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Wessex House Upper Market Street Eastleigh Hampshire SO50 5FD	Upper Bognor Road Bognor Gravel Car Park 1	
Date 04/04/2023	Designed by S Baker	
File Paving 17.03.22.SRCX	Checked by	
Micro Drainage	Source Control 2018.1.1	

Summary of Results for 2 year Return Period

Half Drain Time : 31 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	0.060	0.060	1.0	1.8	O K
30 min Summer	0.072	0.072	1.2	2.6	O K
60 min Summer	0.080	0.080	1.3	3.2	O K
120 min Summer	0.091	0.091	1.5	4.2	O K
180 min Summer	0.093	0.093	1.6	4.4	O K
240 min Summer	0.092	0.092	1.5	4.3	O K
360 min Summer	0.086	0.086	1.4	3.8	O K
480 min Summer	0.080	0.080	1.3	3.2	O K
600 min Summer	0.074	0.074	1.2	2.8	O K
720 min Summer	0.069	0.069	1.2	2.4	O K
960 min Summer	0.061	0.061	1.0	1.9	O K
1440 min Summer	0.050	0.050	0.8	1.3	O K
2160 min Summer	0.043	0.043	0.6	1.0	O K
2880 min Summer	0.039	0.039	0.5	0.8	O K
4320 min Summer	0.034	0.034	0.4	0.6	O K
5760 min Summer	0.032	0.032	0.3	0.5	O K
7200 min Summer	0.030	0.030	0.3	0.4	O K
8640 min Summer	0.028	0.028	0.3	0.4	O K
10080 min Summer	0.027	0.027	0.2	0.4	O K
15 min Winter	0.060	0.060	1.0	1.8	O K
30 min Winter	0.072	0.072	1.2	2.6	O K
60 min Winter	0.079	0.079	1.3	3.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	37.785	0.0	17
30 min Summer	24.562	0.0	30
60 min Summer	15.413	0.0	44
120 min Summer	10.505	0.0	78
180 min Summer	8.116	0.0	112
240 min Summer	6.669	0.0	146
360 min Summer	4.966	0.0	208
480 min Summer	3.985	0.0	268
600 min Summer	3.347	0.0	330
720 min Summer	2.898	0.0	390
960 min Summer	2.305	0.0	508
1440 min Summer	1.675	0.0	736
2160 min Summer	1.231	0.0	1104
2880 min Summer	1.000	0.0	1468
4320 min Summer	0.765	0.0	2204
5760 min Summer	0.644	0.0	2896
7200 min Summer	0.569	0.0	3672
8640 min Summer	0.519	0.0	4320
10080 min Summer	0.482	0.0	5144
15 min Winter	37.785	0.0	17
30 min Winter	24.562	0.0	30
60 min Winter	15.413	0.0	48

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Uper Market Street	Bognor	
Eastleigh Hampshire SO50 5FD	Gravel Car Park 1	
Date 04/04/2023	Designed by S Baker	
File Paving 17.03.22.SRCX	Checked by	
Micro Drainage	Source Control 2018.1.1	

Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
120 min Winter	0.088	0.088	1.5	3.9	O K
180 min Winter	0.088	0.088	1.5	3.9	O K
240 min Winter	0.085	0.085	1.4	3.6	O K
360 min Winter	0.076	0.076	1.3	2.9	O K
480 min Winter	0.068	0.068	1.1	2.3	O K
600 min Winter	0.061	0.061	1.0	1.9	O K
720 min Winter	0.055	0.055	0.9	1.5	O K
960 min Winter	0.048	0.048	0.8	1.2	O K
1440 min Winter	0.041	0.041	0.6	0.8	O K
2160 min Winter	0.035	0.035	0.4	0.6	O K
2880 min Winter	0.032	0.032	0.3	0.5	O K
4320 min Winter	0.027	0.027	0.2	0.4	O K
5760 min Winter	0.025	0.025	0.2	0.3	O K
7200 min Winter	0.023	0.023	0.2	0.3	O K
8640 min Winter	0.022	0.022	0.2	0.2	O K
10080 min Winter	0.021	0.021	0.2	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
120 min Winter	10.505	0.0	84
180 min Winter	8.116	0.0	120
240 min Winter	6.669	0.0	152
360 min Winter	4.966	0.0	216
480 min Winter	3.985	0.0	276
600 min Winter	3.347	0.0	336
720 min Winter	2.898	0.0	392
960 min Winter	2.305	0.0	504
1440 min Winter	1.675	0.0	750
2160 min Winter	1.231	0.0	1092
2880 min Winter	1.000	0.0	1468
4320 min Winter	0.765	0.0	2204
5760 min Winter	0.644	0.0	2936
7200 min Winter	0.569	0.0	3672
8640 min Winter	0.519	0.0	4360
10080 min Winter	0.482	0.0	5136

