prescribed where expected climatic conditions are such that timber harvesting operations would be detrimental to the environment.	0 = Prescribed suspension of snigging / forwarding operations valid but not followed resulting in environmental damage; 1 = Prescribed suspension followed or expected climatic conditions encompassed in recommended harvesting period.	.... / 1		
2.3.13.3c	3.7	Silviculture and Regeneration (21)	All works specified for the drainage and rehabilitation of landings snig tracks and roads and the removal of fuel and oil drums other rubbish and temporary structures must be completed as soon as practicable after the completion of the harvesting operation.	N / A = Harvesting operations not complete; 1 = Drainage and rehabilitation of snig tracks completed after harvesting.	.... / 1		<i>REFER TO MEASUREMENTS</i>

Snig and Forwarding Tracks

Measurement

Measurement Methodology:

Where present, inspect as much snig track as possible (at least 200 metres) during coupe inspection. This may be done whilst walking between landings, for instance. Note measured distance of snig track inspected and assess that drainage structures are within FMP / Statewide Management Procedure requirements.

Total Distance of Snig Track Inspected:m
Required Drainage structure spacing:m
Number of drainage structures inspected:(x)
Number of non-effective drainage structures:(y)
 Effective number of drainage structures:(x-y)
 Length of non compliance:m

Topsoil SEH: «*TopsoilErosion*»
 Subsoil SEH: «*SubsoilErosion*»

Maximum Distance between Cross Drains (Gipps Presc C7, T6, pg 77)

SEH	< 6° or 10%	6-11° or 10-20%	11-18° or 20-33%	18-27° or 33-	>27° or 50%
Low	120 m	90	60	30	15
Medium	90	60	40	20	10
High	60	30	20	10	Not allowed

Maximum Distance between Drainage Structures (October 2005 Management Procedures)

SEH	1:50 1° 2%	1:25 2° 4%	1:15 3.5° 6%	1:12 4.5° 8%	1:10 6° 10%	1:8 7° 12%	1:7 8° 15%	1:5 11° 20%
Low	250	170	130	115	100	90	60	30
Medium	200	150	120	105	90	80	50	Not perm.
High	160	130	110	95	80	65	Not perm	Not perm

n	Chain (m)	Structure	Effective	Spacing	Slope	Comments
1		RO / CD / Cul	Y / N			
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boundary Tracks

Other Soil Conservation Issues

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.3.13.2	1.6.1	Rehabilitation of boundary tracks (8)	Where harvesting debris is to be burned to produce seedbeds for regeneration and a firebreak track cleared to mineral earth is necessary around all or part of the boundary of the coupe the track must be outsloped or cross-drained following the completion of the burning operation.	N / A = Firebreak track not required or completed; 0 = Firebreak track not outsloped or cross-drained following burning; 1 = Firebreak outsloped or cross-drained following burning operations.	.... / 1		<i>Fire Endorsement Category: «FireMgmt»</i> <i>Does a Fire Management Plan exist that allows installation of boundary tracks outside the nominal coupe boundary?</i>

Boundary Tracks

Measurement

Measurement Methodology:

Where present, inspect as much boundary track as possible (at least 200 metres) during coupe inspection. Note measured distance of boundary track inspected and assess that drainage structures are within FMP / Statewide Management Procedure requirements.

Total Distance of Boundary Track Inspected:m
Required Drainage structure spacing:m
Number of drainage structures inspected:(x)
Number of non-effective drainage structures:(y)
 Effective number of drainage structures:(x-y)
 Length of non compliance:m

Topsoil SEH: «*TopsoilErosion*»
 Subsoil SEH: «*SubsoilErosion*»

Maximum Distance between Cross Drains (Gipps Presc C7, T6, pg 77)

SEH	< 6° or 10%	6-11° or 10-20%	11-18° or 20-33%	18-27° or 33-	>27° or 50%
Low	120 m	90	60	30	15
Medium	90	60	40	20	10
High	60	30	20	10	Not allowed

Maximum Distance between Drainage Structures (October 2005 Management Procedures)

SEH	1:50 1° 2%	1:25 2° 4%	1:15 3.5° 6%	1:12 4.5° 8%	1:10 6° 10%	1:8 7° 12%	1:7 8° 15%	1:5 11° 20%
Low	250	170	130	115	100	90	60	30
Medium	200	150	120	105	90	80	50	Not perm.
High	160	130	110	95	80	65	Not perm	Not perm

n	Chain (m)	Structure	Effective	Spacing	Slope	Comments
1		RO / CD / Cul	Y / N			
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
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20						
21						
22						
23						
24						
25						

