

Paul Basham Associates				Page 1																																																																																																																																																																																																																			
Lancaster Court Fareham Hampshire, PO15 5TU		09																																																																																																																																																																																																																					
Date 24/04/2019 File 09.Plots 63-68. lin30 p...		Designed by JB Checked by AS																																																																																																																																																																																																																					
Innovyze		Source Control 2018.1.1																																																																																																																																																																																																																					
<p style="text-align: center;"><u>Summary of Results for 30 year Return Period (+30%)</u></p> <p style="text-align: center;">Half Drain Time : 88 minutes.</p> <table><thead><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></thead><tbody><tr><td>15 min Summer</td><td>-0.767</td><td>0.233</td><td>0.3</td><td>2.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>-0.708</td><td>0.292</td><td>0.4</td><td>2.6</td><td>O K</td></tr><tr><td>60 min Summer</td><td>-0.668</td><td>0.332</td><td>0.4</td><td>3.0</td><td>O K</td></tr><tr><td>120 min Summer</td><td>-0.656</td><td>0.344</td><td>0.4</td><td>3.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>-0.662</td><td>0.338</td><td>0.4</td><td>3.0</td><td>O K</td></tr><tr><td>240 min Summer</td><td>-0.675</td><td>0.325</td><td>0.4</td><td>2.9</td><td>O K</td></tr><tr><td>360 min Summer</td><td>-0.704</td><td>0.296</td><td>0.4</td><td>2.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>-0.732</td><td>0.268</td><td>0.4</td><td>2.4</td><td>O K</td></tr><tr><td>600 min Summer</td><td>-0.759</td><td>0.241</td><td>0.3</td><td>2.2</td><td>O K</td></tr><tr><td>720 min Summer</td><td>-0.784</td><td>0.216</td><td>0.3</td><td>1.9</td><td>O K</td></tr><tr><td>960 min Summer</td><td>-0.828</td><td>0.172</td><td>0.3</td><td>1.5</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>-0.894</td><td>0.106</td><td>0.3</td><td>1.0</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>-0.946</td><td>0.054</td><td>0.3</td><td>0.5</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>-0.957</td><td>0.043</td><td>0.2</td><td>0.4</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>-0.968</td><td>0.032</td><td>0.2</td><td>0.3</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>-0.974</td><td>0.026</td><td>0.1</td><td>0.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>-0.978</td><td>0.022</td><td>0.1</td><td>0.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>-0.981</td><td>0.019</td><td>0.1</td><td>0.2</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>-0.983</td><td>0.017</td><td>0.1</td><td>0.1</td><td>O K</td></tr><tr><td>15 min Winter</td><td>-0.737</td><td>0.263</td><td>0.4</td><td>2.4</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>89.487</td><td>0.0</td><td>17</td></tr><tr><td>30 min Summer</td><td>59.577</td><td>0.0</td><td>32</td></tr><tr><td>60 min Summer</td><td>38.009</td><td>0.0</td><td>60</td></tr><tr><td>120 min Summer</td><td>23.546</td><td>0.0</td><td>90</td></tr><tr><td>180 min Summer</td><td>17.594</td><td>0.0</td><td>126</td></tr><tr><td>240 min Summer</td><td>14.237</td><td>0.0</td><td>160</td></tr><tr><td>360 min Summer</td><td>10.537</td><td>0.0</td><td>228</td></tr><tr><td>480 min Summer</td><td>8.507</td><td>0.0</td><td>294</td></tr><tr><td>600 min Summer</td><td>7.201</td><td>0.0</td><td>362</td></tr><tr><td>720 min Summer</td><td>6.281</td><td>0.0</td><td>424</td></tr><tr><td>960 min Summer</td><td>5.060</td><td>0.0</td><td>548</td></tr><tr><td>1440 min Summer</td><td>3.726</td><td>0.0</td><td>780</td></tr><tr><td>2160 min Summer</td><td>2.740</td><td>0.0</td><td>1108</td></tr><tr><td>2880 min Summer</td><td>2.201</td><td>0.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>1.614</td><td>0.0</td><td>2200</td></tr><tr><td>5760 min Summer</td><td>1.295</td><td>0.0</td><td>2920</td></tr><tr><td>7200 min Summer</td><td>1.091</td><td>0.0</td><td>3608</td></tr><tr><td>8640 min Summer</td><td>0.948</td><td>0.0</td><td>4400</td></tr><tr><td>10080 min Summer</td><td>0.843</td><td>0.0</td><td>5080</td></tr><tr><td>15 min Winter</td><td>89.487</td><td>0.0</td><td>17</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	-0.767	0.233	0.3	2.1	O K	30 min Summer	-0.708	0.292	0.4	2.6	O K	60 min Summer	-0.668	0.332	0.4	3.0	O K	120 min Summer	-0.656	0.344	0.4	3.1	O K	180 min Summer	-0.662	0.338	0.4	3.0	O K	240 min Summer	-0.675	0.325	0.4	2.9	O K	360 min Summer	-0.704	0.296	0.4	2.7	O K	480 min Summer	-0.732	0.268	0.4	2.4	O K	600 min Summer	-0.759	0.241	0.3	2.2	O K	720 min Summer	-0.784	0.216	0.3	1.9	O K	960 min Summer	-0.828	0.172	0.3	1.5	O K	1440 min Summer	-0.894	0.106	0.3	1.0	O K	2160 min Summer	-0.946	0.054	0.3	0.5	O K	2880 min Summer	-0.957	0.043	0.2	0.4	O K	4320 min Summer	-0.968	0.032	0.2	0.3	O K	5760 min Summer	-0.974	0.026	0.1	0.2	O K	7200 min Summer	-0.978	0.022	0.1	0.2	O K	8640 min Summer	-0.981	0.019	0.1	0.2	O K	10080 min Summer	-0.983	0.017	0.1	0.1	O K	15 min Winter	-0.737	0.263	0.4	2.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	89.487	0.0	17	30 min Summer	59.577	0.0	32	60 min Summer	38.009	0.0	60	120 min Summer	23.546	0.0	90	180 min Summer	17.594	0.0	126	240 min Summer	14.237	0.0	160	360 min Summer	10.537	0.0	228	480 min Summer	8.507	0.0	294	600 min Summer	7.201	0.0	362	720 min Summer	6.281	0.0	424	960 min Summer	5.060	0.0	548	1440 min Summer	3.726	0.0	780	2160 min Summer	2.740	0.0	1108	2880 min Summer	2.201	0.0	1468	4320 min Summer	1.614	0.0	2200	5760 min Summer	1.295	0.0	2920	7200 min Summer	1.091	0.0	3608	8640 min Summer	0.948	0.0	4400	10080 min Summer	0.843	0.0	5080	15 min Winter	89.487	0.0	17
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	-0.767	0.233	0.3	2.1	O K																																																																																																																																																																																																																		
30 min Summer	-0.708	0.292	0.4	2.6	O K																																																																																																																																																																																																																		
60 min Summer	-0.668	0.332	0.4	3.0	O K																																																																																																																																																																																																																		
120 min Summer	-0.656	0.344	0.4	3.1	O K																																																																																																																																																																																																																		
180 min Summer	-0.662	0.338	0.4	3.0	O K																																																																																																																																																																																																																		
240 min Summer	-0.675	0.325	0.4	2.9	O K																																																																																																																																																																																																																		
360 min Summer	-0.704	0.296	0.4	2.7	O K																																																																																																																																																																																																																		