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Micro Drainage	Source Control 2018.1.1	

Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	2	Cv (Summer)	1.000
FEH Rainfall Version	2013	Cv (Winter)	1.000
Site Location	GB 494352 99539 SZ 94352 99539	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.050

Time (mins)	Area
From:	To: (ha)

0	4	0.050
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Micro Drainage		Source Control 2018.1.1

Model Details

Storage is Online Cover Level (m) 0.300

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03600	Width (m)	22.4
Membrane Percolation (mm/hr)	1000	Length (m)	22.4
Max Percolation (l/s)	139.4	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	0.000	Membrane Depth (m)	0

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Micro Drainage	Source Control 2018.1.1	

Summary of Results for 10 year Return Period

Half Drain Time : 38 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	0.094	0.094	1.6	4.5	O K
30 min Summer	0.109	0.109	1.8	6.0	O K
60 min Summer	0.117	0.117	2.0	6.9	O K
120 min Summer	0.124	0.124	2.1	7.8	O K
180 min Summer	0.124	0.124	2.1	7.7	O K
240 min Summer	0.121	0.121	2.0	7.3	O K
360 min Summer	0.112	0.112	1.9	6.4	O K
480 min Summer	0.104	0.104	1.7	5.4	O K
600 min Summer	0.096	0.096	1.6	4.7	O K
720 min Summer	0.090	0.090	1.5	4.0	O K
960 min Summer	0.079	0.079	1.3	3.1	O K
1440 min Summer	0.063	0.063	1.1	2.0	O K
2160 min Summer	0.051	0.051	0.9	1.3	O K
2880 min Summer	0.046	0.046	0.7	1.0	O K
4320 min Summer	0.040	0.040	0.5	0.8	O K
5760 min Summer	0.036	0.036	0.4	0.7	O K
7200 min Summer	0.034	0.034	0.4	0.6	O K
8640 min Summer	0.032	0.032	0.3	0.5	O K
10080 min Summer	0.031	0.031	0.3	0.5	O K
15 min Winter	0.095	0.095	1.6	4.5	O K
30 min Winter	0.109	0.109	1.8	6.0	O K
60 min Winter	0.117	0.117	2.0	6.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	62.267	0.0	17
30 min Summer	40.733	0.0	30
60 min Summer	25.600	0.0	46
120 min Summer	16.200	0.0	80
180 min Summer	12.134	0.0	114
240 min Summer	9.795	0.0	148
360 min Summer	7.148	0.0	212
480 min Summer	5.668	0.0	274
600 min Summer	4.722	0.0	336
720 min Summer	4.062	0.0	396
960 min Summer	3.199	0.0	514
1440 min Summer	2.292	0.0	752
2160 min Summer	1.660	0.0	1104
2880 min Summer	1.333	0.0	1468
4320 min Summer	1.000	0.0	2200
5760 min Summer	0.829	0.0	2928
7200 min Summer	0.724	0.0	3608
8640 min Summer	0.653	0.0	4384
10080 min Summer	0.602	0.0	5128
15 min Winter	62.267	0.0	17
30 min Winter	40.733	0.0	30
60 min Winter	25.600	0.0	48

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Micro Drainage	Source Control 2018.1.1	

