


.	Nestle Site	
.	Energy Block	
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Date 8.08.17	Designed by JH
File Block Energy.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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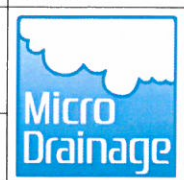
Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 696 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.640	0.040	0.0	0.2	0.2	0.2	13.2	O K
30 min Summer	99.652	0.052	0.0	0.3	0.3	0.3	17.2	O K
60 min Summer	99.663	0.063	0.0	0.4	0.4	0.4	21.1	O K
120 min Summer	99.674	0.074	0.0	0.4	0.4	0.4	24.7	O K
180 min Summer	99.680	0.080	0.0	0.4	0.4	0.4	26.5	O K
240 min Summer	99.682	0.082	0.0	0.4	0.4	0.4	27.4	O K
360 min Summer	99.685	0.085	0.0	0.4	0.4	0.4	28.3	O K
480 min Summer	99.686	0.086	0.0	0.4	0.4	0.4	28.5	O K
600 min Summer	99.686	0.086	0.0	0.4	0.4	0.4	28.7	O K
720 min Summer	99.686	0.086	0.0	0.4	0.4	0.4	28.7	O K
960 min Summer	99.686	0.086	0.0	0.4	0.4	0.4	28.7	O K
1440 min Summer	99.685	0.085	0.0	0.4	0.4	0.4	28.2	O K
2160 min Summer	99.681	0.081	0.0	0.4	0.4	0.4	26.9	O K
2880 min Summer	99.677	0.077	0.0	0.4	0.4	0.4	25.5	O K
4320 min Summer	99.668	0.068	0.0	0.4	0.4	0.4	22.8	O K
5760 min Summer	99.661	0.061	0.0	0.4	0.4	0.4	20.4	O K
7200 min Summer	99.656	0.056	0.0	0.3	0.3	0.3	18.6	O K
8640 min Summer	99.651	0.051	0.0	0.3	0.3	0.3	17.0	O K
10080 min Summer	99.647	0.047	0.0	0.3	0.3	0.3	15.8	O K
15 min Winter	99.645	0.045	0.0	0.3	0.3	0.3	14.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	9.0	19
30 min Summer	91.435	0.0	12.5	34
60 min Summer	57.005	0.0	18.9	64
120 min Summer	34.324	0.0	23.1	122
180 min Summer	25.168	0.0	25.6	182
240 min Summer	20.074	0.0	27.3	242
360 min Summer	14.562	0.0	29.8	360
480 min Summer	11.594	0.0	31.6	446
600 min Summer	9.707	0.0	33.0	496
720 min Summer	8.393	0.0	34.2	556
960 min Summer	6.666	0.0	36.1	684
1440 min Summer	4.811	0.0	38.3	954
2160 min Summer	3.466	0.0	45.5	1364
2880 min Summer	2.744	0.0	47.9	1760
4320 min Summer	1.972	0.0	50.8	2548
5760 min Summer	1.558	0.0	56.1	3288
7200 min Summer	1.297	0.0	58.1	4032
8640 min Summer	1.117	0.0	59.7	4752
10080 min Summer	0.983	0.0	60.6	5448
15 min Winter	139.635	0.0	10.3	19

. Nestle Site
 . Energy Block
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Date 8.08.17 Designed by JH
 File Block Energy.srcx Checked by JB

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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	99.658	0.058	0.0	0.3	0.3	19.3	O K
60 min Winter	99.671	0.071	0.0	0.4	0.4	23.7	O K
120 min Winter	99.684	0.084	0.0	0.4	0.4	27.8	O K
180 min Winter	99.690	0.090	0.0	0.5	0.5	29.8	O K
240 min Winter	99.693	0.093	0.0	0.5	0.5	30.9	O K
360 min Winter	99.696	0.096	0.0	0.5	0.5	32.0	O K
480 min Winter	99.697	0.097	0.0	0.5	0.5	32.4	O K
600 min Winter	99.697	0.097	0.0	0.5	0.5	32.3	O K
720 min Winter	99.697	0.097	0.0	0.5	0.5	32.2	O K
960 min Winter	99.696	0.096	0.0	0.5	0.5	32.0	O K
1440 min Winter	99.693	0.093	0.0	0.5	0.5	30.9	O K
2160 min Winter	99.686	0.086	0.0	0.4	0.4	28.7	O K
2880 min Winter	99.680	0.080	0.0	0.4	0.4	26.5	O K
4320 min Winter	99.668	0.068	0.0	0.4	0.4	22.5	O K
5760 min Winter	99.658	0.058	0.0	0.3	0.3	19.4	O K
7200 min Winter	99.651	0.051	0.0	0.3	0.3	17.0	O K
8640 min Winter	99.646	0.046	0.0	0.3	0.3	15.3	O K
10080 min Winter	99.642	0.042	0.0	0.3	0.3	14.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	91.435	0.0	14.3	33
60 min Winter	57.005	0.0	21.4	62
120 min Winter	34.324	0.0	26.1	120
180 min Winter	25.168	0.0	28.9	178
240 min Winter	20.074	0.0	30.8	236
360 min Winter	14.562	0.0	33.5	350
480 min Winter	11.594	0.0	35.6	458
600 min Winter	9.707	0.0	37.2	558
720 min Winter	8.393	0.0	38.5	578
960 min Winter	6.666	0.0	40.6	730
1440 min Winter	4.811	0.0	43.0	1036
2160 min Winter	3.466	0.0	51.2	1472
2880 min Winter	2.744	0.0	53.8	1876
4320 min Winter	1.972	0.0	57.1	2680
5760 min Winter	1.558	0.0	62.9	3456
7200 min Winter	1.297	0.0	65.3	4176
8640 min Winter	1.117	0.0	67.1	4848
10080 min Winter	0.983	0.0	68.2	5552

.	Nestle Site	
.	Energy Block	
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Date 8.08.17	Designed by JH
File Block Energy.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.051

Time (mins)	Area
From: To:	(ha)
0	4 0.051

.	Nestle Site	
.	Energy Block	
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Date 8.08.17	Designed by JH
File Block Energy.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 99.600 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	350.0	0.0	0.101	0.0	0.0
0.100	350.0	0.0			

Orifice Outflow Control

Diameter (m) 0.031 Discharge Coefficient 0.500 Invert Level (m) 99.600

Nestle Ave
Block D1/2



Date 8.08.17 Designed by JH
File Block D1_2.srcx Checked by JB

XP Solutions Source Control 2016.1

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

Half Drain Time : 910 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.636	0.036	0.0	0.3	0.3	29.9	O K
30 min Summer	99.647	0.047	0.0	0.5	0.5	39.0	O K
60 min Summer	99.658	0.058	0.0	0.7	0.7	48.0	O K
120 min Summer	99.669	0.069	0.0	0.8	0.8	56.5	O K
180 min Summer	99.674	0.074	0.0	0.8	0.8	60.8	O K
240 min Summer	99.677	0.077	0.0	0.8	0.8	63.3	O K
360 min Summer	99.680	0.080	0.0	0.9	0.9	65.9	O K
480 min Summer	99.682	0.082	0.0	0.9	0.9	67.0	O K
600 min Summer	99.682	0.082	0.0	0.9	0.9	67.4	O K
720 min Summer	99.682	0.082	0.0	0.9	0.9	67.8	O K
960 min Summer	99.683	0.083	0.0	0.9	0.9	68.1	O K
1440 min Summer	99.683	0.083	0.0	0.9	0.9	67.9	O K
2160 min Summer	99.681	0.081	0.0	0.9	0.9	66.3	O K
2880 min Summer	99.678	0.078	0.0	0.8	0.8	64.0	O K
4320 min Summer	99.672	0.072	0.0	0.8	0.8	59.0	O K
5760 min Summer	99.666	0.066	0.0	0.8	0.8	54.5	O K
7200 min Summer	99.662	0.062	0.0	0.7	0.7	50.6	O K
8640 min Summer	99.658	0.058	0.0	0.7	0.7	47.6	O K
10080 min Summer	99.655	0.055	0.0	0.6	0.6	45.2	O K
15 min Winter	99.641	0.041	0.0	0.4	0.4	33.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	15.7	19
30 min Summer	91.435	0.0	22.7	34
60 min Summer	57.005	0.0	38.1	64
120 min Summer	34.324	0.0	47.2	122
180 min Summer	25.168	0.0	52.5	182
240 min Summer	20.074	0.0	56.2	242
360 min Summer	14.562	0.0	61.5	360
480 min Summer	11.594	0.0	65.4	480
600 min Summer	9.707	0.0	68.4	536
720 min Summer	8.393	0.0	70.8	592
960 min Summer	6.666	0.0	74.4	712
1440 min Summer	4.811	0.0	78.4	980
2160 min Summer	3.466	0.0	98.6	1384
2880 min Summer	2.744	0.0	103.4	1788
4320 min Summer	1.972	0.0	108.4	2592
5760 min Summer	1.558	0.0	124.0	3344
7200 min Summer	1.297	0.0	128.4	4040
8640 min Summer	1.117	0.0	131.4	4760
10080 min Summer	0.983	0.0	132.8	5544
15 min Winter	139.635	0.0	18.4	19

