

Robert Clark Associates				Page 1		
Willow Cottage Herne Lane Rustington BN16 3EE		14 Gladstone Road Yapton Proposed extension				
Date 14.11.17 File Geocell-1.SRCX		Designed by RTFC Checked by				
Micro Drainage		Source Control 2016.1				
Summary of Results for 100 year Return Period (+30%)						
Half Drain Time : 970 minutes.						
Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min	Summer	5.472	0.132	0.0	1.3	0 K
30 min	Summer	5.516	0.176	0.0	1.8	0 K
60 min	Summer	5.563	0.223	0.0	2.2	0 K
120 min	Summer	5.609	0.269	0.0	2.7	0 K
180 min	Summer	5.633	0.293	0.0	2.9	0 K
240 min	Summer	5.647	0.307	0.0	3.1	0 K
360 min	Summer	5.663	0.323	0.0	3.2	0 K
480 min	Summer	5.671	0.331	0.0	3.3	0 K
600 min	Summer	5.674	0.334	0.0	3.3	0 K
720 min	Summer	5.674	0.334	0.0	3.3	0 K
960 min	Summer	5.671	0.331	0.0	3.3	0 K
1440 min	Summer	5.663	0.323	0.0	3.2	0 K
2160 min	Summer	5.646	0.306	0.0	3.1	0 K
2880 min	Summer	5.628	0.288	0.0	2.9	0 K
4320 min	Summer	5.592	0.252	0.0	2.5	0 K
5760 min	Summer	5.560	0.220	0.0	2.2	0 K
7200 min	Summer	5.531	0.191	0.0	1.9	0 K
8640 min	Summer	5.506	0.166	0.0	1.7	0 K
10080 min	Summer	5.484	0.144	0.0	1.4	0 K
15 min	Winter	5.488	0.148	0.0	1.5	0 K
Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min	Summer	119.078	0.0	19		
30 min	Summer	80.023	0.0	34		
60 min	Summer	51.304	0.0	64		
120 min	Summer	31.736	0.0	122		
180 min	Summer	23.595	0.0	182		
240 min	Summer	18.976	0.0	242		
360 min	Summer	13.963	0.0	362		
480 min	Summer	11.218	0.0	480		
600 min	Summer	9.457	0.0	600		
720 min	Summer	8.222	0.0	698		
960 min	Summer	6.586	0.0	800		
1440 min	Summer	4.808	0.0	1052		
2160 min	Summer	3.503	0.0	1468		
2880 min	Summer	2.794	0.0	1872		
4320 min	Summer	2.028	0.0	2680		
5760 min	Summer	1.614	0.0	3464		
7200 min	Summer	1.351	0.0	4248		
8640 min	Summer	1.170	0.0	5008		
10080 min	Summer	1.036	0.0	5744		
15 min	Winter	119.078	0.0	19		
©1982-2016 XP Solutions						