Summary of Results for 10 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
120 min Winter	0.121	0.121	2.0	7.4	O K
180 min Winter	0.118	0.118	2.0	7.0	O K
240 min Winter	0.113	0.113	1.9	6.4	O K
360 min Winter	0.101	0.101	1.7	5.2	O K
480 min Winter	0.090	0.090	1.5	4.1	O K
600 min Winter	0.081	0.081	1.4	3.3	O K
720 min Winter	0.073	0.073	1.2	2.7	O K
960 min Winter	0.061	0.061	1.0	1.9	O K
1440 min Winter	0.048	0.048	0.8	1.2	O K
2160 min Winter	0.041	0.041	0.6	0.8	O K
2880 min Winter	0.037	0.037	0.5	0.7	O K
4320 min Winter	0.032	0.032	0.3	0.5	O K
5760 min Winter	0.029	0.029	0.3	0.4	O K
7200 min Winter	0.027	0.027	0.2	0.4	O K
8640 min Winter	0.025	0.025	0.2	0.3	O K
10080 min Winter	0.024	0.024	0.2	0.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
120 min Winter	16.200	0.0	86
180 min Winter	12.134	0.0	122
240 min Winter	9.795	0.0	156
360 min Winter	7.148	0.0	222
480 min Winter	5.668	0.0	284
600 min Winter	4.722	0.0	344
720 min Winter	4.062	0.0	404
960 min Winter	3.199	0.0	520
1440 min Winter	2.292	0.0	736
2160 min Winter	1.660	0.0	1108
2880 min Winter	1.333	0.0	1460
4320 min Winter	1.000	0.0	2168
5760 min Winter	0.829	0.0	2920
7200 min Winter	0.724	0.0	3640
8640 min Winter	0.653	0.0	4336
10080 min Winter	0.602	0.0	5104

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Micro Drainage	Source Control 2018.1.1	

Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	1.000
FEH Rainfall Version	2013	Cv (Winter)	1.000
Site Location	GB 494352 99539 SZ 94352 99539	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.050

Time (mins)	Area
From:	To: (ha)

0	4	0.050
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Micro Drainage		Source Control 2018.1.1

Model Details

Storage is Online Cover Level (m) 0.300

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03600	Width (m)	22.4
Membrane Percolation (mm/hr)	1000	Length (m)	22.4
Max Percolation (l/s)	139.4	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	0.000	Membrane Depth (m)	0

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Micro Drainage	Source Control 2018.1.1	

Summary of Results for 30 year Return Period (+40%)

Half Drain Time : 61 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	0.143	0.143	2.4	10.3	O K
30 min Summer	0.164	0.164	2.5	13.4	O K
60 min Summer	0.178	0.178	2.5	15.6	O K
120 min Summer	0.185	0.185	2.5	16.7	O K
180 min Summer	0.184	0.184	2.5	16.4	O K
240 min Summer	0.179	0.179	2.5	15.7	O K
360 min Summer	0.165	0.165	2.5	13.7	O K
480 min Summer	0.153	0.153	2.5	11.7	O K
600 min Summer	0.143	0.143	2.4	10.3	O K
720 min Summer	0.134	0.134	2.3	9.1	O K
960 min Summer	0.120	0.120	2.0	7.2	O K
1440 min Summer	0.099	0.099	1.7	4.9	O K
2160 min Summer	0.079	0.079	1.3	3.1	O K
2880 min Summer	0.066	0.066	1.1	2.2	O K
4320 min Summer	0.052	0.052	0.9	1.3	O K
5760 min Summer	0.046	0.046	0.7	1.1	O K
7200 min Summer	0.043	0.043	0.6	0.9	O K
8640 min Summer	0.041	0.041	0.6	0.8	O K
10080 min Summer	0.039	0.039	0.5	0.8	O K
15 min Winter	0.143	0.143	2.4	10.3	O K
30 min Winter	0.164	0.164	2.5	13.4	O K
60 min Winter	0.178	0.178	2.5	15.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	112.605	0.0	17
30 min Summer	74.332	0.0	31
60 min Summer	46.979	0.0	54
120 min Summer	28.792	0.0	88
180 min Summer	21.316	0.0	122
240 min Summer	17.091	0.0	156
360 min Summer	12.365	0.0	220
480 min Summer	9.759	0.0	284
600 min Summer	8.102	0.0	344
720 min Summer	6.951	0.0	406
960 min Summer	5.451	0.0	528
1440 min Summer	3.879	0.0	766
2160 min Summer	2.786	0.0	1124
2880 min Summer	2.223	0.0	1472
4320 min Summer	1.650	0.0	2204
5760 min Summer	1.356	0.0	2936
7200 min Summer	1.177	0.0	3656
8640 min Summer	1.055	0.0	4312
10080 min Summer	0.967	0.0	5136
15 min Winter	112.605	0.0	17
30 min Winter	74.332	0.0	31
60 min Winter	46.979	0.0	58