Nestle Ave
Block D1/2



Date 8.08.17

Designed by JH

File Block D1_2.srcx

Checked by JB


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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
30 min Winter	99.653	0.053	0.0	0.6	0.6	43.6	O K
60 min Winter	99.665	0.065	0.0	0.7	0.7	53.8	O K
120 min Winter	99.677	0.077	0.0	0.8	0.8	63.4	O K
180 min Winter	99.683	0.083	0.0	0.9	0.9	68.3	O K
240 min Winter	99.687	0.087	0.0	0.9	0.9	71.1	O K
360 min Winter	99.690	0.090	0.0	0.9	0.9	74.3	O K
480 min Winter	99.692	0.092	0.0	0.9	0.9	75.8	O K
600 min Winter	99.693	0.093	0.0	0.9	0.9	76.3	O K
720 min Winter	99.693	0.093	0.0	0.9	0.9	76.3	O K
960 min Winter	99.693	0.093	0.0	0.9	0.9	76.2	O K
1440 min Winter	99.691	0.091	0.0	0.9	0.9	74.9	O K
2160 min Winter	99.687	0.087	0.0	0.9	0.9	71.4	O K
2880 min Winter	99.682	0.082	0.0	0.9	0.9	67.4	O K
4320 min Winter	99.673	0.073	0.0	0.8	0.8	59.7	O K
5760 min Winter	99.665	0.065	0.0	0.7	0.7	53.3	O K
7200 min Winter	99.659	0.059	0.0	0.7	0.7	48.4	O K
8640 min Winter	99.655	0.055	0.0	0.6	0.6	44.9	O K
10080 min Winter	99.651	0.051	0.0	0.6	0.6	42.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
30 min Winter	91.435	0.0	26.3	33
60 min Winter	57.005	0.0	43.5	62
120 min Winter	34.324	0.0	53.8	120
180 min Winter	25.168	0.0	59.7	180
240 min Winter	20.074	0.0	63.8	238
360 min Winter	14.562	0.0	69.7	352
480 min Winter	11.594	0.0	74.1	462
600 min Winter	9.707	0.0	77.4	570
720 min Winter	8.393	0.0	80.1	666
960 min Winter	6.666	0.0	84.0	750
1440 min Winter	4.811	0.0	88.4	1054
2160 min Winter	3.466	0.0	111.2	1496
2880 min Winter	2.744	0.0	116.6	1928
4320 min Winter	1.972	0.0	122.5	2724
5760 min Winter	1.558	0.0	139.4	3512
7200 min Winter	1.297	0.0	144.4	4248
8640 min Winter	1.117	0.0	147.9	4936
10080 min Winter	0.983	0.0	149.8	5744

. . .	Nestle Ave Block D1/2	
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Date 8.08.17	Designed by JH	
File Block D1_2.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.115

Time (mins)	Area
From: To:	(ha)
0	4 0.115

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Nestle Ave
Block D1/2



Date 8.08.17
File Block D1_2.srcx

Designed by JH
Checked by JB

XP Solutions

Source Control 2016.1

Model Details

Storage is Online Cover Level (m) 100.000


Cellular Storage Structure

Invert Level (m) 99.600 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	865.0	0.0	0.101	0.0	0.0
0.100	865.0	0.0			

Orifice Outflow Control

Diameter (m) 0.041 Discharge Coefficient 0.600 Invert Level (m) 99.600

. . .	Nestle Ave Block D3 TW catchment	
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Date 8.08.17	Designed by JH	
File Block D3.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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Summary of Results for 100 year Return Period (+40%)

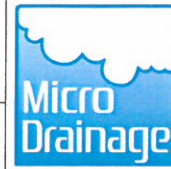
Half Drain Time : 375 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.644	0.044	0.0	0.2	0.2	4.6	O K
30 min Summer	99.657	0.057	0.0	0.2	0.2	6.0	O K
60 min Summer	99.669	0.069	0.0	0.2	0.2	7.2	O K
120 min Summer	99.679	0.079	0.0	0.2	0.2	8.3	O K
180 min Summer	99.683	0.083	0.0	0.2	0.2	8.7	O K
240 min Summer	99.684	0.084	0.0	0.2	0.2	8.8	O K
360 min Summer	99.685	0.085	0.0	0.3	0.3	8.9	O K
480 min Summer	99.685	0.085	0.0	0.3	0.3	8.9	O K
600 min Summer	99.684	0.084	0.0	0.2	0.2	8.8	O K
720 min Summer	99.683	0.083	0.0	0.2	0.2	8.7	O K
960 min Summer	99.681	0.081	0.0	0.2	0.2	8.5	O K
1440 min Summer	99.676	0.076	0.0	0.2	0.2	7.9	O K
2160 min Summer	99.667	0.067	0.0	0.2	0.2	7.0	O K
2880 min Summer	99.660	0.060	0.0	0.2	0.2	6.3	O K
4320 min Summer	99.650	0.050	0.0	0.2	0.2	5.2	O K
5760 min Summer	99.642	0.042	0.0	0.2	0.2	4.4	O K
7200 min Summer	99.637	0.037	0.0	0.1	0.1	3.8	O K
8640 min Summer	99.633	0.033	0.0	0.1	0.1	3.4	O K
10080 min Summer	99.630	0.030	0.0	0.1	0.1	3.1	O K
15 min Winter	99.650	0.050	0.0	0.2	0.2	5.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	4.1	19
30 min Summer	91.435	0.0	5.5	33
60 min Summer	57.005	0.0	7.4	62
120 min Summer	34.324	0.0	8.9	122
180 min Summer	25.168	0.0	9.8	180
240 min Summer	20.074	0.0	10.5	236
360 min Summer	14.562	0.0	11.4	288
480 min Summer	11.594	0.0	12.1	350
600 min Summer	9.707	0.0	12.7	418
720 min Summer	8.393	0.0	13.2	486
960 min Summer	6.666	0.0	13.9	624
1440 min Summer	4.811	0.0	15.0	894
2160 min Summer	3.466	0.0	16.6	1296
2880 min Summer	2.744	0.0	17.5	1672
4320 min Summer	1.972	0.0	18.8	2420
5760 min Summer	1.558	0.0	20.1	3120
7200 min Summer	1.297	0.0	20.9	3824
8640 min Summer	1.117	0.0	21.5	4576
10080 min Summer	0.983	0.0	22.0	5248
15 min Winter	139.635	0.0	4.7	18

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Nestle Ave
Block D3
TW catchment



