

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	Add Flow / Climate Change (%)	45
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.000
Ratio R	0.343	Maximum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	50	Min Design Depth for Optimisation (m)	0.000
Foul Sewage (l/s/ha)	0.00	Min Vel for Auto Design only (m/s)	0.76
Volumetric Runoff Coeff.	1.000	Min Slope for Optimisation (1:X)	500
PIMP (%)	100		

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.014	4-8	0.002

Total Area Contributing (ha) = 0.016

Total Pipe Volume (m³) = 0.381

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	16.200	1.906	8.5	0.004	5.00	0.0	0.600	o	110
1.001	5.000	0.050	100.0	0.004	0.00	0.0	0.600	o	110
2.000	3.600	0.379	9.5	0.004	5.00	0.0	0.600	o	110
2.001	9.200	1.533	6.0	0.004	0.00	0.0	0.600	o	110
1.002	3.600	0.045	80.0	0.000	0.00	0.0	0.600	o	110
1.003	1.000	0.010	100.0	0.000	0.00	0.0	0.600	o	110
1.004	1.500	0.015	100.0	0.000	0.00	0.0	0.600	o	110

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.10	65.400	0.004	0.0	0.0	0.3	2.84	27.0	1.0
1.001	50.00	5.20	63.494	0.008	0.0	0.0	0.6	0.82	7.8	2.1
2.000	50.00	5.02	65.400	0.004	0.0	0.0	0.3	2.69	25.5	1.0
2.001	50.00	5.07	65.000	0.008	0.0	0.0	0.6	3.38	32.2	2.1
1.002	50.00	5.26	63.444	0.016	0.0	0.0	1.3	0.92	8.7	4.2
1.003	50.00	5.28	63.250	0.016	0.0	0.0	1.3	0.82	7.8	4.2
1.004	50.00	5.31	63.100	0.016	0.0	0.0	1.3	0.82	7.8	4.2

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backd (mm)
RE1	66.000	0.600	Open Manhole	110	1.000	65.400	110				
S1	64.100	0.606	Open Manhole	600	1.001	63.494	110	1.000	63.494	110	
RE2	66.000	0.600	Open Manhole	110	2.000	65.400	110				
S2	65.650	0.650	Open Manhole	600	2.001	65.000	110	2.000	65.021	110	
S3	64.100	0.656	Open Manhole	600	1.002	63.444	110	1.001	63.444	110	
								2.001	63.467	110	
S4	64.000	0.750	Open Manhole	600	1.003	63.250	110	1.002	63.399	110	
RAIN GARDEN	63.700	0.600	Open Manhole	600	1.004	63.100	110	1.003	63.240	110	
Dummy	63.800	0.715	Open Manhole	600		OUTFALL		1.004	63.085	110	

Dixon Hurst Kemp	Page 3
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03
Date Nov 25	Designed by JS
File COMBINED ATTENUATION ...	Checked by
Elstree Computing Ltd	Network W.12.6



PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	110	RE1	66.000	65.400	0.490	Open Manhole	110
1.001	o	110	S1	64.100	63.494	0.496	Open Manhole	600
2.000	o	110	RE2	66.000	65.400	0.490	Open Manhole	110
2.001	o	110	S2	65.650	65.000	0.540	Open Manhole	600
1.002	o	110	S3	64.100	63.444	0.546	Open Manhole	600
1.003	o	110	S4	64.000	63.250	0.640	Open Manhole	600
1.004	o	110	RAIN GARDEN	63.700	63.100	0.490	Open Manhole	600

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	16.200	8.5	S1	64.100	63.494	0.496	Open Manhole	600
1.001	5.000	100.0	S3	64.100	63.444	0.546	Open Manhole	600
2.000	3.600	9.5	S2	65.650	65.021	0.519	Open Manhole	600
2.001	9.200	6.0	S3	64.100	63.467	0.523	Open Manhole	600
1.002	3.600	80.0	S4	64.000	63.399	0.491	Open Manhole	600
1.003	1.000	100.0	RAIN GARDEN	63.700	63.240	0.350	Open Manhole	600
1.004	1.500	100.0	Dummy	63.800	63.085	0.605	Open Manhole	600

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
---------------------	--------------	--------------	--------------	------------------	----------	--------

1.004	Dummy	63.800	63.085	63.100	600	0
-------	-------	--------	--------	--------	-----	---

Simulation Criteria for Storm

Volumetric Runoff Coeff	1.000	Foul Sewage per hectare (l/s)	0.000
Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	45.000
Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start Level (mm)	0	Run Time (mins)	120
Manhole Headloss Coeff (Global)	0.500	Output Interval (mins)	2

Number of Input Hydrographs	0	Number of Storage Structures	2
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0		

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Storm Duration (mins)	60
Ratio R	0.343		