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.4.4.2	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Clearing along road alignment The road alignment must be cleared before commencing construction. Any stumps logs and other forms of debris must be removed to ensure that they are not buried in the load-bearing portion of the road. Where necessary topsoil must be stockpiled in a manner suitable for rehabilitation works.	0 = Stumps, logs or debris present within load-bearing portion of road OR topsoil not, where feasible, stockpiled as required for temporary road; 1 = Topsoil stockpiled e.g. windrows, or used for rehab; 2 = No evidence of or presence of debris in load bearing surface.	.... / 2		<i>Contractor must ensure that (UP 9.4aii) the site of the road is cleared and all merchantable logs recovered and all debris removed from the area which will be occupied by the proposed road pavement, shoulders and table drain before construction of the road commences</i> <i>A Contractor who improves an existing road may push any non-merchantable logs beyond the slashable verge of the road into the forest unless the Forest Coupe Plan provides otherwise.</i>
2.4.9.4	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Blading-off: is not permitted unless specifically authorised and then only on temporary roads where effective side drainage is able to be maintained and recovery, re-spreading and levelling of the removed soil is possible.	0 = Blading-off without specific authorisation or with authorisation on temporary roads with no effective side drainage; 1 = No Blading-off evident or done with specific authorisation and where effective drainage is in place.	.... / 1		
2.4.4.3	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Clearing along road alignment The area cleared should be kept to the minimum required for effective construction and to allow sufficient sunlight and air movement onto the road surface for effective drying.	0 = Road clearing above FMP / Statewide Management Procedure requirements OR insufficient for effective drying; 1 = Clearing within FMP / Statewide Management Procedure or acceptable limits.	.... / 1		<i>Contractor must ensure that (UP 9.4aii) wherever a road crosses or adjoins an excluded area, clearing must not exceed the minimum width specified in Schedule 3 , plus any additional width required to construct batters, as specified in the Forest Coupe Plan, which has been physically marked on the coupe and approved by an authorised officer.</i>
2.4.4.4	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Fills and embankments: must be consolidated and stabilised using currently accepted engineering and conservation practices.	N / A = No fills or embankments; 0 = Fills / embankments not or ineffectively stabilised; 1 = Fills / embankments effectively stabilised.	.... / 1		
2.4.4.5	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Fills and embankments All faces and slopes requiring stabilisation and drainage must be treated prior to the removal of equipment from the site and be either allowed to revegetate or be seeded with appropriate native species to rapidly establish protective ground cover. Spreading of stockpiled topsoil on embankments can assist the revegetation process.	0 = Faces / slope not stabilised despite requirement or not stabilised sufficiently; 1 = Faces / slope stabilised effectively, or stabilisation considered but not required.	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.4.4.9	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Partially built roads Where road construction is halted or suspended adequate temporary stabilisation must be employed to deal with site earthwork drainage and erosion control.	N / A = Road construction not halted / suspended; 0 = No or insufficient stabilisation employed to avoid material movement; 1 = Suitable stabilisation.	.... / 1		
2.4.9.1	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Road surface Roads must be maintained as necessary to minimise erosion of the road surface. The surface of permanent roads must be crowned or cross-sloped and any windrows of soil on the outside of the road must be regularly breached except where they have been intentionally constructed for the protection of fills.	0 = Roads not maintained to minimise erosion or windrows not breached; 1 = Road surface crowned or cross-sloped and, where present and not part of existing drainage structure, windrows of soil on outside of road regularly breached.	.... / 1		
2.4.9.2	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Road edges Vegetation beside permanent roads should, where necessary, be controlled to improve visibility for drivers and to prevent vegetation invading the road surface or blocking table drains.	0 = Vegetation excessively invading road surface, blocking drain structures, or significantly impairing visibility; 1 = Vegetation has been managed appropriately to; improve visibility and avoid damage.	.... / 1		
2.4.9.3	1.3.2	Construction and Maintenance (Temp 12 / Perm 13)	Felled and fallen trees All trees or heads which fall onto roads must be removed as soon as possible. The tree or head must be cut off back from the top of the batter or fill and on ridge-top roads back from the edge of the road to permit verge maintenance. Where roadside slashing is to be carried out it may be necessary to remove debris for a greater distance from the road edge.	0 = Trees or heads on roadway; 1 = No evidence of trees or head, trees or heads cut back from batter / fill / ridge-top; +1= Roadside slashing (as required) has reduced debris from road edge.	.... / 1		
2.4.4.6	1.3.2.3.1	Design and Discharge	Culverts and drains All table drains culverts cross drains and other drainage structures must be installed concurrently with the formation of the road. Sections of partly constructed	0 = Drainage structures installed after formation of road and / or partly constructed roads not effectively drained or if present, partly constructed roads not effectively	.... / 1		<i>[Ref Utilisation Procedures Aug '01 s9.6.2b, p. 19]; A contractor must ensure that a partly constructed road is cross-drained or outsloped before the work on any day is completed</i>