Date 8.08.17

Designed by JH

File Block D3.srcx

Checked by JB


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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
30 min Winter	99.664	0.064	0.0	0.2	0.2	6.7	O K
60 min Winter	99.678	0.078	0.0	0.2	0.2	8.1	O K
120 min Winter	99.690	0.090	0.0	0.3	0.3	9.4	O K
180 min Winter	99.694	0.094	0.0	0.3	0.3	9.8	O K
240 min Winter	99.696	0.096	0.0	0.3	0.3	10.0	O K
360 min Winter	99.695	0.095	0.0	0.3	0.3	10.0	O K
480 min Winter	99.695	0.095	0.0	0.3	0.3	9.9	O K
600 min Winter	99.694	0.094	0.0	0.3	0.3	9.8	O K
720 min Winter	99.692	0.092	0.0	0.3	0.3	9.6	O K
960 min Winter	99.688	0.088	0.0	0.3	0.3	9.2	O K
1440 min Winter	99.680	0.080	0.0	0.2	0.2	8.3	O K
2160 min Winter	99.668	0.068	0.0	0.2	0.2	7.1	O K
2880 min Winter	99.658	0.058	0.0	0.2	0.2	6.1	O K
4320 min Winter	99.644	0.044	0.0	0.2	0.2	4.6	O K
5760 min Winter	99.636	0.036	0.0	0.1	0.1	3.7	O K
7200 min Winter	99.630	0.030	0.0	0.1	0.1	3.2	O K
8640 min Winter	99.628	0.028	0.0	0.1	0.1	2.9	O K
10080 min Winter	99.625	0.025	0.0	0.1	0.1	2.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
30 min Winter	91.435	0.0	6.2	33
60 min Winter	57.005	0.0	8.3	62
120 min Winter	34.324	0.0	10.0	120
180 min Winter	25.168	0.0	11.1	176
240 min Winter	20.074	0.0	11.8	232
360 min Winter	14.562	0.0	12.8	328
480 min Winter	11.594	0.0	13.6	372
600 min Winter	9.707	0.0	14.3	448
720 min Winter	8.393	0.0	14.8	526
960 min Winter	6.666	0.0	15.6	674
1440 min Winter	4.811	0.0	16.9	964
2160 min Winter	3.466	0.0	18.7	1364
2880 min Winter	2.744	0.0	19.7	1756
4320 min Winter	1.972	0.0	21.1	2504
5760 min Winter	1.558	0.0	22.5	3224
7200 min Winter	1.297	0.0	23.4	3888
8640 min Winter	1.117	0.0	24.1	4568
10080 min Winter	0.983	0.0	24.7	5344

. . .	Nestle Ave Block D3 TW catchment	
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Date 8.08.17	Designed by JH	
File Block D3.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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Rainfall Details

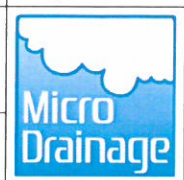
Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.018

Time (mins)	Area
From: To:	(ha)
0	4 0.018

.	Nestle Ave
.	Block D3
.	TW catchment



Date 8.08.17	Designed by JH
File Block D3.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 99.600 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	110.0	0.0	0.101	0.0	0.0
0.100	110.0	0.0			

Orifice Outflow Control

Diameter (m) 0.021 Discharge Coefficient 0.600 Invert Level (m) 99.600

Nestle Ave *CATCHMENT*
 Block C *SPLIT INTO 5.*
 TW catchment *THESE CALCS*



Date 8.08.17
 File Block C_.srcx
 XP Solutions

Designed by JH *REPRESENT 1*
 Checked by JB *OUTLET.*


Source Control 2016.1

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

Half Drain Time : 877 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.636	0.036	0.0	0.3	0.3	18.5	O K
30 min Summer	99.647	0.047	0.0	0.4	0.4	24.0	O K
60 min Summer	99.658	0.058	0.0	0.4	0.4	29.6	O K
120 min Summer	99.669	0.069	0.0	0.5	0.5	34.8	O K
180 min Summer	99.674	0.074	0.0	0.5	0.5	37.5	O K
240 min Summer	99.677	0.077	0.0	0.5	0.5	39.0	O K
360 min Summer	99.680	0.080	0.0	0.5	0.5	40.7	O K
480 min Summer	99.681	0.081	0.0	0.5	0.5	41.4	O K
600 min Summer	99.682	0.082	0.0	0.5	0.5	41.6	O K
720 min Summer	99.682	0.082	0.0	0.5	0.5	41.8	O K
960 min Summer	99.682	0.082	0.0	0.5	0.5	41.9	O K
1440 min Summer	99.682	0.082	0.0	0.5	0.5	41.6	O K
2160 min Summer	99.680	0.080	0.0	0.5	0.5	40.4	O K
2880 min Summer	99.677	0.077	0.0	0.5	0.5	38.9	O K
4320 min Summer	99.670	0.070	0.0	0.5	0.5	35.6	O K
5760 min Summer	99.664	0.064	0.0	0.4	0.4	32.5	O K
7200 min Summer	99.659	0.059	0.0	0.4	0.4	29.9	O K
8640 min Summer	99.655	0.055	0.0	0.4	0.4	27.7	O K
10080 min Summer	99.651	0.051	0.0	0.4	0.4	25.8	O K
15 min Winter	99.641	0.041	0.0	0.3	0.3	20.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	11.1	19
30 min Summer	91.435	0.0	15.6	34
60 min Summer	57.005	0.0	24.9	64
120 min Summer	34.324	0.0	30.6	122
180 min Summer	25.168	0.0	33.9	182
240 min Summer	20.074	0.0	36.2	242
360 min Summer	14.562	0.0	39.5	362
480 min Summer	11.594	0.0	41.9	480
600 min Summer	9.707	0.0	43.8	558
720 min Summer	8.393	0.0	45.3	606
960 min Summer	6.666	0.0	47.4	722
1440 min Summer	4.811	0.0	49.8	984
2160 min Summer	3.466	0.0	62.1	1388
2880 min Summer	2.744	0.0	65.2	1812
4320 min Summer	1.972	0.0	68.7	2596
5760 min Summer	1.558	0.0	77.4	3352
7200 min Summer	1.297	0.0	80.2	4112
8640 min Summer	1.117	0.0	82.2	4840
10080 min Summer	0.983	0.0	83.3	5552
15 min Winter	139.635	0.0	12.8	19


. . .	Nestle Ave Block C TW catchment	
Date 8.08.17 File Block C_.srcx	Designed by JH Checked by JB	

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 Control (l/s)	Max E (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	99.653	0.053	0.0	0.4	0.4	0.4	26.9	O K
60 min Winter	99.665	0.065	0.0	0.4	0.4	0.4	33.2	O K
120 min Winter	99.677	0.077	0.0	0.5	0.5	0.5	39.1	O K
180 min Winter	99.683	0.083	0.0	0.5	0.5	0.5	42.1	O K
240 min Winter	99.686	0.086	0.0	0.5	0.5	0.5	43.9	O K
360 min Winter	99.690	0.090	0.0	0.5	0.5	0.5	45.9	O K
480 min Winter	99.692	0.092	0.0	0.6	0.6	0.6	46.8	O K
600 min Winter	99.693	0.093	0.0	0.6	0.6	0.6	47.2	O K
720 min Winter	99.693	0.093	0.0	0.6	0.6	0.6	47.2	O K
960 min Winter	99.692	0.092	0.0	0.6	0.6	0.6	47.0	O K
1440 min Winter	99.691	0.091	0.0	0.6	0.6	0.6	46.1	O K
2160 min Winter	99.686	0.086	0.0	0.5	0.5	0.5	43.8	O K
2880 min Winter	99.681	0.081	0.0	0.5	0.5	0.5	41.2	O K
4320 min Winter	99.671	0.071	0.0	0.5	0.5	0.5	36.1	O K
5760 min Winter	99.663	0.063	0.0	0.4	0.4	0.4	31.9	O K
7200 min Winter	99.656	0.056	0.0	0.4	0.4	0.4	28.4	O K
8640 min Winter	99.650	0.050	0.0	0.4	0.4	0.4	25.6	O K
10080 min Winter	99.646	0.046	0.0	0.4	0.4	0.4	23.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	91.435	0.0	17.8	33
60 min Winter	57.005	0.0	28.3	62
120 min Winter	34.324	0.0	34.7	120
180 min Winter	25.168	0.0	38.4	180
240 min Winter	20.074	0.0	40.9	238
360 min Winter	14.562	0.0	44.6	352
480 min Winter	11.594	0.0	47.3	464
600 min Winter	9.707	0.0	49.3	572
720 min Winter	8.393	0.0	50.9	672
960 min Winter	6.666	0.0	53.3	760
1440 min Winter	4.811	0.0	55.9	1066
2160 min Winter	3.466	0.0	69.9	1512
2880 min Winter	2.744	0.0	73.3	1932
4320 min Winter	1.972	0.0	77.3	2764
5760 min Winter	1.558	0.0	86.9	3528
7200 min Winter	1.297	0.0	90.1	4320
8640 min Winter	1.117	0.0	92.4	5016
10080 min Winter	0.983	0.0	93.8	5656

