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Town House St Geroge's Square Bishops Waltham Southampton SO32 1AF	DEANS YARD, ORCHARD WAY FONTWELL, ARUNDEL, WEST SUSSEX PERMEABLE PAVING 0.25M DEPTH	
Date 10/05/2018 File AAL057 - PERMEABLE	Designed by SH Checked by AWR	
XP Solutions Source Control 2016.1		

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 378 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	32.553	0.103	0.1	1.8	0 K
30 min Summer	32.579	0.129	0.1	2.6	0 K
60 min Summer	32.606	0.156	0.1	3.4	0 K
120 min Summer	32.632	0.182	0.1	4.1	0 K
180 min Summer	32.642	0.192	0.1	4.5	0 K
240 min Summer	32.647	0.197	0.1	4.6	0 K
360 min Summer	32.650	0.200	0.1	4.7	0 K
480 min Summer	32.651	0.201	0.1	4.7	0 K
600 min Summer	32.650	0.200	0.1	4.7	0 K
720 min Summer	32.648	0.198	0.1	4.6	0 K
960 min Summer	32.642	0.192	0.1	4.5	0 K
1440 min Summer	32.627	0.177	0.1	4.0	0 K
2160 min Summer	32.605	0.155	0.1	3.4	0 K
2880 min Summer	32.585	0.135	0.1	2.8	0 K
4320 min Summer	32.554	0.104	0.1	1.8	0 K
5760 min Summer	32.536	0.086	0.1	1.3	0 K
7200 min Summer	32.526	0.076	0.1	1.0	0 K
8640 min Summer	32.519	0.069	0.1	0.8	0 K
10080 min Summer	32.513	0.063	0.1	0.7	0 K
15 min Winter	32.562	0.112	0.1	2.1	0 K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.402	0.0	18
30 min Summer	85.647	0.0	33
60 min Summer	55.837	0.0	62
120 min Summer	35.054	0.0	122
180 min Summer	26.228	0.0	182
240 min Summer	21.215	0.0	240
360 min Summer	15.744	0.0	312
480 min Summer	12.718	0.0	376
600 min Summer	10.766	0.0	440
720 min Summer	9.390	0.0	506
960 min Summer	7.559	0.0	644
1440 min Summer	5.556	0.0	912
2160 min Summer	4.073	0.0	1316
2880 min Summer	3.263	0.0	1676
4320 min Summer	2.381	0.0	2380
5760 min Summer	1.907	0.0	3056
7200 min Summer	1.606	0.0	3752
8640 min Summer	1.395	0.0	4496
10080 min Summer	1.239	0.0	5152
15 min Winter	125.402	0.0	18

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Date 10/05/2018	Designed by SH	
File AAL057 - PERMEABLE	Checked by AWR	
XP Solutions		Source Control 2016.1

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	32.592	0.142	0.1	2.9	0 K
60 min Winter	32.623	0.173	0.1	3.9	0 K
120 min Winter	32.652	0.202	0.1	4.8	0 K
180 min Winter	32.665	0.215	0.1	5.1	0 K
240 min Winter	32.671	0.221	0.1	5.3	0 K
360 min Winter	32.676	0.226	0.1	5.5	0 K
480 min Winter	32.675	0.225	0.1	5.5	0 K
600 min Winter	32.673	0.223	0.1	5.4	0 K
720 min Winter	32.670	0.220	0.1	5.3	0 K
960 min Winter	32.661	0.211	0.1	5.0	0 K
1440 min Winter	32.639	0.189	0.1	4.4	0 K
2160 min Winter	32.604	0.154	0.1	3.3	0 K
2880 min Winter	32.574	0.124	0.1	2.4	0 K
4320 min Winter	32.536	0.086	0.1	1.3	0 K
5760 min Winter	32.522	0.072	0.1	0.9	0 K
7200 min Winter	32.511	0.061	0.1	0.6	0 K
8640 min Winter	32.504	0.054	0.1	0.5	0 K
10080 min Winter	32.499	0.049	0.1	0.4	0 K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	85.647	0.0	33
60 min Winter	55.837	0.0	62
120 min Winter	35.054	0.0	120
180 min Winter	26.228	0.0	178
240 min Winter	21.215	0.0	234
360 min Winter	15.744	0.0	344
480 min Winter	12.718	0.0	440
600 min Winter	10.766	0.0	472
720 min Winter	9.390	0.0	550
960 min Winter	7.559	0.0	702
1440 min Winter	5.556	0.0	996
2160 min Winter	4.073	0.0	1404
2880 min Winter	3.263	0.0	1764
4320 min Winter	2.381	0.0	2376
5760 min Winter	1.907	0.0	3104
7200 min Winter	1.606	0.0	3816
8640 min Winter	1.395	0.0	4496
10080 min Winter	1.239	0.0	5048

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Town House St Geroge's Square Bishops Waltham Southampton S032 1AF	DEANS YARD, ORCHARD WAY FONTWELL, ARUNDEL, WEST SUSSEX PERMEABLE PAVING 0.25M DEPTH	
Date 10/05/2018	Designed by SH	
File AAL057 - PERMEABLE	Checked by AWR	
XP Solutions		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)	19.700	Shortest Storm (mins)	15
Ratio R	0.318	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.010

Time (mins)		Area
From:	To:	(ha)
0	4	0.010

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<u>Model Details</u> Storage is Online Cover Level (m) 33.000 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00900</td> <td>Width (m)</td> <td>10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>10.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>27.8</td> <td>Slope (1:X)</td> <td>115.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>32.450</td> <td>Cap Volume Depth (m)</td> <td>0.250</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.00900	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	10.0	Max Percolation (l/s)	27.8	Slope (1:X)	115.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	32.450	Cap Volume Depth (m)	0.250
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