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Online Controls for Storm

Orifice Manhole: S4, DS/PN: 1.003, Volume (m³): 0.2

Diameter (m) 0.017 Discharge Coefficient 0.600 Invert Level (m) 63.250

Depth/Flow Relationship Manhole: RAIN GARDEN, DS/PN: 1.004, Volume (m³): 0.2

Invert Level (m) 63.100

Depth (m) Flow (l/s)

0.700 0.0400

Dixon Hurst Kemp		Page 5
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Storage Structures for Storm

cellular Storage Manhole: S4, DS/PN: 1.003

Invert Level (m) 63.250 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	30.0	30.0	0.500	0.0	43.6
0.400	30.0	43.6			

Infiltration Blanket Manhole: RAIN GARDEN, DS/PN: 1.004

Infiltration Coefficient Base (m/hr) 0.04461 Diameter/Width (m) 1.2
 Safety Factor 2.0 Length (m) 7.7
 Porosity 0.30 Cap Volume Depth (m) 0.000
 Invert Level (m) 63.100

Manhole Headloss for Storm

PN	US/MH Name	US/MH Headloss
1.000	RE1	0.500
1.001	S1	0.500
2.000	RE2	0.500
2.001	S2	0.500
1.002	S3	0.500
1.003	S4	0.500
1.004	RAIN GARDEN	0.500

Dixon Hurst Kemp		Page 6
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Summary of Results for 60 minute 100 year Summer (Storm)

Margin for Flood Risk Warning (mm) 0.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

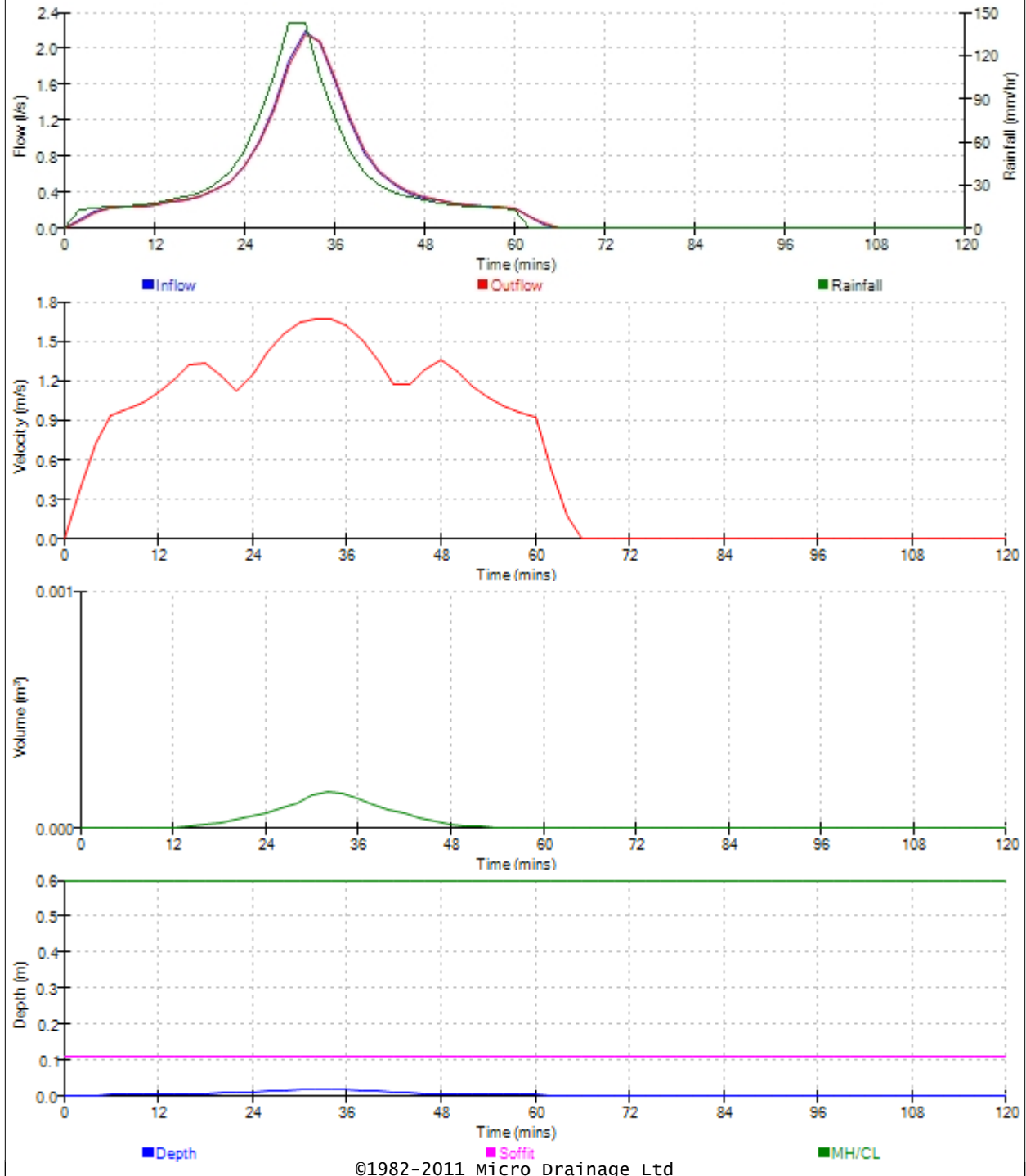
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	RE1	65.421	-0.089	0.000	0.08	0.0	2.2	OK
1.001	S1	63.597	-0.007	0.000	0.64	0.0	4.3	OK
2.000	RE2	65.424	-0.086	0.000	0.10	0.0	2.2	OK
2.001	S2	65.028	-0.082	0.000	0.15	0.0	4.4	OK
1.002	S3	63.575	0.021	0.000	1.20	0.0	8.5	SURCHARGED
1.003	S4	63.548	0.188	0.000	0.06	0.0	0.3	SURCHARGED
1.004	RAIN GARDEN	63.437	0.227	0.000	0.00	0.0	0.0	SURCHARGED