. . .	Nestle Ave Block C TW catchment	
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Date 8.08.17	Designed by JH	
File Block C_.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.071

Time (mins)	Area
From: To:	(ha)
0	4 0.071

.	Nestle Ave	
.	Block C	
.	TW catchment	

Date 8.08.17	Designed by JH	
File Block C_.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

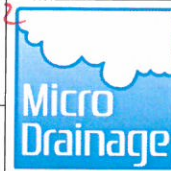
Invert Level (m) 99.600 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	535.0	0.0	0.101	0.0	0.0
0.100	535.0	0.0			

Orifice Outflow Control

Diameter (m) 0.031 Discharge Coefficient 0.600 Invert Level (m) 99.600

. Nestle Ave *CATCHMENT SPLIT*
 . Podium C *THESE CALC'S*
 . TW catchment *REPRESENT 100%*



Date 8.08.17

Designed by JH

File Block C podium.srcx

Checked by JB

XP Solutions

Source Control 2016.1

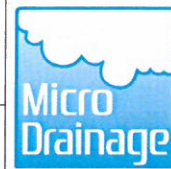
Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 578 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	99.641	0.041	0.0	0.3	0.3	17.6	O K
30 min Summer	99.654	0.054	0.0	0.5	0.5	22.9	O K
60 min Summer	99.665	0.065	0.0	0.6	0.6	28.0	O K
120 min Summer	99.676	0.076	0.0	0.7	0.7	32.6	O K
180 min Summer	99.681	0.081	0.0	0.7	0.7	34.7	O K
240 min Summer	99.684	0.084	0.0	0.7	0.7	35.7	O K
360 min Summer	99.685	0.085	0.0	0.7	0.7	36.5	O K
480 min Summer	99.686	0.086	0.0	0.7	0.7	36.8	O K
600 min Summer	99.686	0.086	0.0	0.7	0.7	37.0	O K
720 min Summer	99.687	0.087	0.0	0.7	0.7	37.0	O K
960 min Summer	99.686	0.086	0.0	0.7	0.7	36.9	O K
1440 min Summer	99.684	0.084	0.0	0.7	0.7	36.0	O K
2160 min Summer	99.680	0.080	0.0	0.7	0.7	34.0	O K
2880 min Summer	99.675	0.075	0.0	0.7	0.7	32.0	O K
4320 min Summer	99.666	0.066	0.0	0.6	0.6	28.3	O K
5760 min Summer	99.660	0.060	0.0	0.6	0.6	25.4	O K
7200 min Summer	99.655	0.055	0.0	0.5	0.5	23.4	O K
8640 min Summer	99.651	0.051	0.0	0.5	0.5	21.9	O K
10080 min Summer	99.648	0.048	0.0	0.4	0.4	20.6	O K
15 min Winter	99.646	0.046	0.0	0.4	0.4	19.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	139.635	0.0	11.8	19
30 min Summer	91.435	0.0	16.5	34
60 min Summer	57.005	0.0	25.1	64
120 min Summer	34.324	0.0	30.8	122
180 min Summer	25.168	0.0	34.1	182
240 min Summer	20.074	0.0	36.4	240
360 min Summer	14.562	0.0	39.8	344
480 min Summer	11.594	0.0	42.3	396
600 min Summer	9.707	0.0	44.3	454
720 min Summer	8.393	0.0	45.9	518
960 min Summer	6.666	0.0	48.4	654
1440 min Summer	4.811	0.0	51.8	924
2160 min Summer	3.466	0.0	60.7	1324
2880 min Summer	2.744	0.0	63.8	1728
4320 min Summer	1.972	0.0	67.6	2464
5760 min Summer	1.558	0.0	74.7	3216
7200 min Summer	1.297	0.0	77.4	3896
8640 min Summer	1.117	0.0	79.4	4664
10080 min Summer	0.983	0.0	80.6	5352
15 min Winter	139.635	0.0	13.6	19

Nestle Ave
Podium C
TW catchment



Date 8.08.17

Designed by JH

File Block C podium.srcx

Checked by JB

XP Solutions

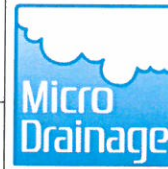
Source Control 2016.1

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
30 min Winter	99.660	0.060	0.0	0.6	0.6	25.6	O K
60 min Winter	99.673	0.073	0.0	0.6	0.6	31.4	O K
120 min Winter	99.686	0.086	0.0	0.7	0.7	36.6	O K
180 min Winter	99.691	0.091	0.0	0.7	0.7	39.1	O K
240 min Winter	99.694	0.094	0.0	0.8	0.8	40.3	O K
360 min Winter	99.697	0.097	0.0	0.8	0.8	41.3	O K
480 min Winter	99.697	0.097	0.0	0.8	0.8	41.4	O K
600 min Winter	99.697	0.097	0.0	0.8	0.8	41.4	O K
720 min Winter	99.697	0.097	0.0	0.8	0.8	41.3	O K
960 min Winter	99.695	0.095	0.0	0.8	0.8	40.7	O K
1440 min Winter	99.691	0.091	0.0	0.7	0.7	38.8	O K
2160 min Winter	99.683	0.083	0.0	0.7	0.7	35.4	O K
2880 min Winter	99.676	0.076	0.0	0.7	0.7	32.3	O K
4320 min Winter	99.664	0.064	0.0	0.6	0.6	27.2	O K
5760 min Winter	99.656	0.056	0.0	0.5	0.5	23.8	O K
7200 min Winter	99.651	0.051	0.0	0.5	0.5	21.6	O K
8640 min Winter	99.647	0.047	0.0	0.4	0.4	19.9	O K
10080 min Winter	99.643	0.043	0.0	0.4	0.4	18.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
30 min Winter	91.435	0.0	19.0	33
60 min Winter	57.005	0.0	28.5	62
120 min Winter	34.324	0.0	34.8	120
180 min Winter	25.168	0.0	38.5	178
240 min Winter	20.074	0.0	41.1	234
360 min Winter	14.562	0.0	44.9	344
480 min Winter	11.594	0.0	47.7	444
600 min Winter	9.707	0.0	50.0	476
720 min Winter	8.393	0.0	51.8	550
960 min Winter	6.666	0.0	54.7	704
1440 min Winter	4.811	0.0	58.5	996
2160 min Winter	3.466	0.0	68.3	1424
2880 min Winter	2.744	0.0	71.8	1820
4320 min Winter	1.972	0.0	76.2	2592
5760 min Winter	1.558	0.0	83.8	3288
7200 min Winter	1.297	0.0	86.9	4032
8640 min Winter	1.117	0.0	89.2	4760
10080 min Winter	0.983	0.0	90.7	5544

. Nestle Ave
 . Podium C
 . TW catchment



Date 8.08.17 Designed by JH

File Block C podium.srcx Checked by JB

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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.068

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

0 4 0.068

.	Nestle Ave	
.	Podium C	
.	TW catchment	

Date 8.08.17	Designed by JH	
File Block C podium.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

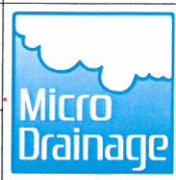
Invert Level (m) 99.600 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	450.0	0.0	0.101	0.0	0.0
0.100	450.0	0.0			

