

Campbell Reith Hill LLP				Page 1	
Raven House 29 Linkfield Lane Surrey RH1 1SS		11557: Station Road, Barnsley Prelim SW Strategy Linked Highway Soakaways			
Date 12/06/2014 11:54 File Highway Soakaway.srcx		Designed by TF Checked by			
Micro Drainage		Source Control 2014.1.1			
Summary of Results for 100 year Return Period (+30%)					
Half Drain Time : 156 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	63.347	1.097	2.0	19.6	O K
30 min Summer	63.703	1.453	2.4	26.0	O K
60 min Summer	64.194	1.944	2.4	31.9	O K
120 min Summer	64.525	2.275	2.4	35.7	O K
180 min Summer	64.583	2.333	2.4	36.3	O K
240 min Summer	64.574	2.324	2.4	36.2	O K
360 min Summer	64.484	2.234	2.4	35.2	O K
480 min Summer	64.353	2.103	2.4	33.7	O K
600 min Summer	64.217	1.967	2.4	32.1	O K
720 min Summer	64.083	1.833	2.4	30.6	O K
960 min Summer	63.833	1.583	2.4	27.7	O K
1440 min Summer	63.553	1.303	2.2	23.3	O K
2160 min Summer	63.265	1.015	2.0	18.1	O K
2880 min Summer	63.048	0.798	1.7	14.2	O K
4320 min Summer	62.746	0.496	1.5	8.9	O K
5760 min Summer	62.549	0.299	1.3	5.3	O K
7200 min Summer	62.417	0.167	1.1	3.0	O K
8640 min Summer	62.333	0.083	1.1	1.5	O K
10080 min Summer	62.298	0.048	1.0	0.9	O K
15 min Winter	63.485	1.235	2.2	22.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	116.002	0.0	18		
30 min Summer	79.998	0.0	32		
60 min Summer	52.662	0.0	62		
120 min Summer	33.322	0.0	112		
180 min Summer	24.998	0.0	144		
240 min Summer	20.313	0.0	176		
360 min Summer	15.144	0.0	244		
480 min Summer	12.271	0.0	312		
600 min Summer	10.413	0.0	380		
720 min Summer	9.099	0.0	448		
960 min Summer	7.345	0.0	578		
1440 min Summer	5.419	0.0	836		
2160 min Summer	3.986	0.0	1212		
2880 min Summer	3.200	0.0	1584		
4320 min Summer	2.349	0.0	2292		
5760 min Summer	1.888	0.0	3008		
7200 min Summer	1.594	0.0	3744		
8640 min Summer	1.389	0.0	4408		
10080 min Summer	1.237	0.0	5056		
15 min Winter	116.002	0.0	18		
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Campbell Reith Hill LLP				Page 2	
Raven House 29 Linkfield Lane Surrey RH1 1SS		11557: Station Road, Barnsley Prelim SW Strategy Linked Highway Soakaways			
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Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	63.978	1.728	2.4	29.4	O K
60 min Winter	64.598	2.348	2.4	36.5	O K
120 min Winter	65.036	2.786	2.4	41.5	Flood Risk
180 min Winter	65.091	2.841	2.4	42.1	Flood Risk
240 min Winter	65.074	2.824	2.4	41.9	Flood Risk
360 min Winter	64.943	2.693	2.4	40.4	O K
480 min Winter	64.735	2.485	2.4	38.1	O K
600 min Winter	64.505	2.255	2.4	35.4	O K
720 min Winter	64.288	2.038	2.4	32.9	O K
960 min Winter	63.894	1.644	2.4	28.4	O K
1440 min Winter	63.490	1.240	2.2	22.1	O K
2160 min Winter	63.119	0.869	1.8	15.5	O K
2880 min Winter	62.858	0.608	1.6	10.9	O K
4320 min Winter	62.522	0.272	1.2	4.8	O K
5760 min Winter	62.328	0.078	1.1	1.4	O K
7200 min Winter	62.295	0.045	0.9	0.8	O K
8640 min Winter	62.289	0.039	0.8	0.7	O K
10080 min Winter	62.285	0.035	0.7	0.6	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	79.998	0.0	32		
60 min Winter	52.662	0.0	60		
120 min Winter	33.322	0.0	116		
180 min Winter	24.998	0.0	166		
240 min Winter	20.313	0.0	188		
360 min Winter	15.144	0.0	266		
480 min Winter	12.271	0.0	340		
600 min Winter	10.413	0.0	414		
720 min Winter	9.099	0.0	484		
960 min Winter	7.345	0.0	616		
1440 min Winter	5.419	0.0	878		
2160 min Winter	3.986	0.0	1256		
2880 min Winter	3.200	0.0	1640		
4320 min Winter	2.349	0.0	2336		
5760 min Winter	1.888	0.0	3000		
7200 min Winter	1.594	0.0	3592		
8640 min Winter	1.389	0.0	4368		
10080 min Winter	1.237	0.0	4976		
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Campbell Reith Hill LLP		Page 3
Raven House 29 Linkfield Lane Surrey RH1 1SS	11557: Station Road, Barnsley Prelim SW Strategy Linked Highway Soakaways	
Date 12/06/2014 11:54 File Highway Soakaway.srcx	Designed by TF Checked by	
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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)	20.000	Shortest Storm (mins)	15
Ratio R	0.300	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.097

Time (mins)		Area
From:	To:	(ha)
0	4	0.097

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<u>Model Details</u> Storage is Online Cover Level (m) 65.250 <u>Lined Soakaway Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.21420</td> <td>Ring Diameter (m)</td> <td>2.70</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.21420</td> <td>Pit Multiplier</td> <td>1.5</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>2</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>0.000</td> </tr> <tr> <td>Invert Level (m)</td> <td>62.250</td> <td>Cap Infiltration Depth (m)</td> <td>1.500</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.21420	Ring Diameter (m)	2.70	Infiltration Coefficient Side (m/hr)	0.21420	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	2	Porosity	0.30	Cap Volume Depth (m)	0.000	Invert Level (m)	62.250	Cap Infiltration Depth (m)	1.500
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Micro Drainage

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Event: 180 min Winter