

UK Design Flood Estimation

Generated on 08 November 2024 11:58:27 by ihopkinson
Printed from the ReFH2 Flood Modelling software package, version 4.0.8560.23190

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site details

Checksum: 3486-B186

Site name: FEH_Point_Descriptors_370282_434529_v5_0_1

Easting: 370282

Northing: 434529

Country: England, Wales or Northern Ireland

Catchment Area (km²): 0.02 [0.5]*

Using plot scale calculations: Yes

Model: 2.3

Site description: None

Model run: 100 year

Summary of results

Rainfall - FEH22 (mm):	47.52	Total runoff (ML):	0.45
Total Rainfall (mm):	34.93	Total flow (ML):	0.82
Peak Rainfall (mm):	4.33	Peak flow (m ³ /s):	0.07

Parameters

Where the user has overridden 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 - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	02:06:00	No
Timestep (hh:mm:ss)	00:06:00	No
SCF (Seasonal correction factor)	0.74	No
ARF (Areal reduction factor)	1 [0.99]	Yes
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	118.59	No
Cmax (mm)	246.84	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	1	No
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BFO (m ³ /s)	0	No
BL (hr)	25.98 [20.6]	Yes
BR	0.81	No

Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m ³ /s)	0	No
Exporting drained area (km ²)	0	No
Urban area (km ²)	0	No
Urbext 2000	0	No
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
00:00:00	0.3523	0.0000	0.1695	0.0000	0.00146	0.00146
00:06:00	0.4621	0.0000	0.2231	0.0000	0.00145	0.00149
00:12:00	0.6055	0.0000	0.2937	0.0002	0.00145	0.0016
00:18:00	0.7924	0.0000	0.3865	0.0004	0.00144	0.00183
00:24:00	1.0354	0.0000	0.5089	0.0008	0.00144	0.0022
00:30:00	1.3503	0.0000	0.6702	0.0013	0.00144	0.00276
00:36:00	1.7565	0.0000	0.8828	0.0021	0.00144	0.00357
00:42:00	2.2769	0.0000	1.1630	0.0033	0.00144	0.00472
00:48:00	2.9350	0.0000	1.5301	0.0049	0.00145	0.0063
00:54:00	3.7377	0.0000	1.9991	0.0070	0.00146	0.00846
01:00:00	4.3268	0.0000	2.3849	0.0099	0.00148	0.0114
01:06:00	3.7377	0.0000	2.1213	0.0137	0.00151	0.0152
01:12:00	2.9350	0.0000	1.7054	0.0183	0.00156	0.0198
01:18:00	2.2769	0.0000	1.3470	0.0235	0.00162	0.0251
01:24:00	1.7565	0.0000	1.0535	0.0291	0.00169	0.0308
01:30:00	1.3503	0.0000	0.8184	0.0350	0.00179	0.0368
01:36:00	1.0354	0.0000	0.6325	0.0409	0.0019	0.0428
01:42:00	0.7924	0.0000	0.4870	0.0465	0.00203	0.0485
01:48:00	0.6055	0.0000	0.3739	0.0517	0.00217	0.0539
01:54:00	0.4621	0.0000	0.2863	0.0562	0.00233	0.0585
02:00:00	0.3523	0.0000	0.2188	0.0596	0.00251	0.0621
02:06:00	0.0000	0.0000	0.0000	0.0617	0.00269	0.0644
02:12:00	0.0000	0.0000	0.0000	0.0623	0.00287	0.0652
02:18:00	0.0000	0.0000	0.0000	0.0617	0.00305	0.0647
02:24:00	0.0000	0.0000	0.0000	0.0601	0.00323	0.0633
02:30:00	0.0000	0.0000	0.0000	0.0577	0.0034	0.0611
02:36:00	0.0000	0.0000	0.0000	0.0548	0.00357	0.0584
02:42:00	0.0000	0.0000	0.0000	0.0515	0.00372	0.0553
02:48:00	0.0000	0.0000	0.0000	0.0480	0.00386	0.0519
02:54:00	0.0000	0.0000	0.0000	0.0444	0.00399	0.0484
03:00:00	0.0000	0.0000	0.0000	0.0408	0.00411	0.0449
03:06:00	0.0000	0.0000	0.0000	0.0374	0.00421	0.0416
03:12:00	0.0000	0.0000	0.0000	0.0341	0.00431	0.0384
03:18:00	0.0000	0.0000	0.0000	0.0312	0.00439	0.0356
03:24:00	0.0000	0.0000	0.0000	0.0284	0.00447	0.0329