Orifice Outflow Control

Diameter (m) 0.040 Discharge Coefficient 0.500 Invert Level (m) 99.600

Nestle Ave *CATCHMENT SPLIT*
 Block G *INTO 2. THESE CALCS*
 TW catchment *REPRESENT 1 OUTLET*



Date 8.08.17
 File Block G.srcx

Designed by JH
 Checked by JB

XP Solutions Source Control 2016.1

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

Half Drain Time : 588 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.642	0.042	0.0	0.3	0.3	14.0	O K
30 min Summer	99.655	0.055	0.0	0.4	0.4	18.1	O K
60 min Summer	99.667	0.067	0.0	0.5	0.5	22.2	O K
120 min Summer	99.678	0.078	0.0	0.5	0.5	25.9	O K
180 min Summer	99.683	0.083	0.0	0.5	0.5	27.6	O K
240 min Summer	99.686	0.086	0.0	0.5	0.5	28.4	O K
360 min Summer	99.687	0.087	0.0	0.5	0.5	29.1	O K
480 min Summer	99.688	0.088	0.0	0.5	0.5	29.3	O K
600 min Summer	99.688	0.088	0.0	0.5	0.5	29.3	O K
720 min Summer	99.688	0.088	0.0	0.5	0.5	29.4	O K
960 min Summer	99.688	0.088	0.0	0.5	0.5	29.2	O K
1440 min Summer	99.685	0.085	0.0	0.5	0.5	28.4	O K
2160 min Summer	99.680	0.080	0.0	0.5	0.5	26.7	O K
2880 min Summer	99.675	0.075	0.0	0.5	0.5	25.0	O K
4320 min Summer	99.666	0.066	0.0	0.4	0.4	21.9	O K
5760 min Summer	99.658	0.058	0.0	0.4	0.4	19.4	O K
7200 min Summer	99.652	0.052	0.0	0.4	0.4	17.4	O K
8640 min Summer	99.648	0.048	0.0	0.4	0.4	15.9	O K
10080 min Summer	99.644	0.044	0.0	0.3	0.3	14.8	O K
15 min Winter	99.647	0.047	0.0	0.4	0.4	15.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	10.2	19
30 min Summer	91.435	0.0	14.1	34
60 min Summer	57.005	0.0	20.6	64
120 min Summer	34.324	0.0	25.2	122
180 min Summer	25.168	0.0	27.8	182
240 min Summer	20.074	0.0	29.7	242
360 min Summer	14.562	0.0	32.3	358
480 min Summer	11.594	0.0	34.4	406
600 min Summer	9.707	0.0	36.0	464
720 min Summer	8.393	0.0	37.3	526
960 min Summer	6.666	0.0	39.3	662
1440 min Summer	4.811	0.0	42.1	936
2160 min Summer	3.466	0.0	48.8	1340
2880 min Summer	2.744	0.0	51.3	1732
4320 min Summer	1.972	0.0	54.5	2504
5760 min Summer	1.558	0.0	59.6	3232
7200 min Summer	1.297	0.0	61.9	3960
8640 min Summer	1.117	0.0	63.5	4672
10080 min Summer	0.983	0.0	64.6	5352
15 min Winter	139.635	0.0	11.7	19

Nestle Ave
 Block G
 TW catchment



Date 8.08.17
 File Block G.srcx


Designed by JH
 Checked by JB

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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	99.661	0.061	0.0	0.4	0.4	20.3	O K
60 min Winter	99.675	0.075	0.0	0.5	0.5	24.9	O K
120 min Winter	99.688	0.088	0.0	0.5	0.5	29.1	O K
180 min Winter	99.693	0.093	0.0	0.6	0.6	31.1	O K
240 min Winter	99.696	0.096	0.0	0.6	0.6	32.1	O K
360 min Winter	99.699	0.099	0.0	0.6	0.6	32.9	O K
480 min Winter	99.699	0.099	0.0	0.6	0.6	33.1	O K
600 min Winter	99.699	0.099	0.0	0.6	0.6	32.9	O K
720 min Winter	99.699	0.099	0.0	0.6	0.6	32.9	O K
960 min Winter	99.697	0.097	0.0	0.6	0.6	32.4	O K
1440 min Winter	99.693	0.093	0.0	0.6	0.6	30.8	O K
2160 min Winter	99.684	0.084	0.0	0.5	0.5	28.0	O K
2880 min Winter	99.676	0.076	0.0	0.5	0.5	25.4	O K
4320 min Winter	99.663	0.063	0.0	0.4	0.4	21.1	O K
5760 min Winter	99.654	0.054	0.0	0.4	0.4	17.9	O K
7200 min Winter	99.647	0.047	0.0	0.4	0.4	15.6	O K
8640 min Winter	99.643	0.043	0.0	0.3	0.3	14.1	O K
10080 min Winter	99.639	0.039	0.0	0.3	0.3	13.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	91.435	0.0	16.1	33
60 min Winter	57.005	0.0	23.3	62
120 min Winter	34.324	0.0	28.4	120
180 min Winter	25.168	0.0	31.4	178
240 min Winter	20.074	0.0	33.4	236
360 min Winter	14.562	0.0	36.4	346
480 min Winter	11.594	0.0	38.7	450
600 min Winter	9.707	0.0	40.5	484
720 min Winter	8.393	0.0	42.0	556
960 min Winter	6.666	0.0	44.3	712
1440 min Winter	4.811	0.0	47.3	1010
2160 min Winter	3.466	0.0	54.8	1432
2880 min Winter	2.744	0.0	57.7	1844
4320 min Winter	1.972	0.0	61.4	2636
5760 min Winter	1.558	0.0	66.9	3352
7200 min Winter	1.297	0.0	69.4	4040
8640 min Winter	1.117	0.0	71.4	4752
10080 min Winter	0.983	0.0	72.7	5544

.	Nestle Ave	
.	Block G	
.	TW catchment	

Date 8.08.17	Designed by JH	
File Block G.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.054

Time (mins)	Area
From: To:	(ha)
0	4 0.054

.	Nestle Ave	
.	Block G	
.	TW catchment	

Date 8.08.17	Designed by JH	
File Block G.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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Model Details

Storage is Online Cover Level (m) 100.000


Cellular Storage Structure

Invert Level (m) 99.600 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	350.0	0.0	0.101	0.0	0.0
0.100	350.0	0.0			

Orifice Outflow Control

Diameter (m) 0.031 Discharge Coefficient 0.600 Invert Level (m) 99.600

. . .	Nestle Ave GC2 TW catchment	
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Date 8.08.17	Designed by JH	
File GC2.srcx	Checked by JB	


XP Solutions Source Control 2016.1

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

Half Drain Time : 111 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	29.288	0.288	0.0	9.5	9.5	97.6	O K
30 min Summer	29.363	0.363	0.0	10.8	10.8	123.3	O K
60 min Summer	29.422	0.422	0.0	11.7	11.7	143.2	O K
120 min Summer	29.448	0.448	0.0	12.0	12.0	151.9	O K
180 min Summer	29.450	0.450	0.0	12.1	12.1	152.6	O K
240 min Summer	29.444	0.444	0.0	12.0	12.0	150.6	O K
360 min Summer	29.425	0.425	0.0	11.7	11.7	144.1	O K
480 min Summer	29.403	0.403	0.0	11.4	11.4	136.7	O K
600 min Summer	29.381	0.381	0.0	11.1	11.1	129.3	O K
720 min Summer	29.360	0.360	0.0	10.7	10.7	122.1	O K
960 min Summer	29.322	0.322	0.0	10.1	10.1	109.2	O K
1440 min Summer	29.262	0.262	0.0	9.1	9.1	89.0	O K
2160 min Summer	29.202	0.202	0.0	7.8	7.8	68.5	O K
2880 min Summer	29.163	0.163	0.0	6.9	6.9	55.3	O K
4320 min Summer	29.118	0.118	0.0	5.7	5.7	40.1	O K
5760 min Summer	29.098	0.098	0.0	4.7	4.7	33.3	O K
7200 min Summer	29.085	0.085	0.0	4.0	4.0	28.8	O K
8640 min Summer	29.075	0.075	0.0	3.5	3.5	25.6	O K
10080 min Summer	29.068	0.068	0.0	3.1	3.1	23.0	O K
15 min Winter	29.323	0.323	0.0	10.1	10.1	109.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	103.2	18
30 min Summer	91.435	0.0	135.3	32
60 min Summer	57.005	0.0	168.7	62
120 min Summer	34.324	0.0	203.2	102
180 min Summer	25.168	0.0	223.5	132
240 min Summer	20.074	0.0	237.7	166
360 min Summer	14.562	0.0	258.7	234
480 min Summer	11.594	0.0	274.6	304
600 min Summer	9.707	0.0	287.4	370
720 min Summer	8.393	0.0	298.2	436
960 min Summer	6.666	0.0	315.8	566
1440 min Summer	4.811	0.0	341.8	812
2160 min Summer	3.466	0.0	369.5	1172
2880 min Summer	2.744	0.0	390.0	1532
4320 min Summer	1.972	0.0	420.4	2244
5760 min Summer	1.558	0.0	442.9	2944
7200 min Summer	1.297	0.0	461.0	3672
8640 min Summer	1.117	0.0	476.2	4408
10080 min Summer	0.983	0.0	489.3	5144
15 min Winter	139.635	0.0	115.7	18

