

Paul Basham Associates					Page 0																																																																																																																																																																																																																		
Lancaster Court Fareham Hampshire, PO15 5TU			TRENCH SA 04																																																																																																																																																																																																																				
Date 17/04/2019 File Plots 20-21. lin10 plus...			Designed by JB Checked by AS																																																																																																																																																																																																																				
Innovyze			Source Control 2018.1.1																																																																																																																																																																																																																				
<div>Summary of Results for 10 year Return Period (+30%)</div> <div>Half Drain Time : 382 minutes.</div> <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>15 min Summer</td><td>-1.684</td><td>0.316</td><td>0.1</td><td>1.9</td><td>O K</td></tr><tr><td>30 min Summer</td><td>-1.590</td><td>0.410</td><td>0.1</td><td>2.5</td><td>O K</td></tr><tr><td>60 min Summer</td><td>-1.497</td><td>0.503</td><td>0.1</td><td>3.1</td><td>O K</td></tr><tr><td>120 min Summer</td><td>-1.414</td><td>0.586</td><td>0.1</td><td>3.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>-1.378</td><td>0.622</td><td>0.1</td><td>3.8</td><td>O K</td></tr><tr><td>240 min Summer</td><td>-1.362</td><td>0.638</td><td>0.1</td><td>3.9</td><td>O K</td></tr><tr><td>360 min Summer</td><td>-1.355</td><td>0.645</td><td>0.1</td><td>3.9</td><td>O K</td></tr><tr><td>480 min Summer</td><td>-1.356</td><td>0.644</td><td>0.1</td><td>3.9</td><td>O K</td></tr><tr><td>600 min Summer</td><td>-1.361</td><td>0.639</td><td>0.1</td><td>3.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>-1.369</td><td>0.631</td><td>0.1</td><td>3.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>-1.387</td><td>0.613</td><td>0.1</td><td>3.7</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>-1.429</td><td>0.571</td><td>0.1</td><td>3.5</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>-1.491</td><td>0.509</td><td>0.1</td><td>3.1</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>-1.550</td><td>0.450</td><td>0.1</td><td>2.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>-1.654</td><td>0.346</td><td>0.1</td><td>2.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>-1.737</td><td>0.263</td><td>0.1</td><td>1.6</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>-1.804</td><td>0.196</td><td>0.1</td><td>1.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>-1.856</td><td>0.144</td><td>0.1</td><td>0.9</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>-1.896</td><td>0.104</td><td>0.1</td><td>0.6</td><td>O K</td></tr><tr><td>15 min Winter</td><td>-1.645</td><td>0.355</td><td>0.1</td><td>2.2</td><td>O 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>15 min Summer</td><td>70.770</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>46.698</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>29.629</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>18.344</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>13.747</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>11.169</td><td>0.0</td><td>240</td></tr><tr><td>360 min Summer</td><td>8.317</td><td>0.0</td><td>308</td></tr><tr><td>480 min Summer</td><td>6.743</td><td>0.0</td><td>372</td></tr><tr><td>600 min Summer</td><td>5.728</td><td>0.0</td><td>436</td></tr><tr><td>720 min Summer</td><td>5.011</td><td>0.0</td><td>506</td></tr><tr><td>960 min Summer</td><td>4.057</td><td>0.0</td><td>646</td></tr><tr><td>1440 min Summer</td><td>3.009</td><td>0.0</td><td>922</td></tr><tr><td>2160 min Summer</td><td>2.231</td><td>0.0</td><td>1324</td></tr><tr><td>2880 min Summer</td><td>1.803</td><td>0.0</td><td>1728</td></tr><tr><td>4320 min Summer</td><td>1.335</td><td>0.0</td><td>2504</td></tr><tr><td>5760 min Summer</td><td>1.078</td><td>0.0</td><td>3224</td></tr><tr><td>7200 min Summer</td><td>0.913</td><td>0.0</td><td>3960</td></tr><tr><td>8640 min Summer</td><td>0.798</td><td>0.0</td><td>4664</td></tr><tr><td>10080 min Summer</td><td>0.711</td><td>0.0</td><td>5344</td></tr><tr><td>15 min Winter</td><td>70.770</td><td>0.0</td><td>18</td></tr></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	-1.684	0.316	0.1	1.9	O K	30 min Summer	-1.590	0.410	0.1	2.5	O K	60 min Summer	-1.497	0.503	0.1	3.1	O K	120 min Summer	-1.414	0.586	0.1	3.6	O K	180 min Summer	-1.378	0.622	0.1	3.8	O K	240 min Summer	-1.362	0.638	0.1	3.9	O K	360 min Summer	-1.355	0.645	0.1	3.9	O K	480 min Summer	-1.356	0.644	0.1	3.9	O K	600 min Summer	-1.361	0.639	0.1	3.9	O K	720 min Summer	-1.369	0.631	0.1	3.8	O K	960 min Summer	-1.387	0.613	0.1	3.7	O K	1440 min Summer	-1.429	0.571	0.1	3.5	O K	2160 min Summer	-1.491	0.509	0.1	3.1	O K	2880 min Summer	-1.550	0.450	0.1	2.7	O K	4320 min Summer	-1.654	0.346	0.1	2.1	O K	5760 min Summer	-1.737	0.263	0.1	1.6	O K	7200 min Summer	-1.804	0.196	0.1	1.2	O K	8640 min Summer	-1.856	0.144	0.1	0.9	O K	10080 min Summer	-1.896	0.104	0.1	0.6	O K	15 min Winter	-1.645	0.355	0.1	2.2	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	70.770	0.0	19	30 min Summer	46.698	0.0	33	60 min Summer	29.629	0.0	62	120 min Summer	18.344	0.0	122	180 min Summer	13.747	0.0	182	240 min Summer	11.169	0.0	240	360 min Summer	8.317	0.0	308	480 min Summer	6.743	0.0	372	600 min Summer	5.728	0.0	436	720 min Summer	5.011	0.0	506	960 min Summer	4.057	0.0	646	1440 min Summer	3.009	0.0	922	2160 min Summer	2.231	0.0	1324	2880 min Summer	1.803	0.0	1728	4320 min Summer	1.335	0.0	2504	5760 min Summer	1.078	0.0	3224	7200 min Summer	0.913	0.0	3960	8640 min Summer	0.798	0.0	4664	10080 min Summer	0.711	0.0	5344	15 min Winter	70.770	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	-1.684	0.316	0.1	1.9	O K																																																																																																																																																																																																																		
30 min Summer	-1.590	0.410	0.1	2.5	O K																																																																																																																																																																																																																		
60 min Summer	-1.497	0.503	0.1	3.1	O K																																																																																																																																																																																																																		