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
03:30:00	0.0000	0.0000	0.0000	0.0258	0.00454	0.0304
03:36:00	0.0000	0.0000	0.0000	0.0234	0.0046	0.028
03:42:00	0.0000	0.0000	0.0000	0.0210	0.00465	0.0257
03:48:00	0.0000	0.0000	0.0000	0.0188	0.00469	0.0235
03:54:00	0.0000	0.0000	0.0000	0.0166	0.00473	0.0214
04:00:00	0.0000	0.0000	0.0000	0.0146	0.00476	0.0193
04:06:00	0.0000	0.0000	0.0000	0.0126	0.00479	0.0174
04:12:00	0.0000	0.0000	0.0000	0.0107	0.0048	0.0155
04:18:00	0.0000	0.0000	0.0000	0.0088	0.00482	0.0136
04:24:00	0.0000	0.0000	0.0000	0.0071	0.00482	0.0119
04:30:00	0.0000	0.0000	0.0000	0.0056	0.00482	0.0104
04:36:00	0.0000	0.0000	0.0000	0.0042	0.00482	0.00902
04:42:00	0.0000	0.0000	0.0000	0.0031	0.00481	0.0079
04:48:00	0.0000	0.0000	0.0000	0.0022	0.0048	0.00702
04:54:00	0.0000	0.0000	0.0000	0.0016	0.00479	0.00634
05:00:00	0.0000	0.0000	0.0000	0.0011	0.00478	0.00583
05:06:00	0.0000	0.0000	0.0000	0.0007	0.00476	0.00545
05:12:00	0.0000	0.0000	0.0000	0.0004	0.00474	0.00517
05:18:00	0.0000	0.0000	0.0000	0.0002	0.00473	0.00497
05:24:00	0.0000	0.0000	0.0000	0.0001	0.00471	0.00483
05:30:00	0.0000	0.0000	0.0000	0.0000	0.00469	0.00474
05:36:00	0.0000	0.0000	0.0000	0.0000	0.00467	0.00469
05:42:00	0.0000	0.0000	0.0000	0.0000	0.00466	0.00466
05:48:00	0.0000	0.0000	0.0000	0.0000	0.00464	0.00464
05:54:00	0.0000	0.0000	0.0000	0.0000	0.00462	0.00462
06:00:00	0.0000	0.0000	0.0000	0.0000	0.0046	0.0046
06:06:00	0.0000	0.0000	0.0000	0.0000	0.00459	0.00459
06:12:00	0.0000	0.0000	0.0000	0.0000	0.00457	0.00457
06:18:00	0.0000	0.0000	0.0000	0.0000	0.00455	0.00455
06:24:00	0.0000	0.0000	0.0000	0.0000	0.00453	0.00453
06:30:00	0.0000	0.0000	0.0000	0.0000	0.00451	0.00451
06:36:00	0.0000	0.0000	0.0000	0.0000	0.0045	0.0045
06:42:00	0.0000	0.0000	0.0000	0.0000	0.00448	0.00448
06:48:00	0.0000	0.0000	0.0000	0.0000	0.00446	0.00446
06:54:00	0.0000	0.0000	0.0000	0.0000	0.00445	0.00445
07:00:00	0.0000	0.0000	0.0000	0.0000	0.00443	0.00443

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
07:06:00	0.0000	0.0000	0.0000	0.0000	0.00441	0.00441
07:12:00	0.0000	0.0000	0.0000	0.0000	0.00439	0.00439
07:18:00	0.0000	0.0000	0.0000	0.0000	0.00438	0.00438
07:24:00	0.0000	0.0000	0.0000	0.0000	0.00436	0.00436
07:30:00	0.0000	0.0000	0.0000	0.0000	0.00434	0.00434
07:36:00	0.0000	0.0000	0.0000	0.0000	0.00433	0.00433
07:42:00	0.0000	0.0000	0.0000	0.0000	0.00431	0.00431
07:48:00	0.0000	0.0000	0.0000	0.0000	0.00429	0.00429
07:54:00	0.0000	0.0000	0.0000	0.0000	0.00428	0.00428
08:00:00	0.0000	0.0000	0.0000	0.0000	0.00426	0.00426
08:06:00	0.0000	0.0000	0.0000	0.0000	0.00425	0.00425
08:12:00	0.0000	0.0000	0.0000	0.0000	0.00423	0.00423
08:18:00	0.0000	0.0000	0.0000	0.0000	0.00421	0.00421
08:24:00	0.0000	0.0000	0.0000	0.0000	0.0042	0.0042
08:30:00	0.0000	0.0000	0.0000	0.0000	0.00418	0.00418
08:36:00	0.0000	0.0000	0.0000	0.0000	0.00416	0.00416
08:42:00	0.0000	0.0000	0.0000	0.0000	0.00415	0.00415
08:48:00	0.0000	0.0000	0.0000	0.0000	0.00413	0.00413
08:54:00	0.0000	0.0000	0.0000	0.0000	0.00412	0.00412
09:00:00	0.0000	0.0000	0.0000	0.0000	0.0041	0.0041
09:06:00	0.0000	0.0000	0.0000	0.0000	0.00409	0.00409
09:12:00	0.0000	0.0000	0.0000	0.0000	0.00407	0.00407
09:18:00	0.0000	0.0000	0.0000	0.0000	0.00405	0.00405
09:24:00	0.0000	0.0000	0.0000	0.0000	0.00404	0.00404
09:30:00	0.0000	0.0000	0.0000	0.0000	0.00402	0.00402
09:36:00	0.0000	0.0000	0.0000	0.0000	0.00401	0.00401
09:42:00	0.0000	0.0000	0.0000	0.0000	0.00399	0.00399
09:48:00	0.0000	0.0000	0.0000	0.0000	0.00398	0.00398
09:54:00	0.0000	0.0000	0.0000	0.0000	0.00396	0.00396
10:00:00	0.0000	0.0000	0.0000	0.0000	0.00395	0.00395
10:06:00	0.0000	0.0000	0.0000	0.0000	0.00393	0.00393
10:12:00	0.0000	0.0000	0.0000	0.0000	0.00392	0.00392
10:18:00	0.0000	0.0000	0.0000	0.0000	0.0039	0.0039
10:24:00	0.0000	0.0000	0.0000	0.0000	0.00389	0.00389
10:30:00	0.0000	0.0000	0.0000	0.0000	0.00387	0.00387
10:36:00	0.0000	0.0000	0.0000	0.0000	0.00386	0.00386