. . .	Nestle Ave GC2 TW catchment	
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Date 8.08.17	Designed by JH	
File GC2.srcx	Checked by JB	

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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
30 min Winter	29.410	0.410	0.0	11.5	11.5	138.9	O K
60 min Winter	29.478	0.478	0.0	12.5	12.5	162.2	O K
120 min Winter	29.944	0.944	0.0	17.7	17.7	170.1	O K
180 min Winter	29.963	0.963	0.0	17.9	17.9	170.2	O K
240 min Winter	29.496	0.496	0.0	12.7	12.7	168.3	O K
360 min Winter	29.465	0.465	0.0	12.3	12.3	157.8	O K
480 min Winter	29.432	0.432	0.0	11.8	11.8	146.5	O K
600 min Winter	29.399	0.399	0.0	11.3	11.3	135.5	O K
720 min Winter	29.369	0.369	0.0	10.9	10.9	125.2	O K
960 min Winter	29.317	0.317	0.0	10.0	10.0	107.4	O K
1440 min Winter	29.239	0.239	0.0	8.6	8.6	81.1	O K
2160 min Winter	29.168	0.168	0.0	7.1	7.1	56.9	O K
2880 min Winter	29.127	0.127	0.0	6.0	6.0	43.0	O K
4320 min Winter	29.094	0.094	0.0	4.5	4.5	32.0	O K
5760 min Winter	29.077	0.077	0.0	3.6	3.6	26.1	O K
7200 min Winter	29.066	0.066	0.0	3.0	3.0	22.3	O K
8640 min Winter	29.058	0.058	0.0	2.6	2.6	19.6	O K
10080 min Winter	29.052	0.052	0.0	2.3	2.3	17.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
30 min Winter	91.435	0.0	151.5	32
60 min Winter	57.005	0.0	189.0	60
120 min Winter	34.324	0.0	227.6	94
180 min Winter	25.168	0.0	250.3	132
240 min Winter	20.074	0.0	266.2	180
360 min Winter	14.562	0.0	289.7	254
480 min Winter	11.594	0.0	307.6	326
600 min Winter	9.707	0.0	321.9	398
720 min Winter	8.393	0.0	334.0	464
960 min Winter	6.666	0.0	353.7	598
1440 min Winter	4.811	0.0	382.9	850
2160 min Winter	3.466	0.0	413.8	1212
2880 min Winter	2.744	0.0	436.9	1556
4320 min Winter	1.972	0.0	470.8	2248
5760 min Winter	1.558	0.0	496.2	2952
7200 min Winter	1.297	0.0	516.4	3680
8640 min Winter	1.117	0.0	533.3	4416
10080 min Winter	0.983	0.0	548.0	5144

. . .	Nestle Ave GC2 TW catchment	
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Date 8.08.17	Designed by JH	
File GC2.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.395

Time (mins)	Area
From: To:	(ha)
0 4	0.395

.	Nestle Ave
.	GC2
.	TW catchment



Date 8.08.17	Designed by JH
File GC2.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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Model Details

Storage is Online Cover Level (m) 30.330

Cellular Storage Structure

Invert Level (m) 29.000 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	357.0	0.0	0.501	0.0	0.0
0.500	357.0	0.0			

Orifice Outflow Control

Diameter (m) 0.103 Discharge Coefficient 0.500 Invert Level (m) 28.970

Nestle Ave
PP4
TW catchment



Date 8.08.17
File PP4.srcx

Designed by JH
Checked by JB

XP Solutions


Source Control 2016.1

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

Half Drain Time : 716 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	30.888	0.073	0.0	0.2	0.2	9.1	O K
30 min Summer	30.903	0.088	0.0	0.3	0.3	13.0	O K
60 min Summer	30.919	0.104	0.0	0.3	0.3	16.8	O K
120 min Summer	30.934	0.119	0.0	0.3	0.3	20.4	O K
180 min Summer	30.941	0.126	0.0	0.3	0.3	22.1	O K
240 min Summer	30.945	0.130	0.0	0.3	0.3	23.1	O K
360 min Summer	30.948	0.133	0.0	0.3	0.3	24.0	O K
480 min Summer	30.950	0.135	0.0	0.4	0.4	24.3	O K
600 min Summer	30.950	0.135	0.0	0.4	0.4	24.3	O K
720 min Summer	30.949	0.134	0.0	0.4	0.4	24.2	O K
960 min Summer	30.948	0.133	0.0	0.3	0.3	24.0	O K
1440 min Summer	30.945	0.130	0.0	0.3	0.3	23.2	O K
2160 min Summer	30.939	0.124	0.0	0.3	0.3	21.6	O K
2880 min Summer	30.932	0.117	0.0	0.3	0.3	20.0	O K
4320 min Summer	30.919	0.104	0.0	0.3	0.3	16.8	O K
5760 min Summer	30.908	0.093	0.0	0.3	0.3	14.2	O K
7200 min Summer	30.899	0.084	0.0	0.3	0.3	12.0	O K
8640 min Summer	30.892	0.077	0.0	0.3	0.3	10.1	O K
10080 min Summer	30.886	0.071	0.0	0.2	0.2	8.6	O K
15 min Winter	30.894	0.079	0.0	0.3	0.3	10.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	139.635	0.0	9.2	19
30 min Summer	91.435	0.0	13.2	34
60 min Summer	57.005	0.0	17.5	64
120 min Summer	34.324	0.0	21.7	122
180 min Summer	25.168	0.0	24.2	182
240 min Summer	20.074	0.0	25.9	242
360 min Summer	14.562	0.0	28.4	360
480 min Summer	11.594	0.0	30.2	480
600 min Summer	9.707	0.0	31.6	536
720 min Summer	8.393	0.0	32.8	594
960 min Summer	6.666	0.0	34.6	716
1440 min Summer	4.811	0.0	36.6	982
2160 min Summer	3.466	0.0	39.5	1388
2880 min Summer	2.744	0.0	41.0	1812
4320 min Summer	1.972	0.0	42.5	2592
5760 min Summer	1.558	0.0	43.1	3352
7200 min Summer	1.297	0.0	43.1	4104
8640 min Summer	1.117	0.0	42.7	4840
10080 min Summer	0.983	0.0	42.1	5544
15 min Winter	139.635	0.0	10.8	19