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Micro Drainage	Source Control 2018.1.1	

Summary of Results for 30 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
120 min Winter	0.183	0.183	2.5	16.3	O K
180 min Winter	0.178	0.178	2.5	15.6	O K
240 min Winter	0.170	0.170	2.5	14.4	O K
360 min Winter	0.152	0.152	2.5	11.7	O K
480 min Winter	0.138	0.138	2.3	9.6	O K
600 min Winter	0.126	0.126	2.1	8.0	O K
720 min Winter	0.115	0.115	1.9	6.7	O K
960 min Winter	0.098	0.098	1.7	4.9	O K
1440 min Winter	0.075	0.075	1.3	2.8	O K
2160 min Winter	0.056	0.056	0.9	1.6	O K
2880 min Winter	0.048	0.048	0.8	1.1	O K
4320 min Winter	0.041	0.041	0.6	0.8	O K
5760 min Winter	0.037	0.037	0.5	0.7	O K
7200 min Winter	0.034	0.034	0.4	0.6	O K
8640 min Winter	0.033	0.033	0.4	0.5	O K
10080 min Winter	0.031	0.031	0.3	0.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
120 min Winter	28.792	0.0	92
180 min Winter	21.316	0.0	130
240 min Winter	17.091	0.0	166
360 min Winter	12.365	0.0	232
480 min Winter	9.759	0.0	294
600 min Winter	8.102	0.0	358
720 min Winter	6.951	0.0	420
960 min Winter	5.451	0.0	540
1440 min Winter	3.879	0.0	778
2160 min Winter	2.786	0.0	1124
2880 min Winter	2.223	0.0	1452
4320 min Winter	1.650	0.0	2204
5760 min Winter	1.356	0.0	2944
7200 min Winter	1.177	0.0	3672
8640 min Winter	1.055	0.0	4392
10080 min Winter	0.967	0.0	5064

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Micro Drainage	Source Control 2018.1.1	

Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	1.000
FEH Rainfall Version	2013	Cv (Winter)	1.000
Site Location	GB 494352 99539 SZ 94352 99539	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.050

Time (mins)	Area
From:	To: (ha)

0	4	0.050
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Micro Drainage		Source Control 2018.1.1

Model Details

Storage is Online Cover Level (m) 0.300

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03600	Width (m)	22.4
Membrane Percolation (mm/hr)	1000	Length (m)	22.4
Max Percolation (l/s)	139.4	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	0.000	Membrane Depth (m)	0

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Micro Drainage	Source Control 2018.1.1	