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
10:42:00	0.0000	0.0000	0.0000	0.0000	0.00384	0.00384
10:48:00	0.0000	0.0000	0.0000	0.0000	0.00383	0.00383
10:54:00	0.0000	0.0000	0.0000	0.0000	0.00381	0.00381
11:00:00	0.0000	0.0000	0.0000	0.0000	0.0038	0.0038
11:06:00	0.0000	0.0000	0.0000	0.0000	0.00378	0.00378
11:12:00	0.0000	0.0000	0.0000	0.0000	0.00377	0.00377
11:18:00	0.0000	0.0000	0.0000	0.0000	0.00375	0.00375
11:24:00	0.0000	0.0000	0.0000	0.0000	0.00374	0.00374
11:30:00	0.0000	0.0000	0.0000	0.0000	0.00372	0.00372
11:36:00	0.0000	0.0000	0.0000	0.0000	0.00371	0.00371
11:42:00	0.0000	0.0000	0.0000	0.0000	0.0037	0.0037
11:48:00	0.0000	0.0000	0.0000	0.0000	0.00368	0.00368
11:54:00	0.0000	0.0000	0.0000	0.0000	0.00367	0.00367
12:00:00	0.0000	0.0000	0.0000	0.0000	0.00365	0.00365
12:06:00	0.0000	0.0000	0.0000	0.0000	0.00364	0.00364
12:12:00	0.0000	0.0000	0.0000	0.0000	0.00363	0.00363
12:18:00	0.0000	0.0000	0.0000	0.0000	0.00361	0.00361
12:24:00	0.0000	0.0000	0.0000	0.0000	0.0036	0.0036
12:30:00	0.0000	0.0000	0.0000	0.0000	0.00358	0.00358
12:36:00	0.0000	0.0000	0.0000	0.0000	0.00357	0.00357
12:42:00	0.0000	0.0000	0.0000	0.0000	0.00356	0.00356
12:48:00	0.0000	0.0000	0.0000	0.0000	0.00354	0.00354
12:54:00	0.0000	0.0000	0.0000	0.0000	0.00353	0.00353
13:00:00	0.0000	0.0000	0.0000	0.0000	0.00352	0.00352
13:06:00	0.0000	0.0000	0.0000	0.0000	0.0035	0.0035
13:12:00	0.0000	0.0000	0.0000	0.0000	0.00349	0.00349
13:18:00	0.0000	0.0000	0.0000	0.0000	0.00348	0.00348
13:24:00	0.0000	0.0000	0.0000	0.0000	0.00346	0.00346
13:30:00	0.0000	0.0000	0.0000	0.0000	0.00345	0.00345
13:36:00	0.0000	0.0000	0.0000	0.0000	0.00344	0.00344
13:42:00	0.0000	0.0000	0.0000	0.0000	0.00342	0.00342
13:48:00	0.0000	0.0000	0.0000	0.0000	0.00341	0.00341
13:54:00	0.0000	0.0000	0.0000	0.0000	0.0034	0.0034
14:00:00	0.0000	0.0000	0.0000	0.0000	0.00338	0.00338
14:06:00	0.0000	0.0000	0.0000	0.0000	0.00337	0.00337
14:12:00	0.0000	0.0000	0.0000	0.0000	0.00336	0.00336