.	Nestle Ave	
.	PP4	
.	TW catchment	


Date 8.08.17	Designed by JH
File PP4.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	30.912	0.097	0.0	0.3	0.3	15.0	O K
60 min Winter	30.929	0.114	0.0	0.3	0.3	19.4	O K
120 min Winter	30.946	0.131	0.0	0.3	0.3	23.4	O K
180 min Winter	30.954	0.139	0.0	0.4	0.4	25.4	O K
240 min Winter	30.959	0.144	0.0	0.4	0.4	26.5	O K
360 min Winter	30.964	0.149	0.0	0.4	0.4	27.7	O K
480 min Winter	30.965	0.150	0.0	0.4	0.4	28.2	O K
600 min Winter	30.966	0.151	0.0	0.4	0.4	28.2	O K
720 min Winter	30.965	0.150	0.0	0.4	0.4	28.0	O K
960 min Winter	30.963	0.148	0.0	0.4	0.4	27.6	O K
1440 min Winter	30.958	0.143	0.0	0.4	0.4	26.3	O K
2160 min Winter	30.948	0.133	0.0	0.3	0.3	24.0	O K
2880 min Winter	30.938	0.123	0.0	0.3	0.3	21.5	O K
4320 min Winter	30.920	0.105	0.0	0.3	0.3	17.0	O K
5760 min Winter	30.905	0.090	0.0	0.3	0.3	13.3	O K
7200 min Winter	30.893	0.078	0.0	0.3	0.3	10.4	O K
8640 min Winter	30.884	0.069	0.0	0.2	0.2	8.1	O K
10080 min Winter	30.876	0.061	0.0	0.2	0.2	6.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	91.435	0.0	15.2	33
60 min Winter	57.005	0.0	20.0	62
120 min Winter	34.324	0.0	24.8	120
180 min Winter	25.168	0.0	27.6	180
240 min Winter	20.074	0.0	29.5	238
360 min Winter	14.562	0.0	32.3	352
480 min Winter	11.594	0.0	34.3	462
600 min Winter	9.707	0.0	36.0	570
720 min Winter	8.393	0.0	37.3	670
960 min Winter	6.666	0.0	39.2	758
1440 min Winter	4.811	0.0	40.9	1066
2160 min Winter	3.466	0.0	45.2	1512
2880 min Winter	2.744	0.0	47.0	1936
4320 min Winter	1.972	0.0	49.0	2768
5760 min Winter	1.558	0.0	50.0	3528
7200 min Winter	1.297	0.0	50.3	4256
8640 min Winter	1.117	0.0	50.3	5016
10080 min Winter	0.983	0.0	49.9	5656

. . .	Nestle Ave PP4 TW catchment	
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Date 8.08.17	Designed by JH	
File PP4.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	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

. Nestle Ave
. PP4
. TW catchment



Date 8.08.17 Designed by JH
File PP4.srcx Checked by JB

XP Solutions Source Control 2016.1

Model Details


Storage is Online Cover Level (m) 31.360

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.8
Membrane Percolation (mm/hr)	1000	Length (m)	70.9
Max Percolation (l/s)	212.7	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.32	Evaporation (mm/day)	3
Invert Level (m)	30.815	Cap Volume Depth (m)	0.250

Orifice Outflow Control

Diameter (m) 0.024 Discharge Coefficient 0.500 Invert Level (m) 30.815

. . .	Nestle Ave PP5 TW catchment	
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Date 8.08.17	Designed by JH	
File PP5.srcx	Checked by JB	

XP Solutions Source Control 2016.1

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

Half Drain Time : 241 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ (l/s)	Max Outflow Volume (m³)	Status
15 min Summer	30.979	0.249	0.0	5.0	5.0	82.9	O K
30 min Summer	31.042	0.312	0.0	5.7	5.7	108.1	O K
60 min Summer	31.099	0.369	0.0	6.2	6.2	130.7	O K
120 min Summer	31.138	0.408	0.0	6.6	6.6	146.1	Flood Risk
180 min Summer	31.146	0.416	0.0	6.7	6.7	149.1	Flood Risk
240 min Summer	31.146	0.416	0.0	6.7	6.7	149.2	Flood Risk
360 min Summer	31.142	0.412	0.0	6.6	6.6	147.5	Flood Risk
480 min Summer	31.134	0.404	0.0	6.6	6.6	144.5	Flood Risk
600 min Summer	31.124	0.394	0.0	6.5	6.5	140.6	Flood Risk
720 min Summer	31.114	0.384	0.0	6.4	6.4	136.3	O K
960 min Summer	31.091	0.361	0.0	6.2	6.2	127.5	O K
1440 min Summer	31.050	0.320	0.0	5.7	5.7	111.1	O K
2160 min Summer	31.000	0.270	0.0	5.2	5.2	91.2	O K
2880 min Summer	30.962	0.232	0.0	4.8	4.8	76.3	O K
4320 min Summer	30.911	0.181	0.0	4.1	4.1	55.8	O K
5760 min Summer	30.878	0.148	0.0	3.6	3.6	42.8	O K
7200 min Summer	30.856	0.126	0.0	3.2	3.2	34.2	O K
8640 min Summer	30.842	0.112	0.0	2.9	2.9	28.6	O K
10080 min Summer	30.834	0.104	0.0	2.6	2.6	25.2	O K
15 min Winter	31.006	0.276	0.0	5.3	5.3	93.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	85.9	18
30 min Summer	91.435	0.0	114.4	33
60 min Summer	57.005	0.0	144.1	62
120 min Summer	34.324	0.0	174.7	120
180 min Summer	25.168	0.0	192.7	166
240 min Summer	20.074	0.0	205.2	194
360 min Summer	14.562	0.0	223.5	258
480 min Summer	11.594	0.0	237.4	326
600 min Summer	9.707	0.0	248.5	394
720 min Summer	8.393	0.0	257.8	462
960 min Summer	6.666	0.0	272.9	598
1440 min Summer	4.811	0.0	294.9	866
2160 min Summer	3.466	0.0	317.6	1252
2880 min Summer	2.744	0.0	334.1	1616
4320 min Summer	1.972	0.0	357.4	2336
5760 min Summer	1.558	0.0	373.8	3056
7200 min Summer	1.297	0.0	386.2	3752
8640 min Summer	1.117	0.0	396.0	4416
10080 min Summer	0.983	0.0	403.9	5144
15 min Winter	139.635	0.0	97.0	18

Nestle Ave
 PP5
 TW catchment



Date 8.08.17
 File PP5.srcx


Designed by JH
 Checked by JB

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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	31.078	0.348	0.0	6.0	6.0	122.2	O K
60 min Winter	31.143	0.413	0.0	6.6	6.6	147.9	Flood Risk
120 min Winter	31.190	0.460	0.0	7.0	7.0	166.5	Flood Risk
180 min Winter	31.201	0.471	0.0	7.1	7.1	170.8	Flood Risk
240 min Winter	31.198	0.468	0.0	7.1	7.1	169.8	Flood Risk
360 min Winter	31.190	0.460	0.0	7.0	7.0	166.8	Flood Risk
480 min Winter	31.178	0.448	0.0	6.9	6.9	161.7	Flood Risk
600 min Winter	31.162	0.432	0.0	6.8	6.8	155.6	Flood Risk
720 min Winter	31.146	0.416	0.0	6.7	6.7	149.1	Flood Risk
960 min Winter	31.113	0.383	0.0	6.4	6.4	135.9	O K
1440 min Winter	31.054	0.324	0.0	5.8	5.8	112.6	O K
2160 min Winter	30.987	0.257	0.0	5.1	5.1	86.0	O K
2880 min Winter	30.939	0.209	0.0	4.5	4.5	67.2	O K
4320 min Winter	30.880	0.150	0.0	3.6	3.6	43.7	O K
5760 min Winter	30.848	0.118	0.0	3.0	3.0	30.8	O K
7200 min Winter	30.833	0.103	0.0	2.6	2.6	24.9	O K
8640 min Winter	30.823	0.093	0.0	2.2	2.2	21.1	O K
10080 min Winter	30.816	0.086	0.0	2.0	2.0	18.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	91.435	0.0	128.9	32
60 min Winter	57.005	0.0	162.2	62
120 min Winter	34.324	0.0	196.5	118
180 min Winter	25.168	0.0	216.6	172
240 min Winter	20.074	0.0	230.6	220
360 min Winter	14.562	0.0	251.2	274
480 min Winter	11.594	0.0	266.8	352
600 min Winter	9.707	0.0	279.3	428
720 min Winter	8.393	0.0	289.7	500
960 min Winter	6.666	0.0	306.7	644
1440 min Winter	4.811	0.0	331.5	922
2160 min Winter	3.466	0.0	357.2	1300
2880 min Winter	2.744	0.0	375.8	1672
4320 min Winter	1.972	0.0	402.4	2380
5760 min Winter	1.558	0.0	421.2	3056
7200 min Winter	1.297	0.0	435.6	3752
8640 min Winter	1.117	0.0	447.1	4488
10080 min Winter	0.983	0.0	456.5	5240