Robert Clark Associates		Page 2																																																																																																																																																																																															
Willow Cottage Herne Lane Rustington BN16 3EE	14 Gladstone Road Yapton Proposed extension																																																																																																																																																																																																
Date 14.11.17 File Geocell-1.SRCX	Designed by RTFC Checked by																																																																																																																																																																																																
Micro Drainage	Source Control 2016.1																																																																																																																																																																																																
Summary of Results for 100 year Return Period (+30%) <table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>30 min Winter</td><td>5.538</td><td>0.198</td><td>0.0</td><td>2.0</td><td>0 K</td></tr><tr><td>60 min Winter</td><td>5.591</td><td>0.251</td><td>0.0</td><td>2.5</td><td>0 K</td></tr><tr><td>120 min Winter</td><td>5.643</td><td>0.303</td><td>0.0</td><td>3.0</td><td>0 K</td></tr><tr><td>180 min Winter</td><td>5.671</td><td>0.331</td><td>0.0</td><td>3.3</td><td>0 K</td></tr><tr><td>240 min Winter</td><td>5.687</td><td>0.347</td><td>0.0</td><td>3.5</td><td>0 K</td></tr><tr><td>360 min Winter</td><td>5.707</td><td>0.367</td><td>0.0</td><td>3.7</td><td>0 K</td></tr><tr><td>480 min Winter</td><td>5.718</td><td>0.378</td><td>0.0</td><td>3.8</td><td>0 K</td></tr><tr><td>600 min Winter</td><td>5.724</td><td>0.384</td><td>0.0</td><td>3.8</td><td>0 K</td></tr><tr><td>720 min Winter</td><td>5.725</td><td>0.385</td><td>0.0</td><td>3.8</td><td>0 K</td></tr><tr><td>960 min Winter</td><td>5.723</td><td>0.383</td><td>0.0</td><td>3.8</td><td>0 K</td></tr><tr><td>1440 min Winter</td><td>5.710</td><td>0.370</td><td>0.0</td><td>3.7</td><td>0 K</td></tr><tr><td>2160 min Winter</td><td>5.687</td><td>0.347</td><td>0.0</td><td>3.5</td><td>0 K</td></tr><tr><td>2880 min Winter</td><td>5.660</td><td>0.320</td><td>0.0</td><td>3.2</td><td>0 K</td></tr><tr><td>4320 min Winter</td><td>5.607</td><td>0.267</td><td>0.0</td><td>2.7</td><td>0 K</td></tr><tr><td>5760 min Winter</td><td>5.560</td><td>0.220</td><td>0.0</td><td>2.2</td><td>0 K</td></tr><tr><td>7200 min Winter</td><td>5.519</td><td>0.179</td><td>0.0</td><td>1.8</td><td>0 K</td></tr><tr><td>8640 min Winter</td><td>5.483</td><td>0.143</td><td>0.0</td><td>1.4</td><td>0 K</td></tr><tr><td>10080 min Winter</td><td>5.453</td><td>0.113</td><td>0.0</td><td>1.1</td><td>0 K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>30 min Winter</td><td>80.023</td><td>0.0</td><td>33</td></tr><tr><td>60 min Winter</td><td>51.304</td><td>0.0</td><td>62</td></tr><tr><td>120 min Winter</td><td>31.736</td><td>0.0</td><td>122</td></tr><tr><td>180 min Winter</td><td>23.595</td><td>0.0</td><td>180</td></tr><tr><td>240 min Winter</td><td>18.976</td><td>0.0</td><td>238</td></tr><tr><td>360 min Winter</td><td>13.963</td><td>0.0</td><td>354</td></tr><tr><td>480 min Winter</td><td>11.218</td><td>0.0</td><td>468</td></tr><tr><td>600 min Winter</td><td>9.457</td><td>0.0</td><td>580</td></tr><tr><td>720 min Winter</td><td>8.222</td><td>0.0</td><td>692</td></tr><tr><td>960 min Winter</td><td>6.586</td><td>0.0</td><td>898</td></tr><tr><td>1440 min Winter</td><td>4.808</td><td>0.0</td><td>1122</td></tr><tr><td>2160 min Winter</td><td>3.503</td><td>0.0</td><td>1580</td></tr><tr><td>2880 min Winter</td><td>2.794</td><td>0.0</td><td>2044</td></tr><tr><td>4320 min Winter</td><td>2.028</td><td>0.0</td><td>2896</td></tr><tr><td>5760 min Winter</td><td>1.614</td><td>0.0</td><td>3696</td></tr><tr><td>7200 min Winter</td><td>1.351</td><td>0.0</td><td>4472</td></tr><tr><td>8640 min Winter</td><td>1.170</td><td>0.0</td><td>5264</td></tr><tr><td>10080 min Winter</td><td>1.036</td><td>0.0</td><td>5952</td></tr></table>				Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	30 min Winter	5.538	0.198	0.0	2.0	0 K	60 min Winter	5.591	0.251	0.0	2.5	0 K	120 min Winter	5.643	0.303	0.0	3.0	0 K	180 min Winter	5.671	0.331	0.0	3.3	0 K	240 min Winter	5.687	0.347	0.0	3.5	0 K	360 min Winter	5.707	0.367	0.0	3.7	0 K	480 min Winter	5.718	0.378	0.0	3.8	0 K	600 min Winter	5.724	0.384	0.0	3.8	0 K	720 min Winter	5.725	0.385	0.0	3.8	0 K	960 min Winter	5.723	0.383	0.0	3.8	0 K	1440 min Winter	5.710	0.370	0.0	3.7	0 K	2160 min Winter	5.687	0.347	0.0	3.5	0 K	2880 min Winter	5.660	0.320	0.0	3.2	0 K	4320 min Winter	5.607	0.267	0.0	2.7	0 K	5760 min Winter	5.560	0.220	0.0	2.2	0 K	7200 min Winter	5.519	0.179	0.0	1.8	0 K	8640 min Winter	5.483	0.143	0.0	1.4	0 K	10080 min Winter	5.453	0.113	0.0	1.1	0 K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	30 min Winter	80.023	0.0	33	60 min Winter	51.304	0.0	62	120 min Winter	31.736	0.0	122	180 min Winter	23.595	0.0	180	240 min Winter	18.976	0.0	238	360 min Winter	13.963	0.0	354	480 min Winter	11.218	0.0	468	600 min Winter	9.457	0.0	580	720 min Winter	8.222	0.0	692	960 min Winter	6.586	0.0	898	1440 min Winter	4.808	0.0	1122	2160 min Winter	3.503	0.0	1580	2880 min Winter	2.794	0.0	2044	4320 min Winter	2.028	0.0	2896	5760 min Winter	1.614	0.0	3696	7200 min Winter	1.351	0.0	4472	8640 min Winter	1.170	0.0	5264	10080 min Winter	1.036	0.0	5952
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																												
30 min Winter	5.538	0.198	0.0	2.0	0 K																																																																																																																																																																																												
60 min Winter	5.591	0.251	0.0	2.5	0 K																																																																																																																																																																																												
120 min Winter	5.643	0.303	0.0	3.0	0 K																																																																																																																																																																																												
180 min Winter	5.671	0.331	0.0	3.3	0 K																																																																																																																																																																																												
240 min Winter	5.687	0.347	0.0	3.5	0 K																																																																																																																																																																																												
360 min Winter	5.707	0.367	0.0	3.7	0 K																																																																																																																																																																																												
480 min Winter	5.718	0.378	0.0	3.8	0 K																																																																																																																																																																																												
600 min Winter	5.724	0.384	0.0	3.8	0 K																																																																																																																																																																																												