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
14:18:00	0.0000	0.0000	0.0000	0.0000	0.00334	0.00334
14:24:00	0.0000	0.0000	0.0000	0.0000	0.00333	0.00333
14:30:00	0.0000	0.0000	0.0000	0.0000	0.00332	0.00332
14:36:00	0.0000	0.0000	0.0000	0.0000	0.00331	0.00331
14:42:00	0.0000	0.0000	0.0000	0.0000	0.00329	0.00329
14:48:00	0.0000	0.0000	0.0000	0.0000	0.00328	0.00328
14:54:00	0.0000	0.0000	0.0000	0.0000	0.00327	0.00327
15:00:00	0.0000	0.0000	0.0000	0.0000	0.00326	0.00326
15:06:00	0.0000	0.0000	0.0000	0.0000	0.00324	0.00324
15:12:00	0.0000	0.0000	0.0000	0.0000	0.00323	0.00323
15:18:00	0.0000	0.0000	0.0000	0.0000	0.00322	0.00322
15:24:00	0.0000	0.0000	0.0000	0.0000	0.00321	0.00321
15:30:00	0.0000	0.0000	0.0000	0.0000	0.00319	0.00319
15:36:00	0.0000	0.0000	0.0000	0.0000	0.00318	0.00318
15:42:00	0.0000	0.0000	0.0000	0.0000	0.00317	0.00317
15:48:00	0.0000	0.0000	0.0000	0.0000	0.00316	0.00316
15:54:00	0.0000	0.0000	0.0000	0.0000	0.00314	0.00314
16:00:00	0.0000	0.0000	0.0000	0.0000	0.00313	0.00313
16:06:00	0.0000	0.0000	0.0000	0.0000	0.00312	0.00312
16:12:00	0.0000	0.0000	0.0000	0.0000	0.00311	0.00311
16:18:00	0.0000	0.0000	0.0000	0.0000	0.0031	0.0031
16:24:00	0.0000	0.0000	0.0000	0.0000	0.00308	0.00308
16:30:00	0.0000	0.0000	0.0000	0.0000	0.00307	0.00307
16:36:00	0.0000	0.0000	0.0000	0.0000	0.00306	0.00306
16:42:00	0.0000	0.0000	0.0000	0.0000	0.00305	0.00305
16:48:00	0.0000	0.0000	0.0000	0.0000	0.00304	0.00304
16:54:00	0.0000	0.0000	0.0000	0.0000	0.00303	0.00303
17:00:00	0.0000	0.0000	0.0000	0.0000	0.00301	0.00301
17:06:00	0.0000	0.0000	0.0000	0.0000	0.003	0.003
17:12:00	0.0000	0.0000	0.0000	0.0000	0.00299	0.00299
17:18:00	0.0000	0.0000	0.0000	0.0000	0.00298	0.00298
17:24:00	0.0000	0.0000	0.0000	0.0000	0.00297	0.00297
17:30:00	0.0000	0.0000	0.0000	0.0000	0.00296	0.00296
17:36:00	0.0000	0.0000	0.0000	0.0000	0.00295	0.00295
17:42:00	0.0000	0.0000	0.0000	0.0000	0.00293	0.00293
17:48:00	0.0000	0.0000	0.0000	0.0000	0.00292	0.00292

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
17:54:00	0.0000	0.0000	0.0000	0.0000	0.00291	0.00291
18:00:00	0.0000	0.0000	0.0000	0.0000	0.0029	0.0029
18:06:00	0.0000	0.0000	0.0000	0.0000	0.00289	0.00289
18:12:00	0.0000	0.0000	0.0000	0.0000	0.00288	0.00288
18:18:00	0.0000	0.0000	0.0000	0.0000	0.00287	0.00287
18:24:00	0.0000	0.0000	0.0000	0.0000	0.00286	0.00286
18:30:00	0.0000	0.0000	0.0000	0.0000	0.00284	0.00284
18:36:00	0.0000	0.0000	0.0000	0.0000	0.00283	0.00283
18:42:00	0.0000	0.0000	0.0000	0.0000	0.00282	0.00282
18:48:00	0.0000	0.0000	0.0000	0.0000	0.00281	0.00281
18:54:00	0.0000	0.0000	0.0000	0.0000	0.0028	0.0028
19:00:00	0.0000	0.0000	0.0000	0.0000	0.00279	0.00279
19:06:00	0.0000	0.0000	0.0000	0.0000	0.00278	0.00278
19:12:00	0.0000	0.0000	0.0000	0.0000	0.00277	0.00277
19:18:00	0.0000	0.0000	0.0000	0.0000	0.00276	0.00276
19:24:00	0.0000	0.0000	0.0000	0.0000	0.00275	0.00275
19:30:00	0.0000	0.0000	0.0000	0.0000	0.00274	0.00274
19:36:00	0.0000	0.0000	0.0000	0.0000	0.00273	0.00273
19:42:00	0.0000	0.0000	0.0000	0.0000	0.00272	0.00272
19:48:00	0.0000	0.0000	0.0000	0.0000	0.00271	0.00271
19:54:00	0.0000	0.0000	0.0000	0.0000	0.0027	0.0027
20:00:00	0.0000	0.0000	0.0000	0.0000	0.00269	0.00269
20:06:00	0.0000	0.0000	0.0000	0.0000	0.00267	0.00267
20:12:00	0.0000	0.0000	0.0000	0.0000	0.00266	0.00266
20:18:00	0.0000	0.0000	0.0000	0.0000	0.00265	0.00265
20:24:00	0.0000	0.0000	0.0000	0.0000	0.00264	0.00264
20:30:00	0.0000	0.0000	0.0000	0.0000	0.00263	0.00263
20:36:00	0.0000	0.0000	0.0000	0.0000	0.00262	0.00262
20:42:00	0.0000	0.0000	0.0000	0.0000	0.00261	0.00261
20:48:00	0.0000	0.0000	0.0000	0.0000	0.0026	0.0026
20:54:00	0.0000	0.0000	0.0000	0.0000	0.00259	0.00259
21:00:00	0.0000	0.0000	0.0000	0.0000	0.00258	0.00258
21:06:00	0.0000	0.0000	0.0000	0.0000	0.00257	0.00257
21:12:00	0.0000	0.0000	0.0000	0.0000	0.00256	0.00256
21:18:00	0.0000	0.0000	0.0000	0.0000	0.00255	0.00255
21:24:00	0.0000	0.0000	0.0000	0.0000	0.00254	0.00254

