

Revitalised FSR/FEH rainfall runoff method

Spreadsheet application report

User name	Dr Rob Sweet	Catchment name		Date/time modelled	15-May-2008 09:44
Company name	Scott Wilson Ltd	Catchment easting	329850	Version	1.3
Project name	D118674 - Llanshay Farm	Catchment northing	271950		
		Catchment area	0.51		

Summary of model setup

Design rainfall parameters		Loss model parameters		Routing model parameters		Baseflow model parameters	
Return period (yr)	100	C_{max} (mm)	523	T_p (hr)	0.67	BL (hr)	28.7
Duration (hr)	1.3	C_{ini} (mm)	96	U_p	0.65	BR	2.05
Timestep (hr)	0.1	α factor	0.83	U_k	0.8	BF₀ (m³/s)	0
Season	Winter						

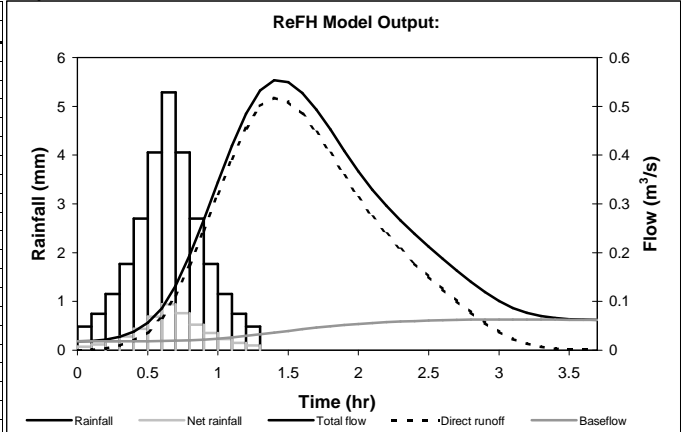
Summary of results

FEH DDF rainfall (mm)	43	Peak rainfall (mm)	5.3
Design rainfall (mm)	27.1	Peak flow (m³/s)	0.6

Results

Series	Design Rainfall	Net rainfall	Direct runoff	Baseflow	Total flow
Unit	mm	mm	m ³ /s	m ³ /s	m ³ /s
0.0	0.5	0.1	0.0	0.0	0.0
0.1	0.7	0.1	0.0	0.0	0.0
0.2	1.2	0.2	0.0	0.0	0.0
0.3	1.8	0.3	0.0	0.0	0.0
0.4	2.7	0.4	0.0	0.0	0.0
0.5	4.1	0.7	0.0	0.0	0.1
0.6	5.3	0.9	0.1	0.0	0.1
0.7	4.1	0.8	0.1	0.0	0.1
0.8	2.7	0.5	0.2	0.0	0.2
0.9	1.8	0.4	0.2	0.0	0.3
1.0	1.2	0.2	0.3	0.0	0.3
1.1	0.7	0.2	0.4	0.0	0.4
1.2	0.5	0.1	0.5	0.0	0.5
1.3	0.0	0.0	0.5	0.0	0.5
1.4	0.0	0.0	0.5	0.0	0.6
1.5	0.0	0.0	0.5	0.0	0.5
1.6	0.0	0.0	0.5	0.0	0.5
1.7	0.0	0.0	0.4	0.0	0.5
1.8	0.0	0.0	0.4	0.0	0.5
1.9	0.0	0.0	0.4	0.1	0.4
2.0	0.0	0.0	0.3	0.1	0.4
2.1	0.0	0.0	0.3	0.1	0.3
2.2	0.0	0.0	0.2	0.1	0.3
2.3	0.0	0.0	0.2	0.1	0.3
2.4	0.0	0.0	0.2	0.1	0.2
2.5	0.0	0.0	0.2	0.1	0.2
2.6	0.0	0.0	0.1	0.1	0.2
2.7	0.0	0.0	0.1	0.1	0.2
2.8	0.0	0.0	0.1	0.1	0.1
2.9	0.0	0.0	0.1	0.1	0.1
3.0	0.0	0.0	0.0	0.1	0.1
3.1	0.0	0.0	0.0	0.1	0.1
3.2	0.0	0.0	0.0	0.1	0.1
3.3	0.0	0.0	0.0	0.1	0.1
3.4	0.0	0.0	0.0	0.1	0.1
3.5	0.0	0.0	0.0	0.1	0.1
3.6	0.0	0.0	0.0	0.1	0.1
3.7	0.0	0.0	0.0	0.1	0.1
Total (mm)	27.1	4.8	4.8	1.2	6.0

Graph



Audit comments

Catchment

Error checking data in catchment descriptor file 'C:\Documents and Settings\34025rs\Desktop\Llanshay Farm Stream.csv'
 No catchment descriptor file stored - catchment descriptors manually entered
 Catchment descriptor file exported from CD ROM version 2
 Catchment descriptor file exported on 01-May-2008 10:57
 BFIHOST value of 0.726 used
 PROPWET value of 0.49 used
 SAAR value of 942 used
 DPLBAR value of 0.62 used
 DPSBAR value of 114.7 used
 URBEXT value of 0.0025 used
 C value of -0.025 used
 D1 value of 0.38272 used
 D2 value of 0.42199 used
 D3 value of 0.33805 used
 E value of 0.28646 used
 F value of 2.37234 used

Rainfall

Recommended season is Winter, as URBEXT < 0.125
 ReFH design standard Seasonal Correction Factor of 0.65 applied
 ReFH design standard Areal Reduction Factor of 0.97 applied

Loss Model

C_{max} derived from catchment descriptors
 ReFH design standard C_{ini} used
 ReFH design standard α factor used

Routing Model

T_p derived from catchment descriptors
 ReFH design standard used for U_p
 ReFH design standard used for U_k

Baseflow Model

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BL derived from catchment descriptors

BR derived from catchment descriptors

ReFH design standard BF_0 used