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Raven House 29 Linkfield Lane Surrey RH1 1SS	13591 - Arun Crem Infiltration Basin	
Date 08/02/2022 17:31	Designed by AJH	
File 13591-CRH-XX-XX-CA-C-0006-P1_P...	Checked by SBS	
XP Solutions		Source Control 2020.1

Summary of Results for 10 year Return Period

Half Drain Time : 3437 minutes.

Outflow is too low. Design is unsatisfactory.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	2.604	0.054	0.7	76.6	O K
30 min Summer	2.620	0.070	0.7	99.7	O K
60 min Summer	2.638	0.088	0.7	125.4	O K
120 min Summer	2.659	0.109	0.7	155.1	O K
180 min Summer	2.671	0.121	0.7	173.0	O K
240 min Summer	2.679	0.129	0.7	185.0	O K
360 min Summer	2.689	0.139	0.7	199.6	O K
480 min Summer	2.695	0.145	0.7	208.4	O K
600 min Summer	2.699	0.149	0.7	214.4	O K
720 min Summer	2.702	0.152	0.7	218.7	O K
960 min Summer	2.706	0.156	0.7	224.5	O K
1440 min Summer	2.710	0.160	0.7	230.2	O K
2160 min Summer	2.711	0.161	0.7	232.5	O K
2880 min Summer	2.711	0.161	0.7	232.8	O K
4320 min Summer	2.714	0.164	0.7	236.6	O K
5760 min Summer	2.717	0.167	0.7	241.3	O K
7200 min Summer	2.721	0.171	0.7	246.5	O K
8640 min Summer	2.724	0.174	0.7	251.9	O K
10080 min Summer	2.728	0.178	0.7	257.6	O K
15 min Winter	2.611	0.061	0.7	85.8	O K
30 min Winter	2.629	0.079	0.7	111.8	O K
60 min Winter	2.649	0.099	0.7	140.6	O K
120 min Winter	2.671	0.121	0.7	174.0	O K
180 min Winter	2.685	0.135	0.7	194.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	62.800	0.0	19
30 min Summer	41.000	0.0	34
60 min Summer	25.900	0.0	64
120 min Summer	16.150	0.0	124
180 min Summer	12.097	0.0	184
240 min Summer	9.775	0.0	244
360 min Summer	7.133	0.0	364
480 min Summer	5.665	0.0	482
600 min Summer	4.728	0.0	602
720 min Summer	4.075	0.0	722
960 min Summer	3.223	0.0	962
1440 min Summer	2.321	0.0	1442
2160 min Summer	1.685	0.0	2160
2880 min Summer	1.354	0.0	2508
4320 min Summer	1.015	0.0	3288
5760 min Summer	0.840	0.0	4096
7200 min Summer	0.733	0.0	4968
8640 min Summer	0.662	0.0	5800
10080 min Summer	0.610	0.0	6664
15 min Winter	62.800	0.0	19
30 min Winter	41.000	0.0	34
60 min Winter	25.900	0.0	64
120 min Winter	16.150	0.0	122
180 min Winter	12.097	0.0	182

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Summary of Results for 10 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	2.694	0.144	0.7	207.8	O K
360 min Winter	2.706	0.156	0.7	224.4	O K
480 min Winter	2.713	0.163	0.7	234.6	O K
600 min Winter	2.717	0.167	0.7	241.7	O K
720 min Winter	2.721	0.171	0.7	246.8	O K
960 min Winter	2.726	0.176	0.7	254.0	O K
1440 min Winter	2.731	0.181	0.7	261.9	O K
2160 min Winter	2.734	0.184	0.7	266.9	O K
2880 min Winter	2.735	0.185	0.7	268.7	O K
4320 min Winter	2.737	0.187	0.7	270.5	O K
5760 min Winter	2.739	0.189	0.7	274.8	O K
7200 min Winter	2.742	0.192	0.7	279.3	O K
8640 min Winter	2.745	0.195	0.7	283.8	O K
10080 min Winter	2.748	0.198	0.7	288.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	9.775	0.0	240
360 min Winter	7.133	0.0	360
480 min Winter	5.665	0.0	478
600 min Winter	4.728	0.0	596
720 min Winter	4.075	0.0	714
960 min Winter	3.223	0.0	944
1440 min Winter	2.321	0.0	1410
2160 min Winter	1.685	0.0	2080
2880 min Winter	1.354	0.0	2736
4320 min Winter	1.015	0.0	3504
5760 min Winter	0.840	0.0	4440
7200 min Winter	0.733	0.0	5400
8640 min Winter	0.662	0.0	6320
10080 min Winter	0.610	0.0	7264

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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 498000 101400 SU 98000 01400	Shortest Storm (mins)	15
Data Type	Catchment	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.654

Time (mins) Area
From: To: (ha)

0 4 0.654

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Model Details

Storage is Online Cover Level (m) 3.050

Infiltration Basin Structure

Invert Level (m) 2.550 Safety Factor 5.0
Infiltration Coefficient Base (m/hr) 0.00853 Porosity 1.00
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1400.0	0.500	1677.8