120 min Summer	-1.414	0.586	0.1	3.6	O K																																																																																																																																																																																																																		
180 min Summer	-1.378	0.622	0.1	3.8	O K																																																																																																																																																																																																																		
240 min Summer	-1.362	0.638	0.1	3.9	O K																																																																																																																																																																																																																		
360 min Summer	-1.355	0.645	0.1	3.9	O K																																																																																																																																																																																																																		
480 min Summer	-1.356	0.644	0.1	3.9	O K																																																																																																																																																																																																																		
600 min Summer	-1.361	0.639	0.1	3.9	O K																																																																																																																																																																																																																		
720 min Summer	-1.369	0.631	0.1	3.8	O K																																																																																																																																																																																																																		
960 min Summer	-1.387	0.613	0.1	3.7	O K																																																																																																																																																																																																																		
1440 min Summer	-1.429	0.571	0.1	3.5	O K																																																																																																																																																																																																																		
2160 min Summer	-1.491	0.509	0.1	3.1	O K																																																																																																																																																																																																																		
2880 min Summer	-1.550	0.450	0.1	2.7	O K																																																																																																																																																																																																																		
4320 min Summer	-1.654	0.346	0.1	2.1	O K																																																																																																																																																																																																																		
5760 min Summer	-1.737	0.263	0.1	1.6	O K																																																																																																																																																																																																																		
7200 min Summer	-1.804	0.196	0.1	1.2	O K																																																																																																																																																																																																																		
8640 min Summer	-1.856	0.144	0.1	0.9	O K																																																																																																																																																																																																																		
10080 min Summer	-1.896	0.104	0.1	0.6	O K																																																																																																																																																																																																																		
15 min Winter	-1.645	0.355	0.1	2.2	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	70.770	0.0	19																																																																																																																																																																																																																				
30 min Summer	46.698	0.0	33																																																																																																																																																																																																																				
60 min Summer	29.629	0.0	62																																																																																																																																																																																																																				
120 min Summer	18.344	0.0	122																																																																																																																																																																																																																				
180 min Summer	13.747	0.0	182																																																																																																																																																																																																																				
240 min Summer	11.169	0.0	240																																																																																																																																																																																																																				
360 min Summer	8.317	0.0	308																																																																																																																																																																																																																				
480 min Summer	6.743	0.0	372																																																																																																																																																																																																																				
600 min Summer	5.728	0.0	436																																																																																																																																																																																																																				
720 min Summer	5.011	0.0	506																																																																																																																																																																																																																				
960 min Summer	4.057	0.0	646																																																																																																																																																																																																																				