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
21:30:00	0.0000	0.0000	0.0000	0.0000	0.00253	0.00253
21:36:00	0.0000	0.0000	0.0000	0.0000	0.00252	0.00252
21:42:00	0.0000	0.0000	0.0000	0.0000	0.00252	0.00252
21:48:00	0.0000	0.0000	0.0000	0.0000	0.00251	0.00251
21:54:00	0.0000	0.0000	0.0000	0.0000	0.0025	0.0025
22:00:00	0.0000	0.0000	0.0000	0.0000	0.00249	0.00249
22:06:00	0.0000	0.0000	0.0000	0.0000	0.00248	0.00248
22:12:00	0.0000	0.0000	0.0000	0.0000	0.00247	0.00247
22:18:00	0.0000	0.0000	0.0000	0.0000	0.00246	0.00246
22:24:00	0.0000	0.0000	0.0000	0.0000	0.00245	0.00245
22:30:00	0.0000	0.0000	0.0000	0.0000	0.00244	0.00244
22:36:00	0.0000	0.0000	0.0000	0.0000	0.00243	0.00243
22:42:00	0.0000	0.0000	0.0000	0.0000	0.00242	0.00242
22:48:00	0.0000	0.0000	0.0000	0.0000	0.00241	0.00241
22:54:00	0.0000	0.0000	0.0000	0.0000	0.0024	0.0024
23:00:00	0.0000	0.0000	0.0000	0.0000	0.00239	0.00239
23:06:00	0.0000	0.0000	0.0000	0.0000	0.00238	0.00238
23:12:00	0.0000	0.0000	0.0000	0.0000	0.00237	0.00237
23:18:00	0.0000	0.0000	0.0000	0.0000	0.00236	0.00236
23:24:00	0.0000	0.0000	0.0000	0.0000	0.00236	0.00236
23:30:00	0.0000	0.0000	0.0000	0.0000	0.00235	0.00235
23:36:00	0.0000	0.0000	0.0000	0.0000	0.00234	0.00234
23:42:00	0.0000	0.0000	0.0000	0.0000	0.00233	0.00233
23:48:00	0.0000	0.0000	0.0000	0.0000	0.00232	0.00232
23:54:00	0.0000	0.0000	0.0000	0.0000	0.00231	0.00231
24:00:00	0.0000	0.0000	0.0000	0.0000	0.0023	0.0023
24:06:00	0.0000	0.0000	0.0000	0.0000	0.00229	0.00229
24:12:00	0.0000	0.0000	0.0000	0.0000	0.00228	0.00228
24:18:00	0.0000	0.0000	0.0000	0.0000	0.00228	0.00228
24:24:00	0.0000	0.0000	0.0000	0.0000	0.00227	0.00227
24:30:00	0.0000	0.0000	0.0000	0.0000	0.00226	0.00226
24:36:00	0.0000	0.0000	0.0000	0.0000	0.00225	0.00225
24:42:00	0.0000	0.0000	0.0000	0.0000	0.00224	0.00224
24:48:00	0.0000	0.0000	0.0000	0.0000	0.00223	0.00223
24:54:00	0.0000	0.0000	0.0000	0.0000	0.00222	0.00222
25:00:00	0.0000	0.0000	0.0000	0.0000	0.00222	0.00222

