

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

Date: August 2007

Rational Equation

$$Q=0.00278 CIA$$

Where,

Q = peak runoff rate (m<sup>3</sup>/s)

C = runoff Coefficient from Table in Sheet 2

I = average rainfall intensity (mm/hr)

A = the drainage area (hectares)

**Pre- 1:100yr**

	<i>Km Name</i>		<b>Values obtained from Drainage and Hydrology Report, Volume II (2000)</b>				
			<i>Calculated values</i>				
			3+340	5+600	0+750	6+265	
			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		261	228	198	265	
A*	hectares		18	83	855	117	
Conversion factor			0.00278	0.00278	0.00278	0.00278	
Calculated Peak Discharge, Q	m <sup>3</sup> /s		4.6	18.4	281.8	30.1	
<b>TOTAL</b>	m <sup>3</sup> /s		0.00	4.6	18.4	281.8	30.1

**Post-Development - road surface runoff being added to these discharge points 1:100yr**

		<i>Typical Road Section 100m length</i>	3+340	5+600	0+750	6+265	
			River (Byndloss Gully)	River (Byndloss Gully)	River (tributary of Byndloss	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 <sup>3</sup> /s	0.23		4.6	18.40	281.8	30.1
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	
<b>TOTAL</b>	m <sup>3</sup> /s	0.23	4.8	18.9	282.3	30.5	

\*est. from Google Earth

Percentage change	#DIV/0!	5%	2%	0%	2%	
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