720 min Winter	5.725	0.385	0.0	3.8	0 K																																																																																																																																																																																												
960 min Winter	5.723	0.383	0.0	3.8	0 K																																																																																																																																																																																												
1440 min Winter	5.710	0.370	0.0	3.7	0 K																																																																																																																																																																																												
2160 min Winter	5.687	0.347	0.0	3.5	0 K																																																																																																																																																																																												
2880 min Winter	5.660	0.320	0.0	3.2	0 K																																																																																																																																																																																												
4320 min Winter	5.607	0.267	0.0	2.7	0 K																																																																																																																																																																																												
5760 min Winter	5.560	0.220	0.0	2.2	0 K																																																																																																																																																																																												
7200 min Winter	5.519	0.179	0.0	1.8	0 K																																																																																																																																																																																												
8640 min Winter	5.483	0.143	0.0	1.4	0 K																																																																																																																																																																																												
10080 min Winter	5.453	0.113	0.0	1.1	0 K																																																																																																																																																																																												
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																														
30 min Winter	80.023	0.0	33																																																																																																																																																																																														
60 min Winter	51.304	0.0	62																																																																																																																																																																																														
120 min Winter	31.736	0.0	122																																																																																																																																																																																														
180 min Winter	23.595	0.0	180																																																																																																																																																																																														
240 min Winter	18.976	0.0	238																																																																																																																																																																																														
360 min Winter	13.963	0.0	354																																																																																																																																																																																														
480 min Winter	11.218	0.0	468																																																																																																																																																																																														
600 min Winter	9.457	0.0	580																																																																																																																																																																																														
720 min Winter	8.222	0.0	692																																																																																																																																																																																														
960 min Winter	6.586	0.0	898																																																																																																																																																																																														
1440 min Winter	4.808	0.0	1122																																																																																																																																																																																														
2160 min Winter	3.503	0.0	1580																																																																																																																																																																																														
2880 min Winter	2.794	0.0	2044																																																																																																																																																																																														
4320 min Winter	2.028	0.0	2896																																																																																																																																																																																														
5760 min Winter	1.614	0.0	3696																																																																																																																																																																																														
7200 min Winter	1.351	0.0	4472																																																																																																																																																																																														
8640 min Winter	1.170	0.0	5264																																																																																																																																																																																														
10080 min Winter	1.036	0.0	5952																																																																																																																																																																																														
©1982-2016 XP Solutions																																																																																																																																																																																																	

Robert Clark Associates		Page 3
Willow Cottage Herne Lane Rustington BN16 3EE	14 Gladstone Road Yapton Proposed extension	
Date 14.11.17 File Geocell-1.SRCX	Designed by RTFC Checked by	
Micro Drainage Source Control 2016.1		

Rainfall Details

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)	19.500	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.006

Time (mins)	Area (ha)
From:	To:
0	4 0.006

©1982-2016 XP Solutions

Robert Clark Associates		Page 4
Willow Cottage Herne Lane Rustington BN16 3EE	14 Gladstone Road Yapton Proposed extension	
Date 14.11.17 File Geocell-1.SRCX	Designed by RTFC Checked by	
Micro Drainage Source Control 2016.1		

Model Details

Storage is Online Cover Level (m) 6.340

Cellular Storage Structure

Invert Level (m)	5.340
Infiltration Coefficient Base (m/hr)	0.02110
Infiltration Coefficient Side (m/hr)	0.02110
Safety Factor	2.5
Porosity	0.95

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	10.5	10.5	0.500	0.0	15.7
0.400	10.5	15.7			

©1982-2016 XP Solutions