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
25:06:00	0.0000	0.0000	0.0000	0.0000	0.00221	0.00221
25:12:00	0.0000	0.0000	0.0000	0.0000	0.0022	0.0022
25:18:00	0.0000	0.0000	0.0000	0.0000	0.00219	0.00219
25:24:00	0.0000	0.0000	0.0000	0.0000	0.00218	0.00218
25:30:00	0.0000	0.0000	0.0000	0.0000	0.00217	0.00217
25:36:00	0.0000	0.0000	0.0000	0.0000	0.00216	0.00216
25:42:00	0.0000	0.0000	0.0000	0.0000	0.00216	0.00216
25:48:00	0.0000	0.0000	0.0000	0.0000	0.00215	0.00215
25:54:00	0.0000	0.0000	0.0000	0.0000	0.00214	0.00214
26:00:00	0.0000	0.0000	0.0000	0.0000	0.00213	0.00213
26:06:00	0.0000	0.0000	0.0000	0.0000	0.00212	0.00212
26:12:00	0.0000	0.0000	0.0000	0.0000	0.00212	0.00212
26:18:00	0.0000	0.0000	0.0000	0.0000	0.00211	0.00211
26:24:00	0.0000	0.0000	0.0000	0.0000	0.0021	0.0021
26:30:00	0.0000	0.0000	0.0000	0.0000	0.00209	0.00209
26:36:00	0.0000	0.0000	0.0000	0.0000	0.00208	0.00208
26:42:00	0.0000	0.0000	0.0000	0.0000	0.00207	0.00207
26:48:00	0.0000	0.0000	0.0000	0.0000	0.00207	0.00207
26:54:00	0.0000	0.0000	0.0000	0.0000	0.00206	0.00206
27:00:00	0.0000	0.0000	0.0000	0.0000	0.00205	0.00205
27:06:00	0.0000	0.0000	0.0000	0.0000	0.00204	0.00204
27:12:00	0.0000	0.0000	0.0000	0.0000	0.00204	0.00204
27:18:00	0.0000	0.0000	0.0000	0.0000	0.00203	0.00203
27:24:00	0.0000	0.0000	0.0000	0.0000	0.00202	0.00202
27:30:00	0.0000	0.0000	0.0000	0.0000	0.00201	0.00201
27:36:00	0.0000	0.0000	0.0000	0.0000	0.002	0.002
27:42:00	0.0000	0.0000	0.0000	0.0000	0.002	0.002
27:48:00	0.0000	0.0000	0.0000	0.0000	0.00199	0.00199
27:54:00	0.0000	0.0000	0.0000	0.0000	0.00198	0.00198
28:00:00	0.0000	0.0000	0.0000	0.0000	0.00197	0.00197
28:06:00	0.0000	0.0000	0.0000	0.0000	0.00197	0.00197
28:12:00	0.0000	0.0000	0.0000	0.0000	0.00196	0.00196
28:18:00	0.0000	0.0000	0.0000	0.0000	0.00195	0.00195
28:24:00	0.0000	0.0000	0.0000	0.0000	0.00194	0.00194
28:30:00	0.0000	0.0000	0.0000	0.0000	0.00194	0.00194
28:36:00	0.0000	0.0000	0.0000	0.0000	0.00193	0.00193

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
28:42:00	0.0000	0.0000	0.0000	0.0000	0.00192	0.00192
28:48:00	0.0000	0.0000	0.0000	0.0000	0.00191	0.00191
28:54:00	0.0000	0.0000	0.0000	0.0000	0.00191	0.00191
29:00:00	0.0000	0.0000	0.0000	0.0000	0.0019	0.0019
29:06:00	0.0000	0.0000	0.0000	0.0000	0.00189	0.00189
29:12:00	0.0000	0.0000	0.0000	0.0000	0.00188	0.00188
29:18:00	0.0000	0.0000	0.0000	0.0000	0.00188	0.00188
29:24:00	0.0000	0.0000	0.0000	0.0000	0.00187	0.00187
29:30:00	0.0000	0.0000	0.0000	0.0000	0.00186	0.00186
29:36:00	0.0000	0.0000	0.0000	0.0000	0.00186	0.00186
29:42:00	0.0000	0.0000	0.0000	0.0000	0.00185	0.00185
29:48:00	0.0000	0.0000	0.0000	0.0000	0.00184	0.00184
29:54:00	0.0000	0.0000	0.0000	0.0000	0.00183	0.00183
30:00:00	0.0000	0.0000	0.0000	0.0000	0.00183	0.00183
30:06:00	0.0000	0.0000	0.0000	0.0000	0.00182	0.00182
30:12:00	0.0000	0.0000	0.0000	0.0000	0.00181	0.00181
30:18:00	0.0000	0.0000	0.0000	0.0000	0.00181	0.00181
30:24:00	0.0000	0.0000	0.0000	0.0000	0.0018	0.0018
30:30:00	0.0000	0.0000	0.0000	0.0000	0.00179	0.00179
30:36:00	0.0000	0.0000	0.0000	0.0000	0.00179	0.00179
30:42:00	0.0000	0.0000	0.0000	0.0000	0.00178	0.00178
30:48:00	0.0000	0.0000	0.0000	0.0000	0.00177	0.00177
30:54:00	0.0000	0.0000	0.0000	0.0000	0.00177	0.00177
31:00:00	0.0000	0.0000	0.0000	0.0000	0.00176	0.00176
31:06:00	0.0000	0.0000	0.0000	0.0000	0.00175	0.00175
31:12:00	0.0000	0.0000	0.0000	0.0000	0.00174	0.00174
31:18:00	0.0000	0.0000	0.0000	0.0000	0.00174	0.00174
31:24:00	0.0000	0.0000	0.0000	0.0000	0.00173	0.00173
31:30:00	0.0000	0.0000	0.0000	0.0000	0.00172	0.00172
31:36:00	0.0000	0.0000	0.0000	0.0000	0.00172	0.00172
31:42:00	0.0000	0.0000	0.0000	0.0000	0.00171	0.00171
31:48:00	0.0000	0.0000	0.0000	0.0000	0.00171	0.00171
31:54:00	0.0000	0.0000	0.0000	0.0000	0.0017	0.0017
32:00:00	0.0000	0.0000	0.0000	0.0000	0.00169	0.00169
32:06:00	0.0000	0.0000	0.0000	0.0000	0.00169	0.00169
32:12:00	0.0000	0.0000	0.0000	0.0000	0.00168	0.00168