.	Nestle Ave	
.	PP5	
.	TW catchment	

Date 8.08.17	Designed by JH
File PP5.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.352

Time (mins)	Area
From: To:	(ha)
0	4 0.352

.	Nestle Ave	
.	PP5	
.	TW catchment	

Date 8.08.17	Designed by JH	
File PP5.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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Model Details


Storage is Online Cover Level (m) 31.420

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	15.5
Membrane Percolation (mm/hr)	1000	Length (m)	80.0
Max Percolation (l/s)	344.4	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.32	Evaporation (mm/day)	3
Invert Level (m)	30.730	Cap Volume Depth (m)	0.470

Orifice Outflow Control

Diameter (m) 0.079 Discharge Coefficient 0.500 Invert Level (m) 30.730

. . .	Nestle Ave PP6 TW catchment	
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Date 8.08.17	Designed by JH	
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XP Solutions Source Control 2016.1

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

Half Drain Time : 180 minutes.

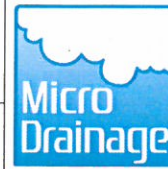
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	30.864	0.314	0.0	7.8	7.8	99.4	O K
30 min Summer	30.945	0.395	0.0	8.9	8.9	128.2	O K
60 min Summer	31.013	0.463	0.0	9.7	9.7	152.5	O K
120 min Summer	31.050	0.500	0.0	10.1	10.1	165.9	Flood Risk
180 min Summer	31.056	0.506	0.0	10.2	10.2	167.9	Flood Risk
240 min Summer	31.054	0.504	0.0	10.2	10.2	167.2	Flood Risk
360 min Summer	31.042	0.492	0.0	10.0	10.0	163.0	Flood Risk
480 min Summer	31.026	0.476	0.0	9.9	9.9	157.2	Flood Risk
600 min Summer	31.008	0.458	0.0	9.7	9.7	150.9	O K
720 min Summer	30.990	0.440	0.0	9.4	9.4	144.3	O K
960 min Summer	30.955	0.405	0.0	9.0	9.0	131.9	O K
1440 min Summer	30.896	0.346	0.0	8.2	8.2	110.8	O K
2160 min Summer	30.831	0.281	0.0	7.3	7.3	87.5	O K
2880 min Summer	30.785	0.235	0.0	6.5	6.5	71.2	O K
4320 min Summer	30.728	0.178	0.0	5.5	5.5	50.6	O K
5760 min Summer	30.694	0.144	0.0	4.7	4.7	38.7	O K
7200 min Summer	30.676	0.126	0.0	4.1	4.1	32.3	O K
8640 min Summer	30.665	0.115	0.0	3.6	3.6	28.3	O K
10080 min Summer	30.656	0.106	0.0	3.2	3.2	25.2	O K
15 min Winter	30.900	0.350	0.0	8.3	8.3	112.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	139.635	0.0	104.1	18
30 min Summer	91.435	0.0	138.0	33
60 min Summer	57.005	0.0	173.4	62
120 min Summer	34.324	0.0	209.9	118
180 min Summer	25.168	0.0	231.3	144
240 min Summer	20.074	0.0	246.2	176
360 min Summer	14.562	0.0	268.2	244
480 min Summer	11.594	0.0	284.8	312
600 min Summer	9.707	0.0	298.1	380
720 min Summer	8.393	0.0	309.2	448
960 min Summer	6.666	0.0	327.3	580
1440 min Summer	4.811	0.0	353.9	838
2160 min Summer	3.466	0.0	381.5	1212
2880 min Summer	2.744	0.0	401.7	1560
4320 min Summer	1.972	0.0	430.5	2292
5760 min Summer	1.558	0.0	451.1	3000
7200 min Summer	1.297	0.0	466.9	3680
8640 min Summer	1.117	0.0	479.6	4408
10080 min Summer	0.983	0.0	490.2	5144
15 min Winter	139.635	0.0	117.2	18

. Nestle Ave
 . PP6
 . TW catchment

Date 8.08.17
 File pp6.srcx

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 Checked by JB




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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
30 min Winter	30.992	0.442	0.0	9.5	9.5	144.9	O K
60 min Winter	31.070	0.520	0.0	10.3	10.3	172.8	Flood Risk
120 min Winter	31.117	0.567	0.0	10.9	10.9	189.7	Flood Risk
180 min Winter	31.119	0.569	0.0	10.9	10.9	190.5	Flood Risk
240 min Winter	31.115	0.565	0.0	10.8	10.8	189.0	Flood Risk
360 min Winter	31.095	0.545	0.0	10.6	10.6	181.9	Flood Risk
480 min Winter	31.070	0.520	0.0	10.3	10.3	172.7	Flood Risk
600 min Winter	31.042	0.492	0.0	10.0	10.0	162.9	Flood Risk
720 min Winter	31.015	0.465	0.0	9.7	9.7	153.2	O K
960 min Winter	30.965	0.415	0.0	9.1	9.1	135.4	O K
1440 min Winter	30.884	0.334	0.0	8.1	8.1	106.5	O K
2160 min Winter	30.802	0.252	0.0	6.8	6.8	77.0	O K
2880 min Winter	30.749	0.199	0.0	5.9	5.9	58.2	O K
4320 min Winter	30.690	0.140	0.0	4.6	4.6	37.2	O K
5760 min Winter	30.668	0.118	0.0	3.7	3.7	29.2	O K
7200 min Winter	30.654	0.104	0.0	3.1	3.1	24.5	O K
8640 min Winter	30.645	0.095	0.0	2.7	2.7	21.1	O K
10080 min Winter	30.638	0.088	0.0	2.4	2.4	18.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
30 min Winter	91.435	0.0	155.3	32
60 min Winter	57.005	0.0	194.9	60
120 min Winter	34.324	0.0	235.8	116
180 min Winter	25.168	0.0	259.7	162
240 min Winter	20.074	0.0	276.5	186
360 min Winter	14.562	0.0	301.1	264
480 min Winter	11.594	0.0	319.7	338
600 min Winter	9.707	0.0	334.7	410
720 min Winter	8.393	0.0	347.2	482
960 min Winter	6.666	0.0	367.6	618
1440 min Winter	4.811	0.0	397.4	880
2160 min Winter	3.466	0.0	428.6	1256
2880 min Winter	2.744	0.0	451.3	1616
4320 min Winter	1.972	0.0	484.1	2292
5760 min Winter	1.558	0.0	507.5	3000
7200 min Winter	1.297	0.0	525.6	3744
8640 min Winter	1.117	0.0	540.3	4416
10080 min Winter	0.983	0.0	552.5	5144

. . .	Nestle Ave PP6 TW catchment	
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Date 8.08.17	Designed by JH	
File pp6.srcx	Checked by JB	

XP Solutions	Source Control 2016.1
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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)	20.100	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.419

Time (mins)	Area
From: To:	(ha)
0	4 0.419

.	Nestle Ave	
.	PP6	
.	TW catchment	

Date 8.08.17	Designed by JH
File pp6.srcx	Checked by JB

XP Solutions	Source Control 2016.1
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Model Details

Storage is Online Cover Level (m) 31.320

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	15.5
Membrane Percolation (mm/hr)	1000	Length (m)	72.0
Max Percolation (l/s)	310.0	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.32	Evaporation (mm/day)	3
Invert Level (m)	30.550	Cap Volume Depth (m)	0.570

Orifice Outflow Control

Diameter (m) 0.093 Discharge Coefficient 0.500 Invert Level (m) 30.550