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
			road to be left over winter or for other extended periods must be drained by outsloping or cross drains.	drained; 1 = Drainage structures installed with formation of the road.			
2.4.5.3	1.3.2.3.1	Design and Discharge	Drainage from roads must discharge on to undisturbed vegetation or energy dissipating structures. Silt traps should be provided where necessary to prevent direct discharge into streams streamside buffers or filter strips. Discharge onto exposed erodible soils or over fill slopes must be avoided where possible and structures and earthworks required to avoid such discharges are to be identified at the planning stage rather than during construction.	0 = Drainage from roads leading to material movement directly into streamside buffers / filters and / or water discharging onto exposed soils / fill slopes; 1 = Drainage from roads discharge onto undisturbed vegetation or energy dissipating structures; +1 = silt traps required and installed reducing material movement into buffers / filters; +1 = structures required to limit discharge onto exposed soils / fill slopes identified during planning phase and installed.	... / 1		
2.4.5.1	1.3.2.3.1	Design and Discharge	Roads must be cross-sloped or crowned with table drains provided to minimise the concentrations and velocity of run-off and ensure that water drains from the road surface.	0 = Roads do not have table drains nor has cross-slope / crowning been installed, or if present not to FMP / Statewide Management Procedure requirements; 1 = Roads have table drains and have been cross-sloped or crowned in accordance with FMP / Statewide Management Procedures.	... / 1		
2.4.5.4	1.3.2.3.1	Design and Discharge	Drainage from road sections outside buffer strips should be discharged before the road enters buffer strips.	0 = Drainage from roads outside of buffer strip not discharged before road entered buffers; 1 = Drainage from road before buffer.	... / 1		<i>A Contractor must ensure the least possible drainage from a road is discharged inside any stream buffer or filter strip through which the road passes. (UP 9.6.1d)</i>
2.4.6.4	1.3.2.3.1	Design and Discharge	Roadside batters (both cut and fill) should be constructed and stabilised by forming catch drains above batters to minimise erosion as appropriate.	N / A = Roadside batter doesn't require catch drains; 0 = Roadside batter should have catch drains installed but has not despite FMP / Statewide Management Procedure requirement; 1 = Roadside batter has installed catch drains in accordance with FMP / Statewide Management Procedures.	... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.4.7.10	1.3.2.3.1	Design and Discharge	Permanent culverts must be of a size adequate to carry expected peak flows (1:10-year storm). They should be installed to conform wherever possible to the natural slope and alignment of the stream or drainage line.	N / A = No requirement for permanent culverts; 0 = Permanent culverts non-existent or below FMP / Statewide Management Procedure requirements; 1 = Permanent culverts at or above FMP / Statewide Management Procedure requirements; +1 = Permanent culverts conform to natural slope and alignment of stream or drainage line.	.... / 1		<i>Unless stated otherwise in FCP, culverts should be 375 mm.</i>
2.4.9.5	1.3.2.3	Drainage Structures	Drainage Road drainage systems must be maintained to protect the road from erosion and to minimise the discharge of turbid water into streams.	0 = Road drainage systems not maintained to protect the road from erosion or minimise discharge of turbid water into streams; 1 = Road drainage systems maintained to FMP / Statewide Management Procedure standards to minimise erosion and turbid water discharge.	.... / 1		
2.4.11.3	1.3.2.1	Grade, Design and Timing	Where roads are to be closed following completion of harvesting the road surface , batters and fills must be stabilised and treated to encourage revegetation wherever possible with local native species.	N / A = No road batters / fills present or road not to be closed; 0 = Road surface batter / fills not effectively stabilised and treated to encourage revegetation; 1 = Road surface batters and fills stabilised and treated to encourage revegetation; +1 = revegetation on fills / batters completed with local native species.	.... / 1		
2.4.6.3	1.3.2.1	Grade, Design and Timing	Roadside batters (both cut and fill) should be constructed and stabilised by Stepping where suitable.	0 = Roadside batter should be stepped but has not despite FMP / Statewide Management Procedure requirement; 1 = Roadside batter has been stepped or not stepped in accordance with FMP / Statewide Management Procedures.	.... / 1		
2.4.2.1	1.3.2.1	Grade, Design and Timing	New or upgraded roads must be designed to accommodate the <u>anticipated</u> frequency type and speed of traffic, soil and subgrade conditions.	N / A = No new or upgraded roads installed; 0 = New / upgraded road design not a function of use nor to FMP /	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
			road drainage and water quality requirements and landscape, and environmental values.	Statewide Management Procedure requirements; 1 = New / upgraded road design a function of use and in accordance with FMP / Statewide Management Procedure requirements.			
2.4.4.1	1.3.2.1	Grade, Design and Timing	Timing Road construction should be undertaken when rainfall and soil conditions minimise the risk of erosion and offsite impact of water quality recognising the role of adequate soil moisture in achieving desirable compaction and stabilisation of the subgrade.	N / A = No road construction undertaken within or adjoining coupe in the auditable period or information not available; 0 = Road construction occurred during period deemed unsuitable by FMP / Statewide Management Procedures, DSE staff or soil expert; 1 = No evidence of construction during wet periods. Road construction within a period deemed suitable by FMP / Statewide Management Procedures, DSE staff or soils expert.	.... / 1		
2.4.2.2	1.3.2.1	Grade, Design and Timing	Permanent roads should be constructed on alignments with grades that generally do not exceed 1:10 with steeper grades being permissible for short sections totalling up to 15% of total road length. Temporary roads may be constructed on alignments with grades steeper than 1:10.	0 = Permanent roads exceed 1:10 grade requirement for greater than 15% of sampled length; 1 = Permanent roads do not exceed 1:10 grade for greater than 15% of sampled length.	.... / 1		
2.4.6.1	1.3.2.1	Grade, Design and Timing	Roadside batters (both cut and fill) should be constructed and stabilised by appropriate sloping to prevent slumping into table drains. The slope is to be determined from soil slumping potential and soil erosion hazard as set out in NRE guidelines (or regional management prescriptions) or from observation of existing batter performance.	0 = Roadside batter slope does not comply with FMP / Statewide Management Procedures; 1 = Roadside batter slope complies with FMP / Statewide Management Procedures.	.... / 1		
2.4.6.2	1.3.2.1	Grade, Design and	Roadside batters (both cut and fill) should be constructed and stabilised by Revegetating where the soil is	0 = Roadside batter has highly erodible soils yet no revegetation has occurred;	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
		Timing	highly erodible.	1 = Roadside batter stabilised using revegetation or doesn't require further stabilisation.			