Dixon Hurst Kemp		Page 7
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

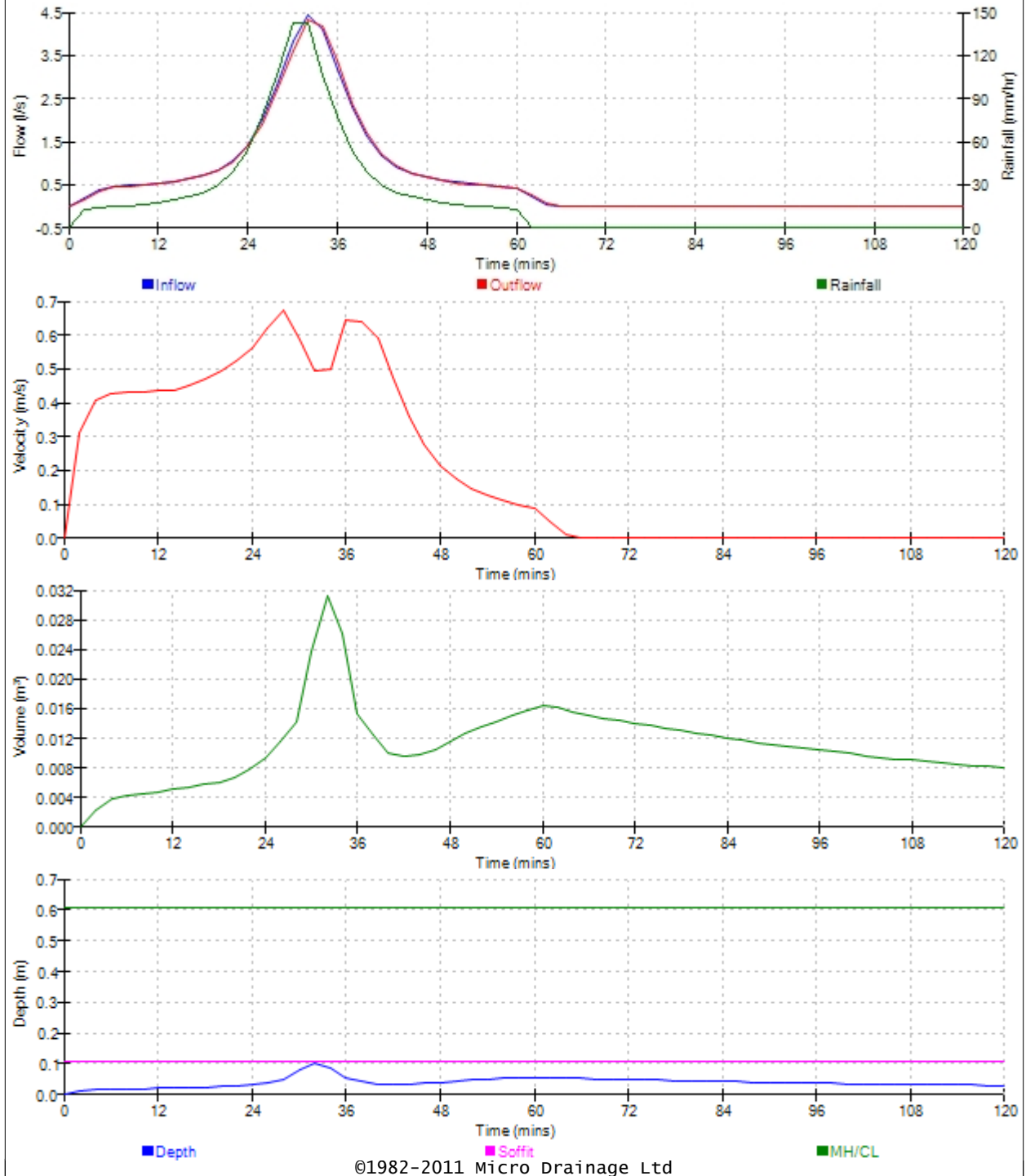
Rainfall Hyetograph for 60 minute 100 year Summer (Storm)

Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)
2	13.287	14	19.445	26	78.021	38	54.404	50	17.743
4	13.976	16	21.551	28	106.459	40	38.808	52	16.406
6	14.664	18	24.508	30	143.161	42	29.896	54	15.312
8	15.313	20	29.896	32	143.161	44	24.508	56	14.665
10	16.406	22	38.808	34	106.459	46	21.551	58	13.976
12	17.743	24	54.404	36	78.021	48	19.445	60	13.287

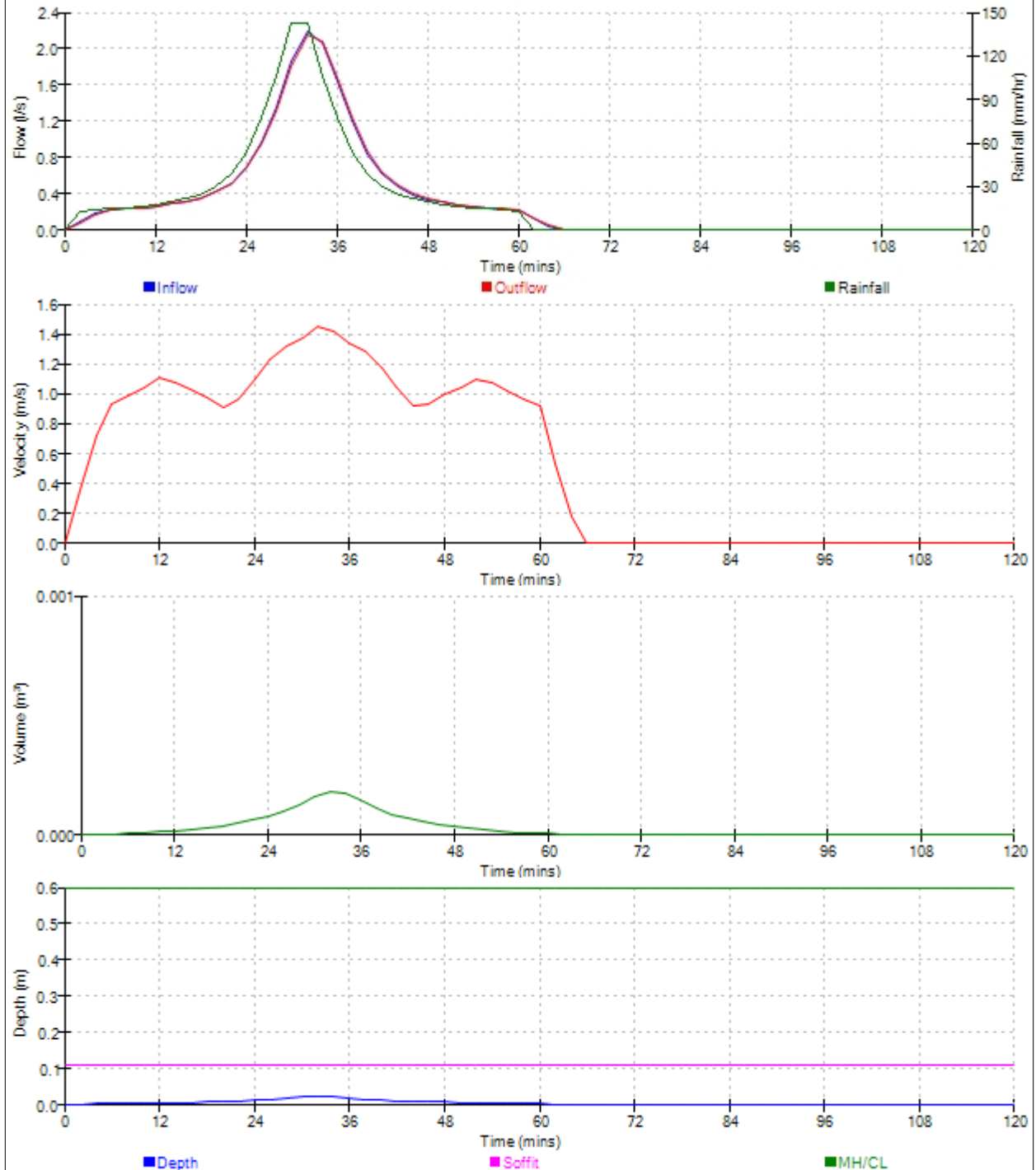
Graphs for Pipe 1.000 US/MH RE1 (Storm)
60 minute 100 year Summer
Status: OK



