



Plumbing & Drainage

StormCrate55

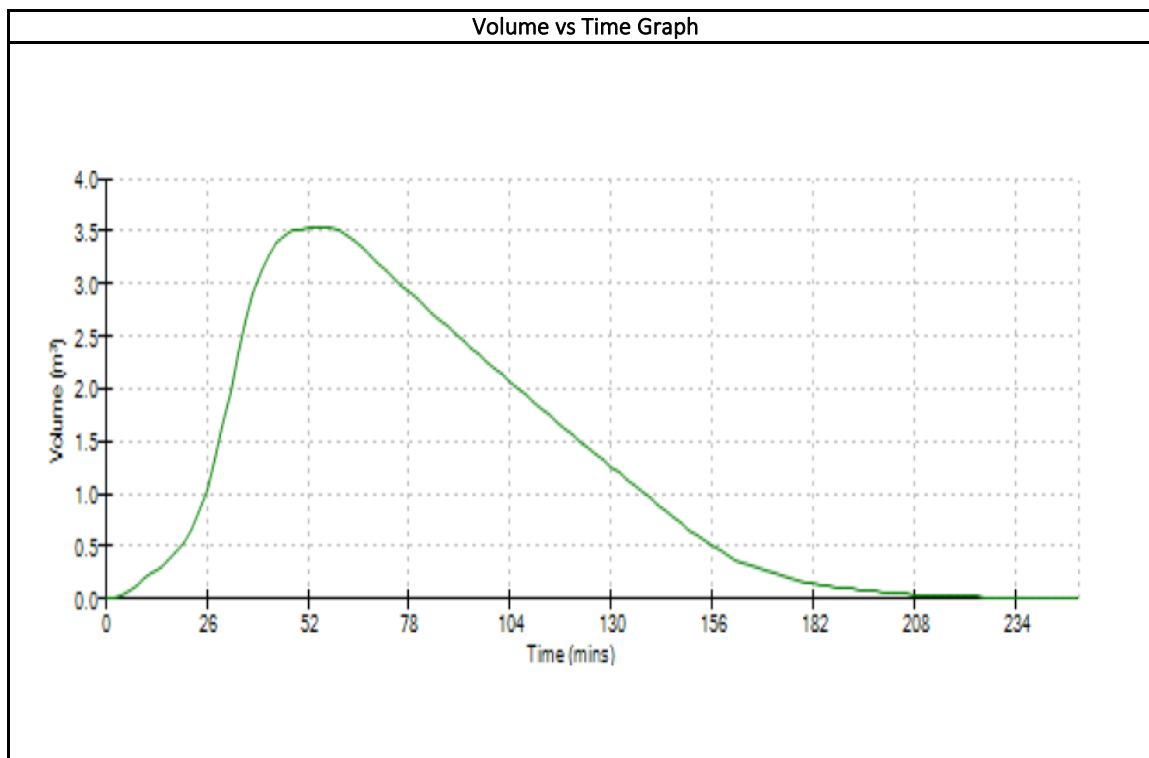
Stormwater Retention, Attenuation & Infiltration Crate



Quotation

Inflow details - FSR Rainfall Model		Stormcrate Tank Size (95% Void)		
Return period	100yr	Length (m) / No of Crates	3.6	3
Climate Change	30%	Width (m) / No of Crates	3.6	6
R value	0.4	Height (m) / No of Crates	0.347	1
M5-60	19.1	Volume(m³) / Number of crates	4.50	18
Catchment area (ha)	0.0121	Effective volume (m³)	4.27	
Summary of results	See report			

Outflow Details		Results	
Infiltration Rate (m/hr)	0.26	Result	Pass
Allowable outflow rate (L/s)	N/A	Critical Storm Duration	60 Winter
Flow control	N/A	Critical Rainfall Intensity (mm/hr)	50.211
Details of other Inflow	None	Max Height	0.287
Attenuation	No	Time to half empty	57mins
Infiltration	Yes	Volume required (m ³)	3.5