2.4.6.5	1.3.2.1	Grade, Design and Timing	Roadside batters (both cut and fill) should be constructed and stabilised by Using retaining walls or other engineering structures as necessary.	N / A = Not applicable 0 = Roadside batter requires stabilisation yet no retaining wall or other engineering structure has been installed; 1 = Roadside batter stabilised using retaining wall or other engineering structures.	.... / 1		<i>A Contractor must ensure that any table drain on a road constructed in soil which, in the opinion of an authorised officer has a high erosion hazard, is supported by rock or otherwise stabilised. (UP 9.6.4d)</i>
2.4.1.2	1.3.1	Planning and Location	Such forward planning should enable roads to be kept to the minimum total length consistent with management requirements located in the best landscape position possible (e.g. minimising the need for stream crossings) constructed under suitable weather conditions and well consolidated before heavy use.	0 = Limited forward planning resulting in poor road location and despite access / slope excessive road length, construction in unsuitable weather conditions or limited consolidation before heavy use; 1 = Road located appropriately within landscape and length minimised; 2 = Construction occurred in suitable weather conditions; 3 = Planning ensured sufficient time for consolidation before heavy use.	.... / 3		<i>This refers to permanent roads (2.4.1.2). Road Plans deal with length, landscape etc. This statement is not actually saying roads should be kept to a minimum length, rather that forward planning should deal with that aspect.</i>
2.4.3.4	1.3.1	Planning and Location	Roads should be located so that they keep earthworks to a minimum by matching wherever possible road alignment with topography of the land. Wherever feasible they should be located along ridges and spurs avoiding steep side-slopes and damp southern aspects.	0 = Roads not located to minimise required earth works, or roads haven't reasonably considered topography, side-slope or aspect; 1 = Roads located with consideration to topography, aspect and sideslope resulting in minimisation of earthworks; +1 = Roads located along ridges / spurs.	.... / 1		
2.4.3.5	1.3.1	Planning and Location	Roads should be located so that they avoid environmentally sensitive areas. Roads should not be located in or closely parallel to natural drainage channels heaths and swamps or other areas of poor or restricted drainage.	N / A = No environmentally sensitive areas, heaths, swamps or areas of restricted drainage; 0 = Road unacceptably located in to sensitive areas, heaths, swamps or restricted or parallel natural to drainage areas; 1 = Road location considered where practical to sensitive areas, heaths,	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
				swamp and areas of restricted or natural drainage channels.			
2.4.3.6	1.3.1	Planning and Location	Roads should be located so that they avoid steep and unstable slopes and areas prone to landslips.	0 = Road location hasn't considered steep / unstable slopes or areas prone to landslips; or evidence of unacceptable landslip / slumping; 1 = Road location has considered steep / unstable slopes and potential landslip areas.	.... / 1		<i>This refers to new or upgraded roads, detail of road location is continued in Road Plan</i> <i>DSE comment: The road plan does not regard the need to avoid steep and unstable slopes, and areas prone to landslip as a requirement. This is a road by road issue. Sometimes steep slopes cannot be avoided and therefore appropriate construction and design is utilised and possibly specified by engineers.</i>
2.4.3.8	1.3.1	Planning and Location	Roads should be located so that they avoid the entry of sidecast material into streams or drainage lines.	0 = Road location (<i>design</i>) hasn't considered or has lead to entry of sidecast material into streams / drainage lines; 1 = Road location avoids entry of sidecast material into streams / drainage lines.	.... / 1		
2.4.1.1	1.3.1	Planning and Location	Plans for permanent roads must be approved in advance of harvesting operations to enable the roads to be located on alignments and grades that provide the required standard of access without compromising water quality and other environmental values.	0 = Permanent roads not approved in advance of harvesting operations or located on alignments and / or grades that don't meet required use and / or have led to material movement or environmental damage; 1 = Permanent roads approved prior to harvesting, match use and minimise material movement or environmental damage.	.... / 1		
2.4.1.3	1.3.1	Planning and Location	Plans for permanent roads must be based on detailed field surveys and environmental care principles which ensure that all environmentally sensitive locations are identified and appropriate design and construction techniques adopted.	0 = No planning of permanent roads or no evidence of field surveys identifying sensitive locations; 1 = Road planning based on field surveys resulting in utilisation of appropriate design and construction techniques and identification of sensitive locations.	.... / 1		
2.4.1.4	1.3.1	Planning and Location	Planning for temporary roads must be based on appropriate field reconnaissance and environmental	0 = Planning of temporary roads not based on, or no evidence of field reconnaissance; 1 = Evidence of road planning based on	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
			care principles.	field reconnaissance and environ care.			
2.4.3.1	1.3.1	Planning and Location	Roads must be located so that they avoid Reference Areas and other areas designated by NRE to be of importance (<i>referenced in FMP, FCP or WUP</i>).	N / A = No reference areas or other NRE / DSE designated areas of importance; 0 = Road located within reference areas or NRE / DSE designated areas of importance; 1 = Roads located to avoid reference or designated areas of importance.	.... / 1		
2.4.3.2	1.3.1	Planning and Location	Roads must be located so that they avoid areas designated by Aboriginal Affairs Victoria (AAV) to be important archaeological sites.	N / A = No AAV designated areas; 0 = Road located within AAV designated areas of importance; 1 = Roads located to avoid designated areas of importance.	.... / 1		
2.4.3.7	1.3.1	Planning and Location	Roads should be located so that they avoid disturbance to streams buffer strips riparian vegetation and rainforest in areas not associated with approved crossings.	0 = Road location, excluding approved crossings, hasn't considered or has lead to unnecessary disturbance to buffers / riparian vegetation or rainforest; 1 = Roads where practical have avoided disturbance to buffers / riparian vegetation and rainforest.	.... / 1		
2.4.3.9	1.3.1	Planning and Location	Roads should be located so that they permit road surface run-off to be discharged away from streams or drainage lines as far as practicable.	0 = Road location has lead to discharge of surface run-off directly into streams / drainage lines; 1 = Road located to permit surface run-off to be discharged away from streams or drainage lines.	.... / 1		
2.4.11.1	1.3.4	Road Closure	Roads must be closed when they are no longer required or where continued use would result in unacceptable damage to the road or in a deterioration of forest values or conflict with the principal use of a forest. It may be necessary to close some roads to the public while maintaining them for management purposes such as fire protection.	0 = Roads no longer required but not closed, road use resulting in unacceptable damage or conflict with existing zoning use; 1 = Roads still required and continued use not resulting in damage or in conflict to current zoning use.	.... / 1		See Sections 2.5 & 6.5.1 of the October 2005 Statewide Management Procedures.

