

The Alan Johnston Partnership					Page 1																																																																																																																																																																																																																		
1 Dale Street Liverpool L2 2ET																																																																																																																																																																																																																							
Date 23/03/2022 14:02 File		Designed by JosephPoole Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2018.1.1																																																																																																																																																																																																																					
Summary of Results for 100 year Return Period (+40%) Half Drain Time : 2 minutes. <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>82.363</td><td>0.771</td><td>12.0</td><td>2.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>82.494</td><td>0.902</td><td>13.2</td><td>2.5</td><td>Flood Risk</td></tr><tr><td>60 min Summer</td><td>82.432</td><td>0.840</td><td>12.6</td><td>2.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>82.181</td><td>0.589</td><td>10.4</td><td>1.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>81.986</td><td>0.394</td><td>8.6</td><td>1.1</td><td>O K</td></tr><tr><td>240 min Summer</td><td>81.847</td><td>0.255</td><td>7.4</td><td>0.7</td><td>O K</td></tr><tr><td>360 min Summer</td><td>81.675</td><td>0.083</td><td>5.8</td><td>0.2</td><td>O K</td></tr><tr><td>480 min Summer</td><td>81.636</td><td>0.044</td><td>4.9</td><td>0.1</td><td>O K</td></tr><tr><td>600 min Summer</td><td>81.631</td><td>0.039</td><td>4.3</td><td>0.1</td><td>O K</td></tr><tr><td>720 min Summer</td><td>81.626</td><td>0.034</td><td>3.7</td><td>0.1</td><td>O K</td></tr><tr><td>960 min Summer</td><td>81.619</td><td>0.027</td><td>3.0</td><td>0.1</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>81.612</td><td>0.020</td><td>2.2</td><td>0.1</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>81.607</td><td>0.015</td><td>1.7</td><td>0.0</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>81.604</td><td>0.012</td><td>1.4</td><td>0.0</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>81.601</td><td>0.009</td><td>1.0</td><td>0.0</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>81.600</td><td>0.008</td><td>0.9</td><td>0.0</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>81.599</td><td>0.007</td><td>0.7</td><td>0.0</td><td>O K</td></tr><tr><td>8640 min 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Summer	82.494	0.902	13.2	2.5	Flood Risk	60 min Summer	82.432	0.840	12.6	2.3	O K	120 min Summer	82.181	0.589	10.4	1.6	O K	180 min Summer	81.986	0.394	8.6	1.1	O K	240 min Summer	81.847	0.255	7.4	0.7	O K	360 min Summer	81.675	0.083	5.8	0.2	O K	480 min Summer	81.636	0.044	4.9	0.1	O K	600 min Summer	81.631	0.039	4.3	0.1	O K	720 min Summer	81.626	0.034	3.7	0.1	O K	960 min Summer	81.619	0.027	3.0	0.1	O K	1440 min Summer	81.612	0.020	2.2	0.1	O K	2160 min Summer	81.607	0.015	1.7	0.0	O K	2880 min Summer	81.604	0.012	1.4	0.0	O K	4320 min Summer	81.601	0.009	1.0	0.0	O K	5760 min Summer	81.600	0.008	0.9	0.0	O K	7200 min Summer	81.599	0.007	0.7	0.0	O K	8640 min Summer	81.598	0.006	0.6	0.0	O K	10080 min Summer	81.597	0.005	0.6	0.0	O K	15 min Winter	82.504	0.912	13.3	2.5	Flood Risk	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	112.178	0.0	18	30 min Summer	77.157	0.0	25	60 min Summer	50.812	0.0	40	120 min Summer	32.338	0.0	70	180 min Summer	24.439	0.0	100	240 min 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File		Checked by			
XP Solutions		Source Control 2018.1.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	82.594	1.002	14.1	2.8	Flood Risk
60 min Winter	82.393	0.801	12.3	2.2	O K
120 min Winter	82.025	0.433	9.0	1.2	O K
180 min Winter	81.812	0.220	7.0	0.6	O K
240 min Winter	81.678	0.086	5.8	0.2	O K
360 min Winter	81.632	0.040	4.4	0.1	O K
480 min Winter	81.625	0.033	3.6	0.1	O K
600 min Winter	81.620	0.028	3.1	0.1	O K
720 min Winter	81.616	0.024	2.7	0.1	O K
960 min Winter	81.612	0.020	2.2	0.1	O K
1440 min Winter	81.607	0.015	1.6	0.0	O K
2160 min Winter	81.603	0.011	1.2	0.0	O K
2880 min Winter	81.601	0.009	1.0	0.0	O K
4320 min Winter	81.599	0.007	0.7	0.0	O K
5760 min Winter	81.598	0.006	0.6	0.0	O K
7200 min Winter	81.597	0.005	0.6	0.0	O K
8640 min Winter	81.597	0.005	0.5	0.0	O K
10080 min Winter	81.596	0.004	0.4	0.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	77.157	0.0	25		
60 min Winter	50.812	0.0	40		
120 min Winter	32.338	0.0	70		
180 min Winter	24.439	0.0	100		
240 min Winter	19.873	0.0	130		
360 min Winter	14.779	0.0	182		
480 min Winter	11.975	0.0	246		
600 min Winter	10.161	0.0	312		
720 min Winter	8.880	0.0	374		
960 min Winter	7.170	0.0	486		
1440 min Winter	5.292	0.0	736		
2160 min Winter	3.895	0.0	1096		
2880 min Winter	3.129	0.0	1428		
4320 min Winter	2.293	0.0	2084		
5760 min Winter	1.838	0.0	2896		
7200 min Winter	1.550	0.0	3936		
8640 min Winter	1.348	0.0	4464		
10080 min Winter	1.199	0.0	4752		
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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)	18.000	Shortest Storm (mins)	15
Ratio R	0.307	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.051

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)	From: To:	(ha)
0 4	0.017	4 8	0.017	8 12	0.017

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Model Details

Storage is Online Cover Level (m) 82.792

Lined Soakaway Structure

Infiltration Coefficient Base (m/hr) 7.20000	Ring Diameter (m) 1.50
Infiltration Coefficient Side (m/hr) 7.20000	Pit Multiplier 1.5
Safety Factor 2.0	Number Required 1
Porosity 0.30	Cap Volume Depth (m) 0.000
Invert Level (m) 81.592	Cap Infiltration Depth (m) 0.000

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