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Date 14/06/2023 12:09 File MicroCalcs1.SRCX		Designed by JoshuaS Checked by			
Innovyze		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+30%)</u>					
Half Drain Time : 57 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	99.344	0.191	0.5	2.4	O K
30 min Summer	99.385	0.232	0.6	2.9	O K
60 min Summer	99.402	0.249	0.6	3.1	O K
120 min Summer	99.397	0.244	0.6	3.0	O K
180 min Summer	99.380	0.227	0.6	2.8	O K
240 min Summer	99.360	0.207	0.6	2.5	O K
360 min Summer	99.322	0.169	0.5	2.1	O K
480 min Summer	99.291	0.138	0.5	1.7	O K
600 min Summer	99.264	0.111	0.5	1.4	O K
720 min Summer	99.243	0.090	0.5	1.1	O K
960 min Summer	99.214	0.061	0.5	0.7	O K
1440 min Summer	99.195	0.042	0.4	0.5	O K
2160 min Summer	99.184	0.031	0.3	0.4	O K
2880 min Summer	99.178	0.025	0.2	0.3	O K
4320 min Summer	99.171	0.018	0.2	0.2	O K
5760 min Summer	99.167	0.014	0.1	0.2	O K
7200 min Summer	99.165	0.012	0.1	0.1	O K
8640 min Summer	99.163	0.010	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	121.969	0.0	17		
30 min Summer	80.148	0.0	31		
60 min Summer	50.211	0.0	50		
120 min Summer	30.422	0.0	84		
180 min Summer	22.404	0.0	118		
240 min Summer	17.932	0.0	152		
360 min Summer	13.016	0.0	218		
480 min Summer	10.377	0.0	280		
600 min Summer	8.697	0.0	338		
720 min Summer	7.526	0.0	398		
960 min Summer	5.985	0.0	508		
1440 min Summer	4.327	0.0	736		
2160 min Summer	3.124	0.0	1100		
2880 min Summer	2.476	0.0	1468		
4320 min Summer	1.782	0.0	2172		
5760 min Summer	1.410	0.0	2936		
7200 min Summer	1.175	0.0	3664		
8640 min Summer	1.012	0.0	4400		
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Summary of Results for 100 year Return Period (+30%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
10080 min Summer	99.162	0.009	0.1	0.1	O K
15 min Winter	99.370	0.217	0.6	2.7	O K
30 min Winter	99.418	0.265	0.6	3.3	O K
60 min Winter	99.440	0.287	0.6	3.5	O K
120 min Winter	99.430	0.277	0.6	3.4	O K
180 min Winter	99.403	0.250	0.6	3.1	O K
240 min Winter	99.373	0.220	0.6	2.7	O K
360 min Winter	99.317	0.164	0.5	2.0	O K
480 min Winter	99.271	0.118	0.5	1.5	O K
600 min Winter	99.236	0.083	0.5	1.0	O K
720 min Winter	99.211	0.058	0.5	0.7	O K
960 min Winter	99.196	0.043	0.4	0.5	O K
1440 min Winter	99.185	0.032	0.3	0.4	O K
2160 min Winter	99.176	0.023	0.2	0.3	O K
2880 min Winter	99.171	0.018	0.2	0.2	O K
4320 min Winter	99.166	0.013	0.1	0.2	O K
5760 min Winter	99.164	0.011	0.1	0.1	O K
7200 min Winter	99.162	0.009	0.1	0.1	O K
8640 min Winter	99.161	0.008	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Summer	0.892	0.0	5104		
15 min Winter	121.969	0.0	17		
30 min Winter	80.148	0.0	31		
60 min Winter	50.211	0.0	56		
120 min Winter	30.422	0.0	90		
180 min Winter	22.404	0.0	128		
240 min Winter	17.932	0.0	164		
360 min Winter	13.016	0.0	232		
480 min Winter	10.377	0.0	294		
600 min Winter	8.697	0.0	350		
720 min Winter	7.526	0.0	396		
960 min Winter	5.985	0.0	500		
1440 min Winter	4.327	0.0	744		
2160 min Winter	3.124	0.0	1104		
2880 min Winter	2.476	0.0	1432		
4320 min Winter	1.782	0.0	2144		
5760 min Winter	1.410	0.0	2936		
7200 min Winter	1.175	0.0	3568		
8640 min Winter	1.012	0.0	4352		
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Summary of Results for 100 year Return Period (+30%) <table><tr><td>Storm Event</td><td>Max Level (m)</td><td>Max Depth (m)</td><td>Max Infiltration (l/s)</td><td>Max Volume (m³)</td><td>Status</td></tr><tr><td>10080 min Winter</td><td>99.160</td><td>0.007</td><td>0.1</td><td>0.1</td><td>O K</td></tr></table> <table><tr><td>Storm Event</td><td>Rain (mm/hr)</td><td>Flooded Volume (m³)</td><td>Time-Peak (mins)</td></tr><tr><td>10080 min Winter</td><td>0.892</td><td>0.0</td><td>5024</td></tr></table>			Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	10080 min Winter	99.160	0.007	0.1	0.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	10080 min Winter	0.892	0.0	5024
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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)	19.100	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.012

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.012

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Model Details Storage is Online Cover Level (m) 100.000 Cellular Storage Structure Invert Level (m) 99.153 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.25540 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.25540 <table><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><tr><td>0.000</td><td>13.0</td><td>13.0</td><td>0.347</td><td>0.0</td><td>17.3</td></tr><tr><td>0.346</td><td>13.0</td><td>17.3</td><td></td><td></td><td></td></tr></table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	13.0	13.0	0.347	0.0	17.3	0.346	13.0	17.3			
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)															
0.000	13.0	13.0	0.347	0.0	17.3															
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Event: 60 min Winter

