

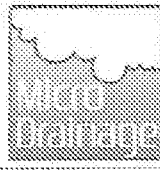
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The Cottage Piggeries Church Lane Barnham		
Date 23.3.19	Designed by	
File Permeable paving.SRCX	Checked by	
Micro Drainage		Source Control 2016.1

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 125 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	7.241	0.171	0.7	4.7	0 K
30 min Summer	7.298	0.228	0.7	6.3	Flood Risk
60 min Summer	7.346	0.276	0.7	7.6	Flood Risk
120 min Summer	7.369	0.299	0.7	8.3	Flood Risk
180 min Summer	7.369	0.299	0.7	8.3	Flood Risk
240 min Summer	7.362	0.292	0.7	8.1	Flood Risk
360 min Summer	7.342	0.272	0.7	7.5	Flood Risk
480 min Summer	7.320	0.250	0.7	6.9	Flood Risk
600 min Summer	7.298	0.228	0.7	6.3	Flood Risk
720 min Summer	7.277	0.207	0.7	5.7	Flood Risk
960 min Summer	7.237	0.167	0.7	4.6	0 K
1440 min Summer	7.175	0.105	0.7	2.9	0 K
2160 min Summer	7.125	0.055	0.7	1.5	0 K
2880 min Summer	7.113	0.043	0.6	1.2	0 K
4320 min Summer	7.102	0.032	0.4	0.9	0 K
5760 min Summer	7.096	0.026	0.3	0.7	0 K
7200 min Summer	7.092	0.022	0.3	0.6	0 K
8640 min Summer	7.089	0.019	0.3	0.5	0 K
10080 min Summer	7.087	0.017	0.2	0.5	0 K
15 min Winter	7.265	0.195	0.7	5.4	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.515	0.0	18
30 min Summer	84.780	0.0	32
60 min Summer	54.663	0.0	62
120 min Summer	34.005	0.0	106
180 min Summer	25.359	0.0	138
240 min Summer	20.434	0.0	170
360 min Summer	15.075	0.0	238
480 min Summer	12.133	0.0	306
600 min Summer	10.243	0.0	374
720 min Summer	8.914	0.0	438
960 min Summer	7.153	0.0	566
1440 min Summer	5.234	0.0	794
2160 min Summer	3.821	0.0	1124
2880 min Summer	3.053	0.0	1468
4320 min Summer	2.220	0.0	2204
5760 min Summer	1.769	0.0	2936
7200 min Summer	1.484	0.0	3664
8640 min Summer	1.286	0.0	4368
10080 min Summer	1.139	0.0	5112
15 min Winter	125.515	0.0	18

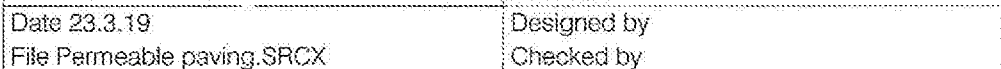
	The Cottage Piggeries Church Lane Barnham	
Date 23.3.19	Designed by	
File Permeable paving.SRCX	Checked by	
Micro Drainage	Source Control 2016.1	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	7.330	0.260	0.7	7.2	Flood Risk
60 min Winter	7.387	0.317	0.7	8.8	Flood Risk
120 min Winter	7.419	0.349	0.7	9.6	Flood Risk
180 min Winter	7.416	0.346	0.7	9.5	Flood Risk
240 min Winter	7.405	0.335	0.7	9.2	Flood Risk
360 min Winter	7.375	0.305	0.7	8.4	Flood Risk
480 min Winter	7.341	0.271	0.7	7.5	Flood Risk
600 min Winter	7.306	0.236	0.7	6.5	Flood Risk
720 min Winter	7.272	0.202	0.7	5.6	Flood Risk
960 min Winter	7.212	0.142	0.7	3.9	0 K
1440 min Winter	7.131	0.061	0.7	1.7	0 K
2160 min Winter	7.110	0.040	0.5	1.1	0 K
2880 min Winter	7.102	0.032	0.4	0.9	0 K
4320 min Winter	7.093	0.023	0.3	0.6	0 K
5760 min Winter	7.089	0.019	0.3	0.5	0 K
7200 min Winter	7.086	0.016	0.2	0.4	0 K
8640 min Winter	7.084	0.014	0.2	0.4	0 K
10080 min Winter	7.082	0.012	0.2	0.3	0 K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	84.780	0.0	32
60 min Winter	54.663	0.0	60
120 min Winter	34.005	0.0	116
180 min Winter	25.359	0.0	146
240 min Winter	20.434	0.0	184
360 min Winter	15.075	0.0	260
480 min Winter	12.133	0.0	334
600 min Winter	10.243	0.0	404
720 min Winter	8.914	0.0	470
960 min Winter	7.153	0.0	594
1440 min Winter	5.234	0.0	794
2160 min Winter	3.821	0.0	1108
2880 min Winter	3.053	0.0	1472
4320 min Winter	2.220	0.0	2200
5760 min Winter	1.769	0.0	2896
7200 min Winter	1.484	0.0	3672
8640 min Winter	1.286	0.0	4376
10080 min Winter	1.139	0.0	5144