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
2.4.11.2	1.3.4	Road Closure	Roads which are to be permanently closed to all traffic must be blocked off with barriers capable of preventing entry of vehicles and breached and barred at the required spacing so that water from the road surface is discharged onto undisturbed or regenerating areas.	0 = Permanent roads have not been blocked off to prevent access to vehicles nor breached and barred appropriately; 1 = Permanently closed roads are effectively blocked off to prevent entry of vehicles and have been breached and barred in accordance with FMP / Statewide Management Procedures.	.... / 1		See Sections 6.5.2 of the October 2005 Statewide Management Procedures.
2.4.4.8	1.3.4	Road Closure	All partially built / completed roads (or those being left to settle) should be closed to traffic until they are completed.	N / A = No partially built or consolidating roads; 0 = Partially built or consolidating roads not closed to traffic; 1 = Partially built or consolidating roads closed to traffic.	.... / 1		
2.4.10.1	1.3.4	Road Closure	Roads must be closed to timber transport in wet conditions when disturbance of the road surface poses a threat to stream water quality through detachment of road surfaces and / or damage to surface drainage of the road.	0 = Evidence of road surface damage resulting from wet weather cartage; 1 = Evidence of suspension of cartage or no observed road damage resulting from wet weather cartage.	.... / 1		See Section 3.4(b) and (c) of the October 2005 Statewide Management Procedures.
2.4.10.2	1.3.4	Road Closure	Roads must be closed to timber transport in wet conditions when excessive damage would occur to the road surface.	0 = Evidence of road surface damage resulting from wet weather cartage; 1 = Evidence of suspension of cartage or no observed road damage resulting from wet weather cartage.	.... / 1		
2.4.10.3	1.3.4	Road Closure	Timber transport should be suspended in dry weather on roads where the surface materials have unravelled and where a threat to stream or wetland water quality in subsequent wet weather is posed.	N / A = No evidence of suspension of cartage or damage to road surface during dry weather conditions; 0 = Evidence of road surface damage resulting from dry weather cartage; 1 = Evidence of suspension of cartage and no observed road damage resulting from dry weather cartage.	.... / 1		
2.4.5.2	1.3.2.3.2	Spacing	Run-offs, cross drains or culverts should be spaced according to the road grade and the soil erosion hazard as set out in NRE guidelines and have	0 = Road run-offs, cross drains or culverts not spaced in accordance with FMP / Statewide Management Procedures for a 1:5-year storm	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
			sufficient capacity to convey the peak flow from a 1:5-year storm event.	event; 1 = Run-off / cross drain / culvert spacing compliant with FMP / Statewide Management Procedures for 1:5-year storm event.			
2.4.7.13	1.3.2.2	Stream and Drainage Line Crossings	Excavations for bridges, placement of sills or abutments and the placement of stringers or girders must as far as practicable be made above the high water mark .	N / A = No bridges; 0 = Excavations for placement of sills or abutments unnecessarily below (estimated or specified) high water mark; 1 = Excavations for placement of sills or abutments above the (estimated or specified) high water mark.	.... / 1		
2.4.7.5	1.3.2.2	Stream and Drainage Line Crossings	Bridges: must be constructed for crossings of streams and drainage lines except where culverts or fords are considered to be adequate. Permanent bridge design should allow for a 1:20-yr flood.	0 = Permanent bridge required but not present or designed below FMP / Statewide Management Procedures for 1:20-yr floor event; 1 = Bridge installed if appropriate and if present designed in accordance with FMP / Statewide Management Procedures.	.... / 1		
2.4.7.7	1.3.2.2	Stream and Drainage Line Crossings	Bridges: may be protected by debris traps in areas of regular flooding.	N / A = No bridges or bridges not in regular flood zone; 0 = Debris traps not considered in bridge planning or considered a requirement but not installed; 1 = Debris traps considered in planning and installed where appropriate.	.... / 1		
2.4.7.8	1.3.2.2	Stream and Drainage Line Crossings	Fords Properly prepared and maintained fords may be used on roads where use is infrequent and confined to periods of low water flow.	N / A = No fords present; 0 = Fords present at stream / drainage line crossing where use is considered frequent and / or water flow high; 1 = Fords present on roads where use is infrequent and confined to periods of low water flow.	.... / 1		
2.4.3.3	1.3.2.2	Stream and Drainage Line Crossings	Roads should be located so that they minimise the number of stream crossings and interference with natural drainage.	0 = Roads not located to minimise number of stream crossings or interference with natural drainage; 1 = Roads located to minimise number of stream crossings and interference	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
				with natural drainage.			
2.4.7.1	1.3.2.2	Stream and Drainage Line Crossings	Construction operations should ensure that disturbance to the stream bed and banks is kept to a minimum.	0 = Evidence that current or past road construction at stream crossings has caused significant disturbance to stream bed or banks; 1 = No or minimal disturbance to stream bed or banks observed.	... / 1		
2.4.7.11	1.3.2.2	Stream and Drainage Line Crossings	Permanent culverts If water is diverted it must be returned to its natural course by a flume rockspill or equivalent hard-surfaced bed to minimise erosion. Upstream and downstream fill faces must be protected to minimise erosion of the fill.	N / A = No permanent culverts installed or no diversion of water at stream or drainage line crossings; 0 = Diverted water is not returned to its natural course by way of a hard-surfaced bed or flume rockspill to minimise erosion; 1 = Diverted water returned to its natural course appropriately; and 2 = upstream; 3 = and downstream fill face protected to minimise erosion.	... / 3		