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

Half Drain Time : 79 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	0.165	0.165	2.5	13.6	O K
30 min Summer	0.195	0.195	2.5	18.1	O K
60 min Summer	0.218	0.218	2.5	21.6	O K
120 min Summer	0.225	0.225	2.5	22.6	O K
180 min Summer	0.222	0.222	2.5	22.2	O K
240 min Summer	0.216	0.216	2.5	21.3	O K
360 min Summer	0.201	0.201	2.5	18.9	O K
480 min Summer	0.184	0.184	2.5	16.5	O K
600 min Summer	0.170	0.170	2.5	14.3	O K
720 min Summer	0.157	0.157	2.5	12.4	O K
960 min Summer	0.140	0.140	2.4	9.9	O K
1440 min Summer	0.116	0.116	2.0	6.8	O K
2160 min Summer	0.093	0.093	1.6	4.4	O K
2880 min Summer	0.078	0.078	1.3	3.1	O K
4320 min Summer	0.061	0.061	1.0	1.9	O K
5760 min Summer	0.051	0.051	0.9	1.3	O K
7200 min Summer	0.047	0.047	0.7	1.1	O K
8640 min Summer	0.044	0.044	0.7	1.0	O K
10080 min Summer	0.042	0.042	0.6	0.9	O K
15 min Winter	0.165	0.165	2.5	13.6	O K
30 min Winter	0.195	0.195	2.5	18.1	O K
60 min Winter	0.218	0.218	2.5	21.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	140.810	0.0	18
30 min Summer	93.925	0.0	32
60 min Summer	59.920	0.0	60
120 min Summer	36.135	0.0	94
180 min Summer	26.556	0.0	126
240 min Summer	21.210	0.0	160
360 min Summer	15.297	0.0	228
480 min Summer	12.051	0.0	292
600 min Summer	9.991	0.0	356
720 min Summer	8.562	0.0	414
960 min Summer	6.700	0.0	532
1440 min Summer	4.746	0.0	776
2160 min Summer	3.387	0.0	1128
2880 min Summer	2.686	0.0	1496
4320 min Summer	1.972	0.0	2204
5760 min Summer	1.606	0.0	2936
7200 min Summer	1.382	0.0	3672
8640 min Summer	1.231	0.0	4328
10080 min Summer	1.122	0.0	5088
15 min Winter	140.810	0.0	17
30 min Winter	93.925	0.0	31
60 min Winter	59.920	0.0	60

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Uper Market Street	Bognor	
Eastleigh Hampshire SO50 5FD	Gravel Car Park 1	
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File Paving 17.03.22.SRCX	Checked by	
Micro Drainage	Source Control 2018.1.1	

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
120 min Winter	0.223	0.223	2.5	22.3	O K
180 min Winter	0.218	0.218	2.5	21.5	O K
240 min Winter	0.208	0.208	2.5	20.1	O K
360 min Winter	0.186	0.186	2.5	16.8	O K
480 min Winter	0.165	0.165	2.5	13.5	O K
600 min Winter	0.148	0.148	2.5	11.1	O K
720 min Winter	0.136	0.136	2.3	9.4	O K
960 min Winter	0.117	0.117	2.0	6.9	O K
1440 min Winter	0.091	0.091	1.5	4.1	O K
2160 min Winter	0.068	0.068	1.1	2.3	O K
2880 min Winter	0.054	0.054	0.9	1.5	O K
4320 min Winter	0.045	0.045	0.7	1.0	O K
5760 min Winter	0.040	0.040	0.5	0.8	O K
7200 min Winter	0.037	0.037	0.5	0.7	O K
8640 min Winter	0.035	0.035	0.4	0.6	O K
10080 min Winter	0.034	0.034	0.4	0.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
120 min Winter	36.135	0.0	96
180 min Winter	26.556	0.0	134
240 min Winter	21.210	0.0	172
360 min Winter	15.297	0.0	242
480 min Winter	12.051	0.0	306
600 min Winter	9.991	0.0	362
720 min Winter	8.562	0.0	426
960 min Winter	6.700	0.0	548
1440 min Winter	4.746	0.0	780
2160 min Winter	3.387	0.0	1128
2880 min Winter	2.686	0.0	1496
4320 min Winter	1.972	0.0	2204
5760 min Winter	1.606	0.0	2936
7200 min Winter	1.382	0.0	3672
8640 min Winter	1.231	0.0	4360
10080 min Winter	1.122	0.0	5152

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Micro Drainage	Source Control 2018.1.1	

Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
FEH Rainfall Version	2013	Cv (Winter)	1.000
Site Location	GB 494352 99539 SZ 94352 99539	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.050

Time (mins)	Area
From:	To: (ha)

0	4	0.050
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Micro Drainage		Source Control 2018.1.1

Model Details

Storage is Online Cover Level (m) 0.300

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03600	Width (m)	22.4
Membrane Percolation (mm/hr)	1000	Length (m)	22.4
Max Percolation (l/s)	139.4	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	0.000	Membrane Depth (m)	0