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$



Designed by

Checked by

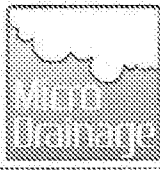
Source Control 2016.1

Model Details

Storage is Online Cover Level (m) 7.550

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.05236
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	25.6
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	7.070
Width (m)	10.0
Length (m)	9.2
Slope (1:X)	0.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Membrane Depth (m)	0

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Micro Drainage	Source Control 2016.1	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 331 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	5.924	0.164	0.1	2.5	OK
30 min Summer	5.977	0.217	0.1	3.3	OK
60 min Summer	6.030	0.270	0.1	4.1	OK
120 min Summer	6.075	0.315	0.2	4.8	OK
180 min Summer	6.091	0.331	0.2	5.0	OK
240 min Summer	6.093	0.333	0.2	5.1	OK
360 min Summer	6.092	0.332	0.2	5.1	OK
480 min Summer	6.088	0.328	0.2	5.0	OK
600 min Summer	6.082	0.322	0.2	4.9	OK
720 min Summer	6.074	0.314	0.2	4.8	OK
960 min Summer	6.058	0.298	0.2	4.5	OK
1440 min Summer	6.025	0.265	0.1	4.0	OK
2160 min Summer	5.979	0.219	0.1	3.3	OK
2880 min Summer	5.939	0.179	0.1	2.7	OK
4320 min Summer	5.877	0.117	0.1	1.8	OK
5760 min Summer	5.836	0.076	0.1	1.2	OK
7200 min Summer	5.813	0.053	0.1	0.8	OK
8640 min Summer	5.806	0.046	0.1	0.7	OK
10080 min Summer	5.801	0.041	0.1	0.6	OK
15 min Winter	5.944	0.184	0.1	2.8	OK

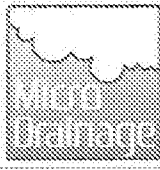
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.515	0.0	18
30 min Summer	84.780	0.0	33
60 min Summer	54.663	0.0	62
120 min Summer	34.005	0.0	122
180 min Summer	25.359	0.0	180
240 min Summer	20.434	0.0	236
360 min Summer	15.075	0.0	292
480 min Summer	12.133	0.0	356
600 min Summer	10.243	0.0	422
720 min Summer	8.914	0.0	492
960 min Summer	7.153	0.0	628
1440 min Summer	5.234	0.0	906
2160 min Summer	3.821	0.0	1296
2880 min Summer	3.053	0.0	1672
4320 min Summer	2.220	0.0	2380
5760 min Summer	1.769	0.0	3056
7200 min Summer	1.484	0.0	3680
8640 min Summer	1.286	0.0	4408
10080 min Summer	1.139	0.0	5136
15 min Winter	125.515	0.0	18