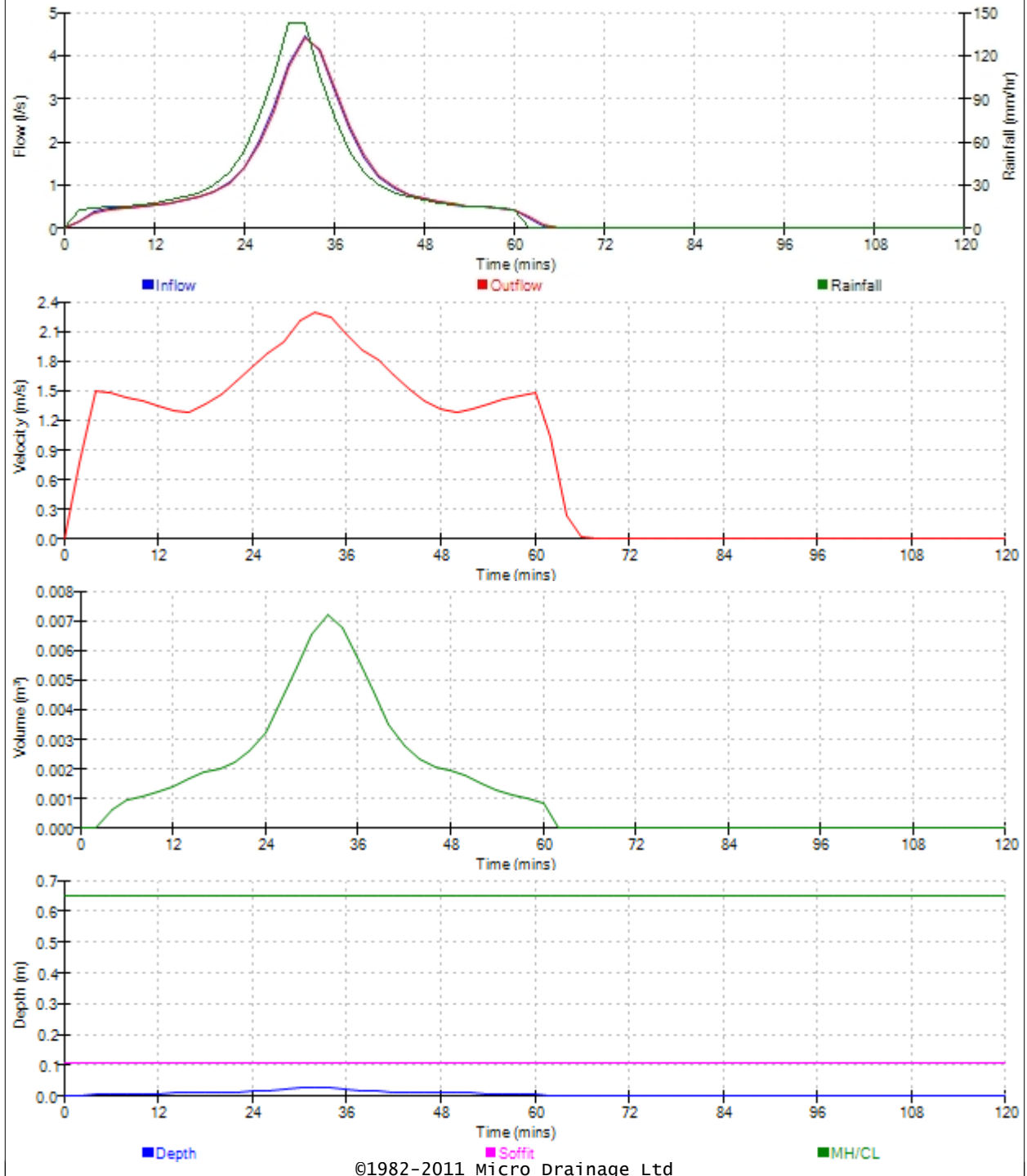
Graphs for Pipe 1.001 US/MH S1 (Storm)
 60 minute 100 year Summer
 Status: OK