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m ³ /s)	Net Rain (mm)	Runoff (m ³ /s)	Baseflow (m ³ /s)	Total Flow (m ³ /s)
32:18:00	0.0000	0.0000	0.0000	0.0000	0.00167	0.00167
32:24:00	0.0000	0.0000	0.0000	0.0000	0.00167	0.00167
32:30:00	0.0000	0.0000	0.0000	0.0000	0.00166	0.00166
32:36:00	0.0000	0.0000	0.0000	0.0000	0.00165	0.00165
32:42:00	0.0000	0.0000	0.0000	0.0000	0.00165	0.00165
32:48:00	0.0000	0.0000	0.0000	0.0000	0.00164	0.00164
32:54:00	0.0000	0.0000	0.0000	0.0000	0.00163	0.00163
33:00:00	0.0000	0.0000	0.0000	0.0000	0.00163	0.00163
33:06:00	0.0000	0.0000	0.0000	0.0000	0.00162	0.00162
33:12:00	0.0000	0.0000	0.0000	0.0000	0.00162	0.00162
33:18:00	0.0000	0.0000	0.0000	0.0000	0.00161	0.00161
33:24:00	0.0000	0.0000	0.0000	0.0000	0.0016	0.0016
33:30:00	0.0000	0.0000	0.0000	0.0000	0.0016	0.0016
33:36:00	0.0000	0.0000	0.0000	0.0000	0.00159	0.00159
33:42:00	0.0000	0.0000	0.0000	0.0000	0.00158	0.00158
33:48:00	0.0000	0.0000	0.0000	0.0000	0.00158	0.00158
33:54:00	0.0000	0.0000	0.0000	0.0000	0.00157	0.00157
34:00:00	0.0000	0.0000	0.0000	0.0000	0.00157	0.00157
34:06:00	0.0000	0.0000	0.0000	0.0000	0.00156	0.00156
34:12:00	0.0000	0.0000	0.0000	0.0000	0.00155	0.00155
34:18:00	0.0000	0.0000	0.0000	0.0000	0.00155	0.00155
34:24:00	0.0000	0.0000	0.0000	0.0000	0.00154	0.00154
34:30:00	0.0000	0.0000	0.0000	0.0000	0.00154	0.00154
34:36:00	0.0000	0.0000	0.0000	0.0000	0.00153	0.00153
34:42:00	0.0000	0.0000	0.0000	0.0000	0.00152	0.00152
34:48:00	0.0000	0.0000	0.0000	0.0000	0.00152	0.00152
34:54:00	0.0000	0.0000	0.0000	0.0000	0.00151	0.00151
35:00:00	0.0000	0.0000	0.0000	0.0000	0.00151	0.00151
35:06:00	0.0000	0.0000	0.0000	0.0000	0.0015	0.0015
35:12:00	0.0000	0.0000	0.0000	0.0000	0.0015	0.0015
35:18:00	0.0000	0.0000	0.0000	0.0000	0.00149	0.00149
35:24:00	0.0000	0.0000	0.0000	0.0000	0.00148	0.00148
35:30:00	0.0000	0.0000	0.0000	0.0000	0.00148	0.00148
35:36:00	0.0000	0.0000	0.0000	0.0000	0.00147	0.00147
35:42:00	0.0000	0.0000	0.0000	0.0000	0.00147	0.00147

Appendix

Catchment descriptors *

Name	Value	User-defined value used?
BFIHOST	0.32	No
BFIHOST19	0.34	No
PROPWET	0.51	No
SAAR (mm)	1146	No

Values in square brackets are the original values loaded from the FEH Web Service or FEH CD-ROM