1440 min Summer	3.009	0.0	922																																																																																																																																																																																																																				
2160 min Summer	2.231	0.0	1324																																																																																																																																																																																																																				
2880 min Summer	1.803	0.0	1728																																																																																																																																																																																																																				
4320 min Summer	1.335	0.0	2504																																																																																																																																																																																																																				
5760 min Summer	1.078	0.0	3224																																																																																																																																																																																																																				
7200 min Summer	0.913	0.0	3960																																																																																																																																																																																																																				
8640 min Summer	0.798	0.0	4664																																																																																																																																																																																																																				
10080 min Summer	0.711	0.0	5344																																																																																																																																																																																																																				
15 min Winter	70.770	0.0	18																																																																																																																																																																																																																				
©1982-2018 Innovyze																																																																																																																																																																																																																							

Paul Basham Associates				Page 1	
Lancaster Court Fareham Hampshire, PO15 5TU		TRENCH SA 04			
Date 17/04/2019		Designed by JB			
File Plots 20-21. lin10 plus...		Checked by AS			
Innovyze		Source Control 2018.1.1			
Summary of Results for 10 year Return Period (+30%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	-1.539	0.461	0.1	2.8	O K
60 min Winter	-1.432	0.568	0.1	3.5	O K
120 min Winter	-1.334	0.666	0.1	4.1	O K
180 min Winter	-1.288	0.712	0.1	4.3	O K
240 min Winter	-1.266	0.734	0.1	4.5	O K
360 min Winter	-1.253	0.747	0.1	4.6	O K
480 min Winter	-1.257	0.743	0.1	4.5	O K
600 min Winter	-1.263	0.737	0.1	4.5	O K
720 min Winter	-1.274	0.726	0.1	4.4	O K
960 min Winter	-1.303	0.697	0.1	4.2	O K
1440 min Winter	-1.369	0.631	0.1	3.8	O K
2160 min Winter	-1.466	0.534	0.1	3.2	O K
2880 min Winter	-1.555	0.445	0.1	2.7	O K
4320 min Winter	-1.703	0.297	0.1	1.8	O K
5760 min Winter	-1.815	0.185	0.1	1.1	O K
7200 min Winter	-1.897	0.103	0.1	0.6	O K
8640 min Winter	-1.946	0.054	0.1	0.3	O K
10080 min Winter	-1.954	0.046	0.1	0.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	46.698	0.0	33		
60 min Winter	29.629	0.0	62		
120 min Winter	18.344	0.0	120		
180 min Winter	13.747	0.0	176		
240 min Winter	11.169	0.0	232		
360 min Winter	8.317	0.0	340		
480 min Winter	6.743	0.0	390		
600 min Winter	5.728	0.0	464		
720 min Winter	5.011	0.0	542		
960 min Winter	4.057	0.0	696		
1440 min Winter	3.009	0.0	996		
2160 min Winter	2.231	0.0	1428		
2880 min Winter	1.803	0.0	1844		
4320 min Winter	1.335	0.0	2596		
5760 min Winter	1.078	0.0	3344		
7200 min Winter	0.913	0.0	3968		
8640 min Winter	0.798	0.0	4496		
10080 min Winter	0.711	0.0	5136		
©1982-2018 Innovyze					

Paul Basham Associates		Page 2																																	
Lancaster Court Fareham Hampshire, PO15 5TU	TRENCH SA 04																																		
Date 17/04/2019	Designed by JB																																		
File Plots 20-21. 1in10 plus...	Checked by AS																																		
Innovyze		Source Control 2018.1.1																																	
<p style="text-align: center;"><u>Rainfall Details</u></p> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>19.000</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Ratio R</td> <td>0.350</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+30</td> </tr> </table> <p style="text-align: center;"><u>Time Area Diagram</u></p> <p>Total Area (ha) 0.015</p> <table> <tr> <th colspan="2">Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To:</th> <th>(ha)</th> </tr> <tr> <td>0</td> <td>4</td> <td>0.015</td> </tr> </table>			Rainfall Model	FSR	Winter Storms	Yes	Return Period (years)	10	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 (mins)		Area	From:	To:	(ha)	0	4	0.015
Rainfall Model	FSR	Winter Storms	Yes																																
Return Period (years)	10	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 (mins)		Area																																	
From:	To:	(ha)																																	
0	4	0.015																																	
©1982-2018 Innovyze																																			

Paul Basham Associates		Page 3																				
Lancaster Court Fareham Hampshire, PO15 5TU	TRENCH SA 04																					
Date 17/04/2019	Designed by JB																					
File Plots 20-21. 1in10 plus...	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>0.03499</td> <td>Trench Width (m)</td> <td>5.8</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.03499</td> <td>Trench Length (m)</td> <td>3.5</td> </tr> <tr> <td>Safety Factor</td> <td>3.0</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>1.850</td> </tr> <tr> <td>Invert Level (m)</td> <td>-2.000</td> <td>Cap Infiltration Depth (m)</td> <td>1.850</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.03499	Trench Width (m)	5.8	Infiltration Coefficient Side (m/hr)	0.03499	Trench Length (m)	3.5	Safety Factor	3.0	Slope (1:X)	0.0	Porosity	0.30	Cap Volume Depth (m)	1.850	Invert Level (m)	-2.000	Cap Infiltration Depth (m)	1.850
Infiltration Coefficient Base (m/hr)	0.03499	Trench Width (m)	5.8																			
Infiltration Coefficient Side (m/hr)	0.03499	Trench Length (m)	3.5																			
Safety Factor	3.0	Slope (1:X)	0.0																			
Porosity	0.30	Cap Volume Depth (m)	1.850																			
Invert Level (m)	-2.000	Cap Infiltration Depth (m)	1.850																			
©1982-2018 Innovyze																						