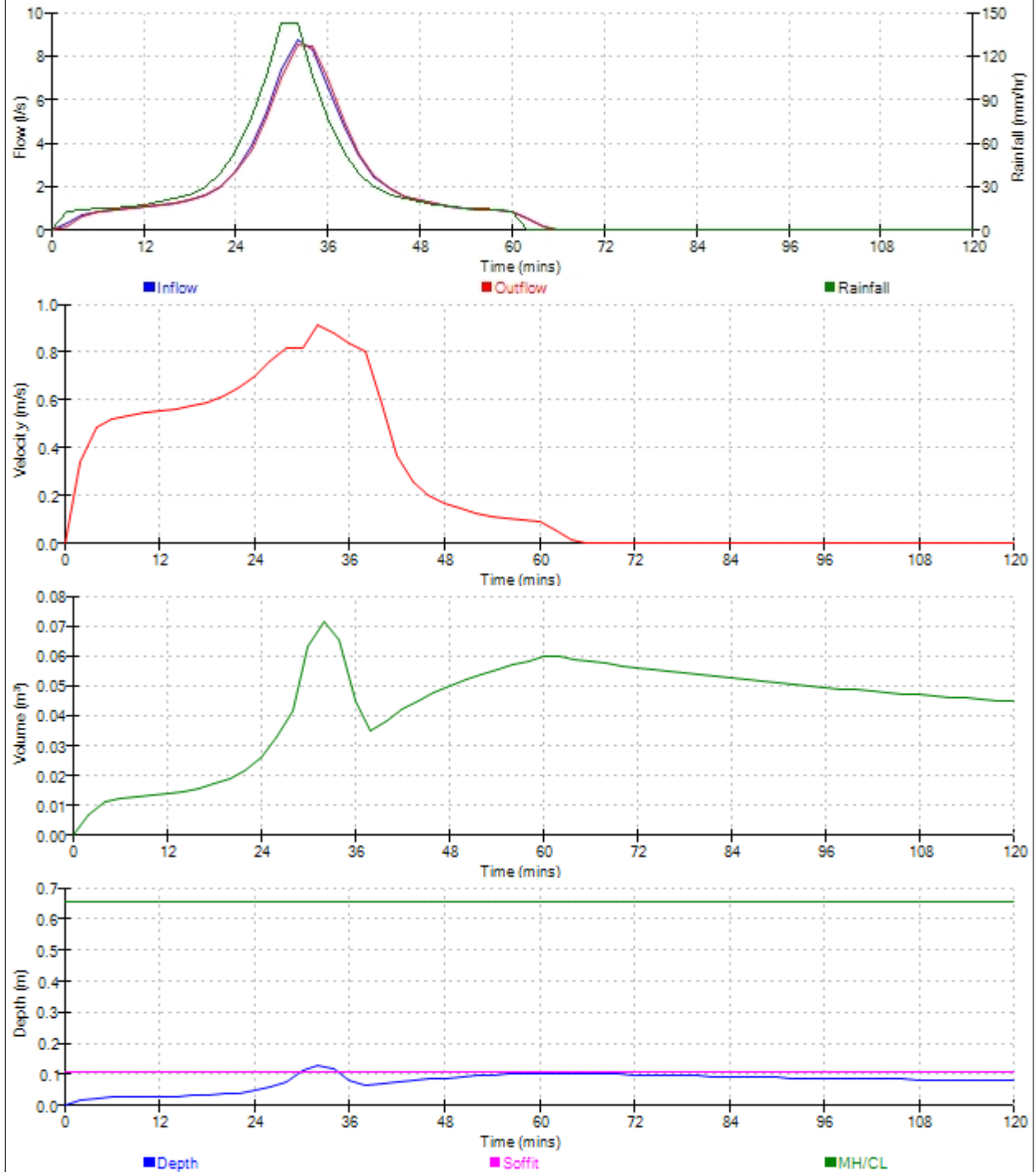
Graphs for Pipe 2.000 US/MH RE2 (Storm)
60 minute 100 year Summer
Status: OK