480 min Summer	-0.732	0.268	0.4	2.4	O K																																																																																																																																																																																																																		
600 min Summer	-0.759	0.241	0.3	2.2	O K																																																																																																																																																																																																																		
720 min Summer	-0.784	0.216	0.3	1.9	O K																																																																																																																																																																																																																		
960 min Summer	-0.828	0.172	0.3	1.5	O K																																																																																																																																																																																																																		
1440 min Summer	-0.894	0.106	0.3	1.0	O K																																																																																																																																																																																																																		
2160 min Summer	-0.946	0.054	0.3	0.5	O K																																																																																																																																																																																																																		
2880 min Summer	-0.957	0.043	0.2	0.4	O K																																																																																																																																																																																																																		
4320 min Summer	-0.968	0.032	0.2	0.3	O K																																																																																																																																																																																																																		
5760 min Summer	-0.974	0.026	0.1	0.2	O K																																																																																																																																																																																																																		
7200 min Summer	-0.978	0.022	0.1	0.2	O K																																																																																																																																																																																																																		
8640 min Summer	-0.981	0.019	0.1	0.2	O K																																																																																																																																																																																																																		
10080 min Summer	-0.983	0.017	0.1	0.1	O K																																																																																																																																																																																																																		
15 min Winter	-0.737	0.263	0.4	2.4	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	89.487	0.0	17																																																																																																																																																																																																																				
30 min Summer	59.577	0.0	32																																																																																																																																																																																																																				
60 min Summer	38.009	0.0	60																																																																																																																																																																																																																				
120 min Summer	23.546	0.0	90																																																																																																																																																																																																																				
180 min Summer	17.594	0.0	126																																																																																																																																																																																																																				
240 min Summer	14.237	0.0	160																																																																																																																																																																																																																				
360 min Summer	10.537	0.0	228																																																																																																																																																																																																																				
480 min Summer	8.507	0.0	294																																																																																																																																																																																																																				
600 min Summer	7.201	0.0	362																																																																																																																																																																																																																				
720 min Summer	6.281	0.0	424																																																																																																																																																																																																																				
960 min Summer	5.060	0.0	548																																																																																																																																																																																																																				
1440 min Summer	3.726	0.0	780																																																																																																																																																																																																																				
2160 min Summer	2.740	0.0	1108																																																																																																																																																																																																																				
2880 min Summer	2.201	0.0	1468																																																																																																																																																																																																																				
4320 min Summer	1.614	0.0	2200																																																																																																																																																																																																																				
5760 min Summer	1.295	0.0	2920																																																																																																																																																																																																																				
7200 min Summer	1.091	0.0	3608																																																																																																																																																																																																																				
8640 min Summer	0.948	0.0	4400																																																																																																																																																																																																																				
10080 min Summer	0.843	0.0	5080																																																																																																																																																																																																																				
15 min Winter	89.487	0.0	17																																																																																																																																																																																																																				
©1982-2018 Innovyze																																																																																																																																																																																																																							