2.4.7.12	1.3.2.2	Stream and Drainage Line Crossings	Permanent culverts: to be installed in permanent streams should be open-bottomed or where enclosed culverts are used care must be taken to prevent the free-falling of water from culvert outlets which could retard or prevent movements of aquafauna.	N / A = No permanent culverts installed in permanent streams; 0 = Permanent culverts not open-bottomed or care not taken to prevent free-falling of water from enclosed culverts; 1 = Permanent culverts open-bottomed or care taken to prevent the free-falling of water from enclosed culverts.	... / 1		
2.4.7.14	1.3.2.2	Stream and Drainage Line Crossings	Earth embankments constructed for bridge approaches should be protected from erosion by one or more of the following: revegetation with naturally-seeded vegetation or planted or sown native grasses or ground cover retaining walls bulkheads or rock surfacing.	N / A = No bridges; 0 = Embankments constructed for bridge approaches have no protected measures to avoid erosion; 1 = Embankments effectively protected from erosion by; retaining wall bulkheads, rock surfacing, naturally-seeded vegetation or planted / native grasses;	... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
				+1 if more than one of the stated measures employed.			
2.4.7.15	1.3.2.2	Stream and Drainage Line Crossings	Excavations and embankments Topsoil should be stockpiled in a manner suitable for re-distribution during site rehabilitation.	N / A = No requirement for topsoil stockpiling; 0 = Topsoil not stockpiled or not stockpiled in a manner suitable for re-distribution; 1 = Topsoil stockpiled.	.... / 1		
2.4.7.16	1.3.2.2	Stream and Drainage Line Crossings	Temporary bridges must be removed when no longer required; the approaches to the crossing must be breached and barred to disperse run off and the site revegetated with local native species.	N / A = No temporary bridges currently or previously installed; 0 = Temporary bridges not required but still present and / or approaches to crossing not, or ineffectively barred and breached to disperse run off, and / or bridge removed but site not revegetated; 1 = Temporary bridges no longer required removed, approaches effectively barred and breached and the site revegetated with native species.	.... / 1		
2.4.7.17	1.3.2.2	Stream and Drainage Line Crossings	Temporary bridges and culverts Temporary culverts should be removed promptly after use; the approaches to the crossing must be breached and barred to disperse run off and the site revegetated with local native species.	N / A = No temporary culverts currently or previously installed; 0 = Temporary culverts not required but still present and / or approaches to crossing not, or ineffectively barred and breached to disperse run off, and / or bridge removed but site not revegetated; 1 = Temporary culverts no longer required removed, approaches effectively barrier and breached and the site revegetated with native species.	.... / 1		
2.4.7.2	1.3.2.2	Stream and Drainage Line Crossings	Construction operations should ensure that fill is not unnecessarily pushed into streams nor into a position from which it can move into a stream.	N / A = No evidence of past or present construction operations or evidence of fill being pushed or having moved into streams; 0 = During current or past construction operations fill has been	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
				unnecessarily pushed into streams or located in a position from which it could or has moved into a stream; 1 = Fill is present but has not been placed in a position from which it has currently or in the future could move into a stream.			
2.4.7.3	1.3.2.2	Stream and Drainage Line Crossings	Construction operations should ensure that cement and raw concrete are not spilt into watercourses as they can be toxic to stream fauna.	0 = Cement / concrete material spilt or present in watercourse; 1 = No evidence of spilt concrete / cement material in watercourse or no construction operations near watercourse.	.... / 1		
2.4.7.4	1.3.2.2	Stream and Drainage Line Crossings	Construction operations should ensure that where practicable stream crossings are adequately elevated and low approaches maintained such that water drains away from the crossing point and is discharged into vegetated areas rather than flowing directly down the crossing to the stream channel.	0 = Stream crossings or approaches inadequate leading to discharge down the crossing and into the stream channel; 1 = Stream crossing or approaches sufficiently elevated or maintained such that water drains away from the crossing point into vegetated areas.	.... / 1		
2.4.7.6	1.3.2.2	Stream and Drainage Line Crossings	Bridges: must not constrict clearly defined channels and must be designed and constructed so that the passage of flood waters is not restricted and erosion is minimised.	N / A = No bridges; 0 = Bridge constricts defined channels and / or is not designed to minimise erosion or ensure unrestricted passage of flood waters; 1 = Bridge doesn't constrict defined channels, restrict passage of flood waters or produce unnecessary erosion.	.... / 1		
2.4.7.9	1.3.2.2	Stream and Drainage Line Crossings	Fords must be as wide as the crossing will allow so that peak flows are well dispersed. The base of the ford must be constructed of erosion-resistant material such as rock concrete or heavy timber and <u>should</u> conform to the natural level of the stream bed.	N / A = No fords present; 0 = Fords more narrow than the crossing such that peak flows aren't well dispersed and / or the based of the ford isn't erosion-resistant and / or doesn't attempt to conform to the natural level of the stream bed; 1 = Ford is of sufficient width and the based constructed of erosion-resistant material such as rock or timber;	.... / 1		

