

Project: Mount Rosser Bypass
Location: Russell Pen to Moneague
Client: EnviroPlanners Ltd

Date: August 2007

Rational Equation

$$Q=0.00278 \text{ CIA}$$

Where,

Q = peak runoff rate (m³/s)

C = runoff Coefficient from Table in Sheet 2

I = average rainfall intensity (mm/hr)

A = the drainage area (hectares)

Pre- 1:10yr

		Estimated values					
	Km	3+340	5+600	0+750	6+265		
	Name	River (Byndloss Gully)	River (Byndloss Gully)	River (tributary of Byndloss (River (tributary of Byndloss Gully)			
C	unitless		0.35	0.35	0.6	0.35	
I (depends on segment)	mm/hr		157	137	118	159	
A*	hectares		18	83	855	117	
Conversion factor			0.00278	0.00278	0.00278	0.00278	
Calculated Peak Discharge, Q	m³/s		2.8	11.0	168.8	18.1	
TOTAL	m³/s		0.00	2.8	11.0	168.8	18.1

Post-Development - road surface runoff being added to these
discharge points 1:10yr

		Typical Road Section 100m length	3+340 River (Byndloss Gully)	5+600 River (Byndloss Gully)	0+750 River (tributary of Byndloss (River (tributary of Byndloss Gully)	6+265 River (tributary of Byndloss Gully)
C	unitless	0.9				
I (depends on segment)	mm/hr	363.5				
A (area of a typical 100m length of highway)	hectares	0.3				
Conversion factor		0.00278				
Calculated Peak Discharge for 100m length of highway, Qr	m ³ /s	0.23	2.8	11.04	168.8	18.1
Factor equal to nos. of 100m length of road draining to section		1.0	1.0	2.0	2.0	2.0
Discharge = factor x Qr		0.23	0.23	0.45	0.45	0.45
TOTAL	m ³ /s	0.23	3.0	11.5	169.2	18.5

*est. from Google Earth

Percentage change

#DIV/0! 8% 4% 0% 3%