Paul Basham Associates				Page 2	
Lancaster Court Fareham Hampshire, PO15 5TU		09			
Date 24/04/2019		Designed by JB			
File 09.Plots 63-68. lin30 p...		Checked by AS			
Innovyze		Source Control 2018.1.1			
Summary of Results for 30 year Return Period (+30%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	-0.667	0.333	0.4	3.0	O K
60 min Winter	-0.618	0.382	0.4	3.4	O K
120 min Winter	-0.605	0.395	0.4	3.6	O K
180 min Winter	-0.616	0.384	0.4	3.5	O K
240 min Winter	-0.636	0.364	0.4	3.3	O K
360 min Winter	-0.681	0.319	0.4	2.9	O K
480 min Winter	-0.725	0.275	0.4	2.5	O K
600 min Winter	-0.765	0.235	0.3	2.1	O K
720 min Winter	-0.802	0.198	0.3	1.8	O K
960 min Winter	-0.864	0.136	0.3	1.2	O K
1440 min Winter	-0.943	0.057	0.3	0.5	O K
2160 min Winter	-0.961	0.039	0.2	0.4	O K
2880 min Winter	-0.969	0.031	0.2	0.3	O K
4320 min Winter	-0.977	0.023	0.1	0.2	O K
5760 min Winter	-0.981	0.019	0.1	0.2	O K
7200 min Winter	-0.984	0.016	0.1	0.1	O K
8640 min Winter	-0.986	0.014	0.1	0.1	O K
10080 min Winter	-0.988	0.012	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	59.577	0.0	31		
60 min Winter	38.009	0.0	58		
120 min Winter	23.546	0.0	96		
180 min Winter	17.594	0.0	134		
240 min Winter	14.237	0.0	172		
360 min Winter	10.537	0.0	246		
480 min Winter	8.507	0.0	316		
600 min Winter	7.201	0.0	384		
720 min Winter	6.281	0.0	448		
960 min Winter	5.060	0.0	570		
1440 min Winter	3.726	0.0	776		
2160 min Winter	2.740	0.0	1108		
2880 min Winter	2.201	0.0	1472		
4320 min Winter	1.614	0.0	2164		
5760 min Winter	1.295	0.0	2936		
7200 min Winter	1.091	0.0	3616		
8640 min Winter	0.948	0.0	4448		
10080 min Winter	0.843	0.0	5032		
©1982-2018 Innovyze					

Paul Basham Associates		Page 3
Lancaster Court Fareham Hampshire, PO15 5TU	09	
Date 24/04/2019 File 09.Plots 63-68. 1in30 p...	Designed by JB Checked by AS	
Innovyze Source Control 2018.1.1		

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.014

Time (mins)	Area
From:	To: (ha)
0	4 0.014

©1982-2018 Innovyze

Paul Basham Associates		Page 4																				
Lancaster Court Fareham Hampshire, PO15 5TU	09																					
Date 24/04/2019	Designed by JB																					
File 09.Plots 63-68. 1in30 p...	Checked by AS																					
Innovyze		Source Control 2018.1.1																				
<p style="text-align: center;"><u>Model Details</u></p> <p style="text-align: center;">Storage is Online Cover Level (m) 0.000</p> <p style="text-align: center;"><u>Trench Soakaway Structure</u></p> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.13104</td> <td>Trench Width (m)</td> <td>2.0</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.13104</td> <td>Trench Length (m)</td> <td>15.0</td> </tr> <tr> <td>Safety Factor</td> <td>4.0</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>0.700</td> </tr> <tr> <td>Invert Level (m)</td> <td>-1.000</td> <td>Cap Infiltration Depth (m)</td> <td>0.700</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.13104	Trench Width (m)	2.0	Infiltration Coefficient Side (m/hr)	0.13104	Trench Length (m)	15.0	Safety Factor	4.0	Slope (1:X)	0.0	Porosity	0.30	Cap Volume Depth (m)	0.700	Invert Level (m)	-1.000	Cap Infiltration Depth (m)	0.700
Infiltration Coefficient Base (m/hr)	0.13104	Trench Width (m)	2.0																			
Infiltration Coefficient Side (m/hr)	0.13104	Trench Length (m)	15.0																			
Safety Factor	4.0	Slope (1:X)	0.0																			
Porosity	0.30	Cap Volume Depth (m)	0.700																			
Invert Level (m)	-1.000	Cap Infiltration Depth (m)	0.700																			
©1982-2018 Innovyze																						