UK Design Flood Estimation

Generated on Tuesday, June 9, 2020 8:01:22 AMby Helen.Harfoot
Printed from the ReFH Flood Modelling software package, version 2.2.6589.25305

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH)

Site details Checksum: 5322-79DA

Site name: FEH_Catchment_Descriptors_467750_158600 (1)

Easting: 467750

Northing: 158600

Country: England, Wales or Northern Ireland

Catchment Area (km^2): 48.7

Using plot scale calculations: No

Site description: None

Model run: 100 year

Summary of results

Rainfall - FEH 2013 (mm):	73.00	Total runoff (ML):	781.87
Total Rainfall (mm):	49.81	Total flow (ML):	1714.20
Peak Rainfall (mm):	9.71	Peak flow (m^3/s):	17.43

Parameters

Where the user has overriden a system-generated value, this original value is shown in square brackets after the value used.
** Indicates that the user locked the duration/timestep*

Rainfall parameters (Rainfall - FEH 2013 model)

Name	Value	User-defined?
Duration (hh:mm:ss)	13:00:00	No
Timestep (hh:mm:ss)	01:00:00	No
SCF (Seasonal correction factor)	0.72	No
ARF (Areal reduction factor)	0.94	No
Seasonality	Winter	n/a

Loss model parameters

Name	Value	User-defined?
Cini (mm)	108.59	No
Cmax (mm)	420.31	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	7.85	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m^3/s)	1.63	No
BL (hr)	55.85	No
BR	1.26	No

Urbanisation parameters

Name	Value	User-defined?
Urban area (km^2)	1.99	No
Urbext 2000	0.03	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.3	No
Tp scaling factor	0.5	No
Sewered area (km^2)	0.00	Yes
Sewer capacity (m^3/s)	0.00	Yes

Printed from the ReFH Flood Modelling software package, version 2.2.6589.25305

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m^3/s)	Baseflow (m^3/s)	Total Flow (m^3/s)
00:00:00	0.886	0.000	0.235	0.000	1.634	1.634
01:00:00	1.373	0.000	0.367	0.020	1.605	1.625
02:00:00	2.118	0.000	0.575	0.090	1.578	1.668
03:00:00	3.253	0.000	0.904	0.240	1.553	1.793
04:00:00	4.962	0.000	1.427	0.514	1.532	2.046
05:00:00	7.457	0.000	2.253	0.977	1.518	2.494
06:00:00	9.711	0.000	3.130	1.729	1.516	3.245
07:00:00	7.457	0.000	2.554	2.904	1.531	4.436
08:00:00	4.962	0.000	1.772	4.509	1.573	6.082
09:00:00	3.253	0.000	1.193	6.377	1.648	8.025
10:00:00	2.118	0.000	0.790	8.327	1.759	10.087
11:00:00	1.373	0.000	0.518	10.201	1.909	12.109
12:00:00	0.886	0.000	0.337	11.885	2.095	13.980
13:00:00	0.000	0.000	0.000	13.287	2.313	15.600
14:00:00	0.000	0.000	0.000	14.250	2.557	16.807
15:00:00	0.000	0.000	0.000	14.598	2.814	17.412
16:00:00	0.000	0.000	0.000	14.358	3.072	17.430
17:00:00	0.000	0.000	0.000	13.693	3.318	17.011
18:00:00	0.000	0.000	0.000	12.755	3.545	16.301
19:00:00	0.000	0.000	0.000	11.660	3.748	15.408
20:00:00	0.000	0.000	0.000	10.491	3.925	14.416
21:00:00	0.000	0.000	0.000	9.320	4.074	13.394
22:00:00	0.000	0.000	0.000	8.239	4.196	12.435
23:00:00	0.000	0.000	0.000	7.302	4.295	11.597
24:00:00	0.000	0.000	0.000	6.495	4.373	10.867
25:00:00	0.000	0.000	0.000	5.780	4.433	10.213
26:00:00	0.000	0.000	0.000	5.129	4.476	9.605
27:00:00	0.000	0.000	0.000	4.519	4.505	9.024
28:00:00	0.000	0.000	0.000	3.937	4.520	8.456
29:00:00	0.000	0.000	0.000	3.373	4.521	7.894
30:00:00	0.000	0.000	0.000	2.822	4.510	7.332
31:00:00	0.000	0.000	0.000	2.285	4.488	6.773
32:00:00	0.000	0.000	0.000	1.773	4.454	6.226
33:00:00	0.000	0.000	0.000	1.296	4.409	5.705
34:00:00	0.000	0.000	0.000	0.878	4.355	5.233