SUDS Type	SUDS Technique	Description	Suitable	Comments
Source Control	Green roof	Vegetated roof that reduces runoff volume and rate	No	Expected planning requirement for traditional pitched roofs to match neighbouring housing.
	Rainwater harvesting/rainwater butts	Rainwater is stored and re-used	Possible	Individual water butts can be used for garden watering.
	Permeable paving	Paving which allows inflow of rainwater into underlying construction/soil	Possible	Permeable paving (Type C) may be suitable for private drives.
Infiltration	Soakaway	Pit or trench which stores and disposes of water to the ground	No	Presence of impermeable ground (clay and silt). Soakaway testing was conducted by Lithos Consulting (Ref: 008/5200/REG/dw) and infiltration rates were not calculated as the water level did not fall to the 25% effective depth.
	Filter Drain	Trench which conveys and/or disposes of water to the ground.	No	
	Infiltration Basin	Shallow basin which stores and disposes of water to the ground	No	Lack of suitable open space.
Conveyance	Swale	Shallow vegetated depression which conducts and retains water	No	Unsuitable for sites with steep topography.
Detention	Subsurface storage	Traditional underground pipes, tank storage, or modular systems	Yes	Area available on the site for an attenuation tank/ crates.
	Detention Basin	Normally dry but may have small permanent water pools at the inlet and outlet. They can function as POS	Yes	Area available on the site for an attenuation basin.
	Pond	Permanent body of water	No	Lack of suitable public open space.
	Wetland	Permanent body of shallow water or marsh	No	

Inspection Date								
	Details	Y/N	Action Required	Date Completed	Details	Y/N	Action Required	Date Completed
Other Observations								
Information appended (photos etc)								
Suitability of current maintenance regime								
Continue as current Increase maintenance Decrease maintenance								
Next Inspection								
Proposed date for next inspection								

Further Comments	
-------------------------	--



Key:

- Attenuation basin
- Attenuation crates/ tank
- Surface water sewer
- Existing public surface water sewer (United Utilities)
- Linear drainage channel
- Vortex flow control
- Headwall
- Foul water sewer
- Foul water backstop
- Existing public foul water sewer (United Utilities)
- Pump station (with 15 m offset from foul wet well)
- Watercourse

- Notes:**
1. This drawing is to be read in conjunction with all relevant planning layouts and planning documents and is subject to detailed design.
 2. All manhole and pipe locations are indicative. Final locations to be confirmed at the detailed design stage. Pipe sizes, cover and invert levels to be provided at detailed design and are subject to hydraulic modelling.
 3. All pipe connections to be level soffit unless noted otherwise.
 4. Root guard for all pipework/drainage in close proximity to proposed and existing trees to prevent structural damage.
 5. All pipework with less than 1.2 m cover in trafficked areas to have a Class Z concrete bed and surround or concrete slab protection.
 6. All outfall locations and discharge rates to be agreed with United Utilities and the Lead Local Flood Authority.
 7. Surface water discharge will likely be restricted to the greenfield runoff rate of the developable catchment area of the outfall watercourse, subject to approval from the Lead Local Flood Authority.
 8. The greenfield runoff rate for the central watercourse has been proportionally split for the proposed western and eastern development areas to determine the proposed discharge rates.
 9. Outfalls to the watercourse to be located above water level during normal fluvial flow conditions. The viability of gravity connections to the watercourse is subject to confirmation of the watercourse invert level and normal water level.
 10. Attenuation volumes are based on the Stantec Design Framework (Ref: 333101612-010). Attenuation basin volumes and locations are indicative and subject to change at detailed design stage, confirmation of groundwater levels and modelling of the drainage network.
 11. Maximum attenuation basin water depths assumed to be 1 m with maximum 1 in 3 side slopes. Final basin locations are subject to change at detailed design.
 12. Existing field drains (not watercourse or overland flow paths) to be abandoned. Site runoff to be accommodated within proposed drainage network.
 13. Exact location of existing foul water sewer to be confirmed to ensure no clashes with the proposed drainage network.
 14. Any work in proximity to watercourses is subject to approval from the LLFA and may require a watercourse consent application and easement restrictions.
 15. Discharge rate and location of foul water pump station to be confirmed at detailed design stage.

P03	Updated to suit latest layout.	JSS	KBE	26.02.2025
P02	Updated to suit latest layout. Basin location adjusted and pump station updated.	JSS	KBE	14.02.2025
P01	First Issue.	JSS	KBE	03.12.2024
REV	DESCRIPTION	SIG	CHK	DATE

HALLAM LAND MANAGEMENT LTD

LONGSIGHT ROAD, LANGHO

DRAINAGE STRATEGY

Eastwood
CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS

T: 0114 255 4554
E: mail@eastwoodce.com
eastwoodce.com

ECE PROJECT No	SCALE AT A1	STATUS	SUITABLE FOR
49343	1:1000	S0	Initial
DRAWING NUMBER		REV	
49343 - ECE - XX - XX - DR - C - 0003		P03	
Project	Originator	Zone	Level
			Type
			Role
			Number



Eastwood

CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
mail@eastwoodce.com
0114 255 4554
eastwoodce.com