Graphs for Pipe 2.001 US/MH S2 (Storm)
 60 minute 100 year Summer
 Status: OK

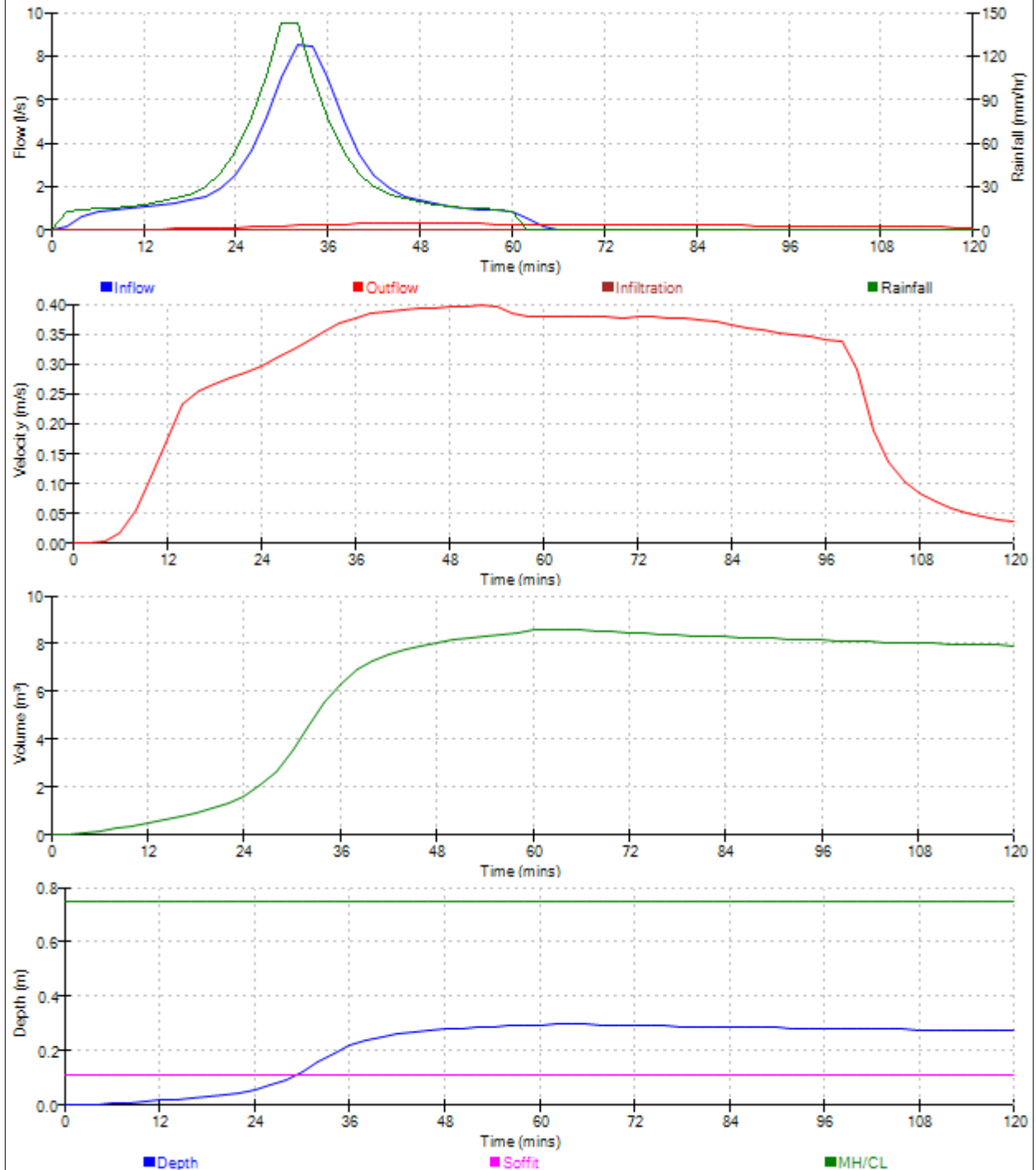


Graphs for Pipe 1.002 US/MH S3 (Storm)
60 minute 100 year Summer
Status: SURCHARGED

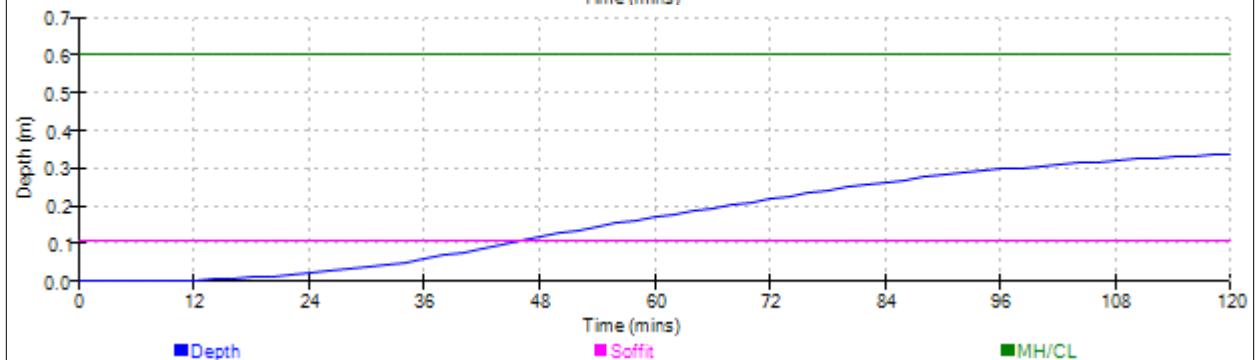
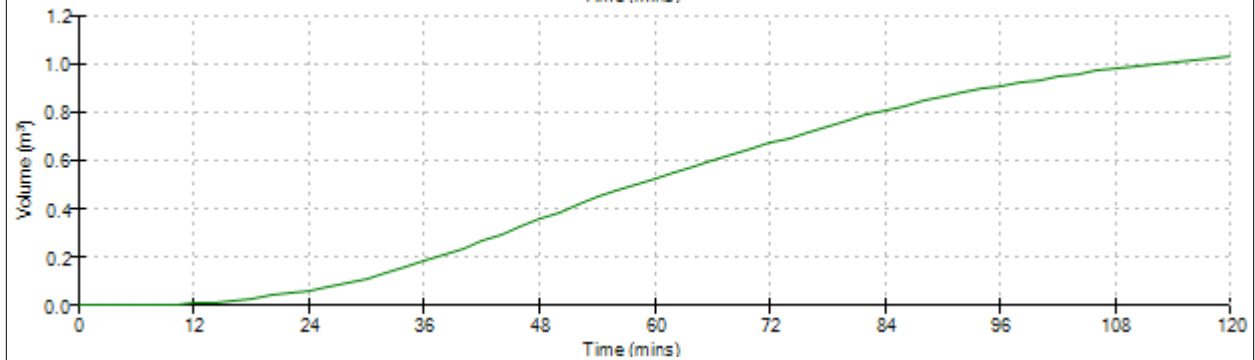
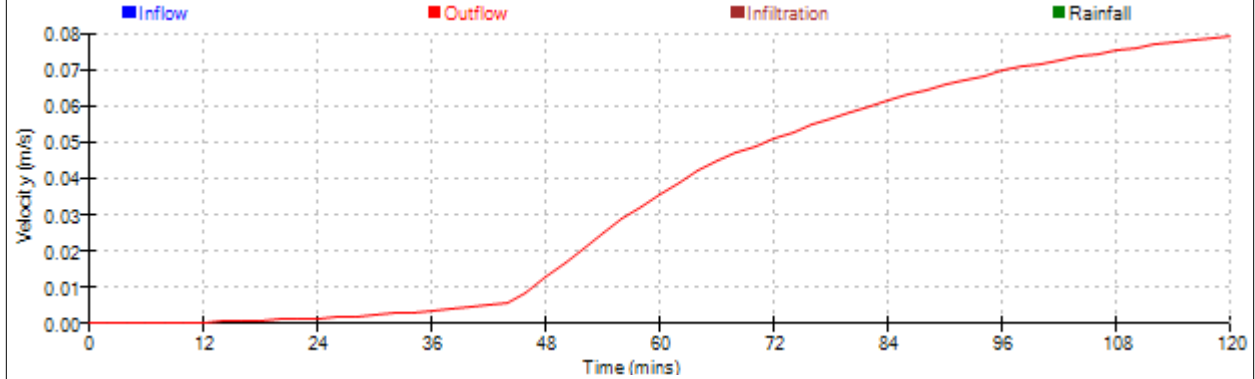
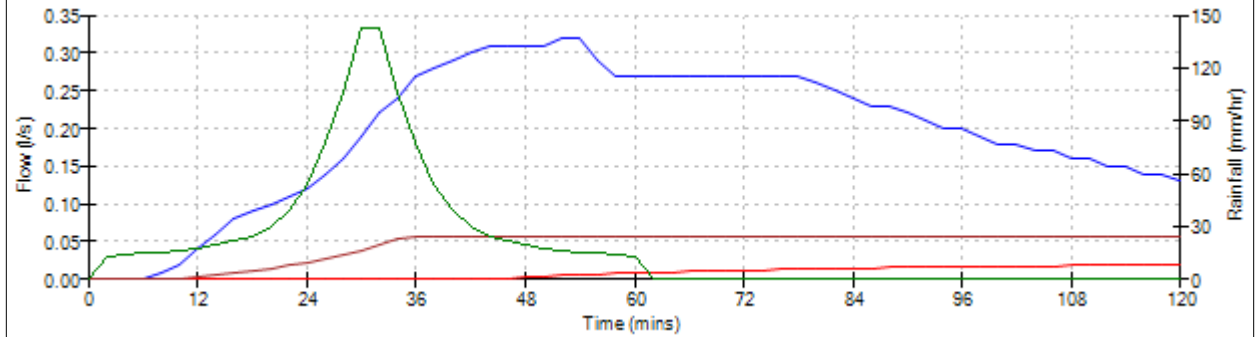