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Date 23.3.19	
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Micro Drainage	
Designed by	Source Control 2016.1
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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	6.004	0.244	0.1	3.7	OK
60 min Winter	6.063	0.305	0.2	4.6	OK
120 min Winter	6.118	0.358	0.2	5.4	OK
180 min Winter	6.139	0.379	0.2	5.8	OK
240 min Winter	6.145	0.385	0.2	5.9	OK
360 min Winter	6.144	0.384	0.2	5.8	OK
480 min Winter	6.137	0.377	0.2	5.7	OK
600 min Winter	6.128	0.368	0.2	5.6	OK
720 min Winter	6.118	0.358	0.2	5.4	OK
960 min Winter	6.093	0.333	0.2	5.1	OK
1440 min Winter	6.043	0.283	0.1	4.3	OK
2160 min Winter	5.975	0.215	0.1	3.3	OK
2880 min Winter	5.917	0.157	0.1	2.4	OK
4320 min Winter	5.835	0.075	0.1	1.1	OK
5760 min Winter	5.806	0.046	0.1	0.7	OK
7200 min Winter	5.799	0.039	0.1	0.6	OK
8640 min Winter	5.794	0.034	0.1	0.5	OK
10080 min Winter	5.790	0.030	0.1	0.5	OK

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	84.780	0.0	33
60 min Winter	54.663	0.0	62
120 min Winter	34.005	0.0	120
180 min Winter	25.359	0.0	176
240 min Winter	20.434	0.0	232
360 min Winter	15.075	0.0	334
480 min Winter	12.133	0.0	378
600 min Winter	10.243	0.0	454
720 min Winter	8.914	0.0	532
960 min Winter	7.153	0.0	684
1440 min Winter	5.234	0.0	978
2160 min Winter	3.821	0.0	1384
2880 min Winter	3.053	0.0	1760
4320 min Winter	2.220	0.0	2420
5760 min Winter	1.769	0.0	2992
7200 min Winter	1.484	0.0	3672
8640 min Winter	1.286	0.0	4408
10080 min Winter	1.139	0.0	5136

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The Cottage Piggeries Church Lane Barnham											
Date 23.3.19	Designed by										
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Micro Drainage	Source Control 2016.1										
<u>Rainfall Details</u>											
Rainfall Model	FSR	Winter Storms Yes									
Return Period (years)	100	Cv (Summer) 0.750									
Region England and Wales		Cv (Winter) 0.840									
M5-60 (mm)	19.300	Shortest Storm (mins) 15									
Ratio R	0.340	Longest Storm (mins) 10080									
Summer Storms	Yes	Climate Change % +40									
<u>Time Area Diagram</u>											
Total Area (ha) 0.011											
<table border="1"> <thead> <tr> <th colspan="2">Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To:</th> <th>(ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4</td> <td>0.011</td> </tr> </tbody> </table>			Time (mins)		Area	From:	To:	(ha)	0	4	0.011
Time (mins)		Area									
From:	To:	(ha)									
0	4	0.011									
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Project Name: The Cottage Piggeries Address: Church Lane Location: Barnham		Page 4 																		
Date: 23.3.19 File: Rear geocell.SRCX	Designed by: Checked by:																			
Micro Drainage		Source Control 2016.1																		
<u>Model Details</u> Storage is Online Cover Level (m) 6.560 <u>Cellular Storage Structure</u> Invert Level (m) 5.760 Infiltration Coefficient Base (m/hr) 0.05236 Infiltration Coefficient Side (m/hr) 0.05236 Safety Factor 2.0 Porosity 0.95 <table border="1"> <thead> <tr> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> </tr> </thead> <tbody> <tr> <td>0.000</td> <td>16.0</td> <td>16.0</td> <td>0.500</td> <td>0.0</td> <td>22.4</td> </tr> <tr> <td>0.400</td> <td>16.0</td> <td>22.4</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	16.0	16.0	0.500	0.0	22.4	0.400	16.0	22.4			
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)															
0.000	16.0	16.0	0.500	0.0	22.4															
0.400	16.0	22.4																		
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