Roading

Soil and Water

Code Ref	Structure Ref	Structure Heading	Code Requirement	Audit Criterion	Score	EIA	Comments
				+1 = base of ford where appropriate conforms to the natural level of the stream bed.			
2.3.13.3d	3.7	Silviculture and Regeneration (21)	All works specified for the drainage and rehabilitation of landings snig tracks and roads and the removal of fuel and oil drums other rubbish and temporary structures must be completed as soon as practicable after the completion of the harvesting operation.	N / A = Harvesting operations not complete 1 = Drainage and rehabilitation of roads completed after harvesting.	.... / 1		REFER TO MEASUREMENTS

Roading

Measurement

Measurement Methodology:

When assessing selected roadline coupes up to 2,000 metres (if available) of roadline will need to be assessed. For normal coupes, inspect as at least 500 metres of road during the coupe inspection. This may be done whilst walking between landings, for instance. Note measured distance of roadline inspected and assess that drainage structures and slope are within FMP / Statewide Management Procedure requirements. Meas points should be taken at drainage structures or changes in slope.

Total Distance of Road Inspected:m

Required Drainage structure spacing:m

Number of drainage structures inspected:(x)

Number of non-effective drainage structures:(y)

Effective number of drainage structures:(x-y)

Length of non compliance:m

Topsoil SEH: «*TopsoilErosion*»

Subsoil SEH: «*SubsoilErosion*»

Maximum Distance between Cross Drains (Gipps Presc C7, T6, pg 77)

SEH	< 6° or 10%	6-11° or 10-20%	11-18° or 20-33%	18-27° or 33-	>27° or 50%
Low	120 m	90	60	30	15
Medium	90	60	40	20	10
High	60	30	20	10	Not allowed

Maximum Distance between Drainage Structures (October 2005 Management Procedures)

SEH	1:50 1° 2%	1:25 2° 4%	1:15 3.5° 6%	1:12 4.5° 8%	1:10 6° 10%	1:8 7° 12%	1:7 8° 15%	1:5 11° 20%
Low	250	170	130	115	100	90	60	30
Medium	200	150	120	105	90	80	50	Not perm.
High	160	130	110	95	80	65	Not perm	Not perm

Drainage and slope									
Meas. Point	Chain (m)	Type of drainage structure (RO, CD, Cul)		Distance between drains (m)		Drainage structure effective? (Y / N)	Road slope (degrees)		Comments
		LHS	RHS	LHS	RHS		Forward	Back	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									

Roading

Measurement

Road Culverts at Stream Crossings

Measurement methodology:

Assess all permanent culverts at stream / drainage line crossing. Assess culvert installation and specifications, where necessary measure the diameter of the drain. (375 mm std. UP s9.6.6a)

n	Culvert Diameter (mm)	Effective	Installation & Alignment	Comments
1				
2				
3				
4				

See Schedules 3 & 4 of 2004 Statewide Management Procedures and Schedule 2 of 2005 Statewide Management Procedures.

Drainage and slope continued...

Meas. Point	Chain (m)	Type of drainage structure (RO, CD, Cul)		Distance between drains (m)		Drainage structure effective? (Y / N)	Road slope (degrees)		Comments
		LHS	RHS	LHS	RHS		Forward	Back	
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									

Roading

Measurement

Batter Slope and Clearing widths

Measurement methodology:

Where present, assess batter slope against prescriptive requirements, where necessary measure batter slope on average at a minimum of 200 intervals. Assess batter catch drain location and height, where necessary measure the height of the catch drain above the top of the batter.

n	Chain (m)	Batter Slope	Height of Drain above batter top (m)	Drain / Table Effective (yes / no)	Clearing width (m)	Formation width (m)	Pavement width (m)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Effective Drainage (S9.6 Utilisation Procedures):

1. where water is allowed to flow – without ponding.
2. table drain install with road not later excavated.