Printed from the ReFH Flood Modelling software package, version 2.2.6589.25305

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m^3/s)	Baseflow (m^3/s)	Total Flow (m^3/s)
35:00:00	0.000	0.000	0.000	0.548	4.294	4.841
36:00:00	0.000	0.000	0.000	0.320	4.227	4.547
37:00:00	0.000	0.000	0.000	0.174	4.158	4.332
38:00:00	0.000	0.000	0.000	0.085	4.087	4.172
39:00:00	0.000	0.000	0.000	0.034	4.016	4.050
40:00:00	0.000	0.000	0.000	0.009	3.945	3.954
41:00:00	0.000	0.000	0.000	0.000	3.875	3.875
42:00:00	0.000	0.000	0.000	0.000	3.806	3.806
43:00:00	0.000	0.000	0.000	0.000	3.739	3.739
44:00:00	0.000	0.000	0.000	0.000	3.672	3.672
45:00:00	0.000	0.000	0.000	0.000	3.607	3.607
46:00:00	0.000	0.000	0.000	0.000	3.543	3.543
47:00:00	0.000	0.000	0.000	0.000	3.480	3.480
48:00:00	0.000	0.000	0.000	0.000	3.419	3.419
49:00:00	0.000	0.000	0.000	0.000	3.358	3.358
50:00:00	0.000	0.000	0.000	0.000	3.298	3.298
51:00:00	0.000	0.000	0.000	0.000	3.240	3.240
52:00:00	0.000	0.000	0.000	0.000	3.182	3.182
53:00:00	0.000	0.000	0.000	0.000	3.126	3.126
54:00:00	0.000	0.000	0.000	0.000	3.070	3.070
55:00:00	0.000	0.000	0.000	0.000	3.016	3.016
56:00:00	0.000	0.000	0.000	0.000	2.962	2.962
57:00:00	0.000	0.000	0.000	0.000	2.910	2.910
58:00:00	0.000	0.000	0.000	0.000	2.858	2.858
59:00:00	0.000	0.000	0.000	0.000	2.807	2.807
60:00:00	0.000	0.000	0.000	0.000	2.758	2.758
61:00:00	0.000	0.000	0.000	0.000	2.709	2.709
62:00:00	0.000	0.000	0.000	0.000	2.661	2.661
63:00:00	0.000	0.000	0.000	0.000	2.613	2.613
64:00:00	0.000	0.000	0.000	0.000	2.567	2.567
65:00:00	0.000	0.000	0.000	0.000	2.521	2.521
66:00:00	0.000	0.000	0.000	0.000	2.477	2.477
67:00:00	0.000	0.000	0.000	0.000	2.433	2.433
68:00:00	0.000	0.000	0.000	0.000	2.390	2.390
69:00:00	0.000	0.000	0.000	0.000	2.347	2.347
70:00:00	0.000	0.000	0.000	0.000	2.305	2.305

Printed from the ReFH Flood Modelling software package, version 2.2.6589.25305

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (mm)	Net Rain (mm)	Runoff (m^3/s)	Baseflow (m^3/s)	Total Flow (m^3/s)
71:00:00	0.000	0.000	0.000	0.000	2.265	2.265
72:00:00	0.000	0.000	0.000	0.000	2.224	2.224
73:00:00	0.000	0.000	0.000	0.000	2.185	2.185
74:00:00	0.000	0.000	0.000	0.000	2.146	2.146
75:00:00	0.000	0.000	0.000	0.000	2.108	2.108
76:00:00	0.000	0.000	0.000	0.000	2.071	2.071
77:00:00	0.000	0.000	0.000	0.000	2.034	2.034
78:00:00	0.000	0.000	0.000	0.000	1.998	1.998
79:00:00	0.000	0.000	0.000	0.000	1.962	1.962
80:00:00	0.000	0.000	0.000	0.000	1.928	1.928
81:00:00	0.000	0.000	0.000	0.000	1.893	1.893
82:00:00	0.000	0.000	0.000	0.000	1.860	1.860
83:00:00	0.000	0.000	0.000	0.000	1.827	1.827
84:00:00	0.000	0.000	0.000	0.000	1.794	1.794
85:00:00	0.000	0.000	0.000	0.000	1.762	1.762
86:00:00	0.000	0.000	0.000	0.000	1.731	1.731
87:00:00	0.000	0.000	0.000	0.000	1.700	1.700
88:00:00	0.000	0.000	0.000	0.000	1.670	1.670

Printed from the ReFH Flood Modelling software package, version 2.2.6589.25305

Appendix

Catchment descriptors

Name	Value	User-defined value used?
Area (km^2)	48.7	No
ALTBAR	98	No
ASPBAR	42	No
ASPVAR	0.38	No
BFIHOST	0.51	No
DPLBAR (km)	10	No
DPSBAR (mkm^{-1})	35.9	No
FARL	0.97	No
LDP	20.79	No
PROPWET (mm)	0.34	No
RMED1H	11.3	No
RMED1D	32.6	No
RMED2D	41.2	No
SAAR (mm)	746	No
SAAR4170 (mm)	763	No
SPRHOST	31.54	No
Urbext2000	0.03	No
Urbext1990	0.01	No
URBCONC	0.67	No
URBLOC	0.87	No
Urban Area (km^2)	1.99	No
DDF parameter C	-0.03	No
DDF parameter D1	0.34	No
DDF parameter D2	0.29	No
DDF parameter D3	0.35	No
DDF parameter E	0.3	No
DDF parameter F	2.53	No
DDF parameter C (1km grid value)	-0.03	No
DDF parameter D1 (1km grid value)	0.3	No
DDF parameter D2 (1km grid value)	0.27	No
DDF parameter D3 (1km grid value)	0.34	No
DDF parameter E (1km grid value)	0.3	No
DDF parameter F (1km grid value)	2.55	No

Printed from the ReFH Flood Modelling software package, version 2.2.6589.25305