

# Revitalised FSR/FEH rainfall runoff method

Spreadsheet application report

<b>User name</b>	Mark Crussell	<b>Catchment name</b>	Weston Mill Creek	<b>Date/time modelled</b>	17-Feb-2011 11:03
<b>Company name</b>	URS/Scott Wilson	<b>Catchment easting</b>	245200	<b>Version</b>	1.3
<b>Project name</b>	D123356 Devonport EfW	<b>Catchment northing</b>	57500		
		<b>Catchment area</b>	5.7		

## Summary of model setup

Design rainfall parameters		Loss model parameters		Routing model parameters		Baseflow model parameters	
<b>Return period (yr)</b>	100	<b>C<sub>max</sub> (mm)</b>	426	<b>T<sub>p</sub> (hr)</b>	0.58	<b>BL (hr)</b>	13.6
<b>Duration (hr)</b>	1.1	<b>C<sub>ini</sub> (mm)</b>	129	<b>U<sub>p</sub></b>	0.65	<b>BR</b>	1.6
<b>Timestep (hr)</b>	0.1	<b>α factor</b>	0.83	<b>U<sub>k</sub></b>	0.8	<b>BF<sub>0</sub> (m<sup>3</sup>/s)</b>	0.4
<b>Season</b>	Winter						

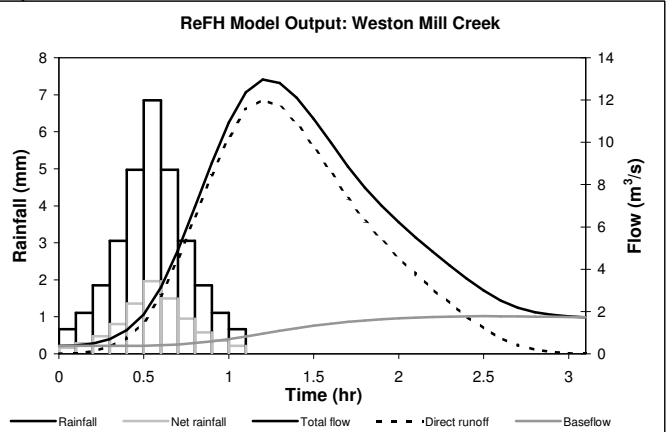
## Summary of results

<b>FEH DDF rainfall (mm)</b>	48.5	<b>Peak rainfall (mm)</b>	6.8
<b>Design rainfall (mm)</b>	30.1	<b>Peak flow (m<sup>3</sup>/s)</b>	13

## Results

Series	Design Rainfall	Net rainfall	Direct runoff	Baseflow	Total flow
Unit	mm	mm	m <sup>3</sup> /s	m <sup>3</sup> /s	m <sup>3</sup> /s
0.0	0.7	0.2	0.0	0.4	0.4
0.1	1.1	0.3	0.0	0.4	0.4
0.2	1.8	0.5	0.1	0.4	0.5
0.3	3.1	0.8	0.3	0.4	0.7
0.4	5.0	1.4	0.7	0.4	1.1
0.5	6.8	2.0	1.5	0.4	1.9
0.6	5.0	1.5	2.7	0.4	3.1
0.7	3.1	0.9	4.5	0.4	4.9
0.8	1.8	0.6	6.4	0.5	6.9
0.9	1.1	0.4	8.4	0.6	9.0
1.0	0.7	0.2	10.3	0.7	10.9
1.1	0.0	0.0	11.6	0.8	12.4
1.2	0.0	0.0	12.0	1.0	13.0
1.3	0.0	0.0	11.7	1.1	12.8
1.4	0.0	0.0	10.9	1.2	12.1
1.5	0.0	0.0	9.8	1.3	11.1
1.6	0.0	0.0	8.6	1.4	10.0
1.7	0.0	0.0	7.3	1.5	8.8
1.8	0.0	0.0	6.3	1.6	7.8
1.9	0.0	0.0	5.4	1.6	7.0
2.0	0.0	0.0	4.5	1.7	6.2
2.1	0.0	0.0	3.8	1.7	5.5
2.2	0.0	0.0	3.1	1.7	4.8
2.3	0.0	0.0	2.4	1.8	4.2
2.4	0.0	0.0	1.8	1.8	3.6
2.5	0.0	0.0	1.2	1.8	3.0
2.6	0.0	0.0	0.7	1.8	2.5
2.7	0.0	0.0	0.4	1.8	2.2
2.8	0.0	0.0	0.2	1.8	2.0
2.9	0.0	0.0	0.1	1.8	1.8
3.0	0.0	0.0	0.0	1.7	1.8
3.1	0.0	0.0	0.0	1.7	1.7
<b>Total (mm)</b>	<b>30.1</b>	<b>8.6</b>	<b>8.6</b>	<b>2.4</b>	<b>11.0</b>

## Graph



## Audit comments

### Catchment

Error checking data in catchment descriptor file 'U:\Devonport Further Work\FEH CD\CSV\SX 45200 57500 Weston Mill Creek.csv'  
 No catchment descriptor file stored - catchment descriptors manually entered  
 Catchment descriptor file exported from CD ROM version 3  
 Catchment descriptor file exported on 29-Nov-2010 15:41  
 BFIHOST value of 0.582 used  
 PROPWET value of 0.48 used  
 SAAR value of 1099 used  
 DPLBAR value of 2.48 used  
 DPSBAR value of 96.6 used  
 URBEXT value of 0.3736 used  
 C value of -0.029 used  
 D1 value of 0.41846 used  
 D2 value of 0.28806 used  
 D3 value of 0.37212 used  
 E value of 0.29822 used  
 F value of 2.48216 used

### Rainfall

Recommended season is Summer, as URBEXT => 0.125  
 Recommended season overridden by the user  
 ReFH design standard Seasonal Correction Factor of 0.67 applied  
 ReFH design standard Areal Reduction Factor of 0.93 applied

### Loss Model

C<sub>max</sub> derived from catchment descriptors  
 ReFH design standard C<sub>ini</sub> used  
 ReFH design standard α factor used

### Routing Model

T<sub>p</sub> derived from catchment descriptors  
 ReFH design standard used for U<sub>p</sub>  
 ReFH design standard used for U<sub>k</sub>

### Baseflow Model

BL derived from catchment descriptors  
 BR derived from catchment descriptors  
 ReFH design standard BF<sub>0</sub> used

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