NB: A Contractor who improves an existing road may push any non-merchantable logs beyond the slashable verge of the road into the forest unless the Forest Coupe Plan provides otherwise. UP 9.4b

Maximum Batter Slopes

Soil Type	Slope (Vert:Horz)
Rock	1: 0.5
Gravel	1: 1 – 1: 1.5 (more unstable)
Clay / Loam	1: 2 – 1: 4 (unconsolidated)
Clay	1: 2
Sands /	1: 2.5

Clearing Widths (m)

(Schedule 5 of 2004 and Schedule 3 of 2005, Statewide Management Procedures)

Side Slope degrees	Road Class (FCP = «RoadClass»)				
	(%)	5B	5C	5D	5E
0-7.5	0-13	13	7	6	7
7.5-15	13-27	17	11	10	4
15-22.5	27-41	23	17	16	10
22.5-30	41-58	30	24	13	14

Maximum Distance between Cross Drains (Gipps Presc C7, T4, pg 65)

Erodibility	1° or 2%	2° or 4%	3.5° or 6.5%	3.5° or 8%	6° or 10%	7° or 12%	8° or 14%	11° or 20%
Low	250	170	130	115	100	100	100	100
Medium	200	150	120	105	100	100	100	Not allowed
High	160	130	110	80	60	60	Not allowed	Not allowed

Maximum Distance between Drainage Structures (October 2005 Management Procedures)

SEH	1:50 1° 2%	1:25 2° 4%	1:15 3.5° 6%	1:12 4.5° 8%	1:10 6° 10%	1:8 7° 12%	1:7 8° 15%	1:5 11° 20%
Low	250	170	130	115	100	90	60	30
Medium	200	150	120	105	90	80	50	Not perm.
High	160	130	110	95	80	65	Not	Not perm.

Forest Audit - Measurement

Non-Compliance:

- any Code breach not documented in the coupe diary
- any Code breach, even if documented in the coupe diary, that had little or no remediation activity and had an EIA rating of moderate, major or severe

Field Measurement Methodology:

It is acknowledged that the time taken to undertake an audit of an active coupe will be less than that for a completed coupe to reduce the disruption to normal operations. The following table lists the current and modified measurements for both completed and active coupes.

<i>Element</i>	<i>Nominal length of measurement required (m)</i>	<i>Nominal length of measurement required (m)</i>
	Completed Coupes (or non-operational active coupes)	Active Coupes
Filters	200	100
Riparian Buffers	400	200
Rainforest Buffers	400	200
SPZ Buffers	400	200
Roading	500	200
Snig Tracks	200	200
Boundary Tracks	200	100
Landings	2	1

Measurement targets will be reviewed for each active coupe and may be subject to modification based on specific site conditions and operations. For example, accurate measurement of a buffer or filter width may be required where the auditor believes the width to be non-compliant or where the use of another less accurate measurement device (e.g. a range finder) requires a more precise width to determine compliance.

The determining objective of the active coupe audit will be to review operations and practices that are not able to be reviewed during the audit of a completed coupe.

Forest Audit – Measurement Guide

Environmental Impact Assessment

When considering a code breach relating to the workbook elements, the impact of the breach on the environment must be assessed using the environmental impact assessment method as a guide. The impact assessment is to be based on the non-compliance observed at the time of audit and must be conducted in consultation with a forest officer.

The environmental impact assessment is based on the following factors:

- **Extent of Impact or Disturbance within sample (E)**
 - The extent of the impact, measure as a relative percentage of the sampled area or length. Defined into 4 categories.
 - 0 – 10%
 - 11 – 25%
 - 26 – 50%
 - >50%
 - A fifth category is used when the impact or disturbance results in an offsite effect, that is an area outside of the coupe boundary is affected.
- **Duration of impact or expected time to recover (t)**
 - The duration of the impact is defined as the period in which the area will recover to pre-impacted levels. The impact period is defined by three levels,
 - Short Term 0 – 12 months
 - Medium Term 12 – 36 months
 - Long Term > 3 years
- **Environmental Asset Value (z)**
 - The environmental asset value of the impacted area is defined by the relative resilience and resistance of the area affected, and the value of the area as defined by its protection endorsed within the Code of Forest Practice. The environmental asset value is divided into four categories;
 - General environmental value
 - Filter or drainage line
 - Representative SPZ, i.e. habitat corridors, landscape buffers and some linear buffers.
 - Specific SPZ, i.e. for specific flora and fauna, rainforest buffers and riparian or streamside reserve buffers.

Environmental Impact Assessment Rating

Extent (E)	Duration of Impact (t)		
	Short Term	Medium Term	Long Term
0 - 10%	A	C	F
11 - 25%	B	E	H
26 - 50%	C	F	I
> 50%	D	G	J
offsite	E	H	K

Et Value	Environmental Asset Value (z)			
	General	Filter	rSPZ / LR / LB	sSPZ / RB / RF
A	Negligible	Negligible	Minor	Minor
B	Negligible	Minor	Moderate	Moderate
C	Negligible	Minor	Moderate	Moderate
D	Negligible	Moderate	Moderate	Moderate
E	Minor	Moderate	Moderate	Major
F	Minor	Moderate	Major	Major
G	Moderate	Moderate	Major	Major
H	Moderate	Major	Major	Major
I	Moderate	Major	Major	Severe
J	Moderate	Major	Severe	Severe
K	Major	Major	Severe	Severe