Dixon Hurst Kemp	Page 13	
Victoria Court	34 Hurst Road, Hassocks	
22 St Pancras	Surface Water Drainage	
West Sussex PO19 7GD	Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Graphs for Pipe 1.003 US/MH S4 (Storm)
60 minute 100 year Summer
Status: SURCHARGED



Graphs for Pipe 1.004 US/MH RAIN GARDEN (Storm)
60 minute 100 year Summer
Status: SURCHARGED



Dixon Hurst Kemp		Page 16
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.000 US/MH RE1 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
102	65.400	63.529	-0.110	0.0	0.0	0.0
104	65.400	63.529	-0.110	0.0	0.0	0.0
106	65.400	63.528	-0.110	0.0	0.0	0.0
108	65.400	63.528	-0.110	0.0	0.0	0.0
110	65.400	63.527	-0.110	0.0	0.0	0.0
112	65.400	63.526	-0.110	0.0	0.0	0.0
114	65.400	63.526	-0.110	0.0	0.0	0.0
116	65.400	63.525	-0.110	0.0	0.0	0.0
118	65.400	63.525	-0.110	0.0	0.0	0.0
120	65.400	63.524	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 17
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.001 US/MH S1 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
2	63.506	63.461	-0.098	0.0	0.3	0.1
4	63.511	63.468	-0.093	0.0	0.4	0.3
6	63.513	63.470	-0.091	0.0	0.4	0.4
8	63.513	63.471	-0.091	0.0	0.4	0.5
10	63.514	63.472	-0.090	0.0	0.4	0.5
12	63.515	63.473	-0.089	0.0	0.4	0.5
14	63.516	63.474	-0.088	0.0	0.4	0.6
16	63.517	63.476	-0.087	0.0	0.5	0.6
18	63.518	63.478	-0.086	0.0	0.5	0.7
20	63.520	63.480	-0.084	0.0	0.5	0.8
22	63.523	63.485	-0.081	0.0	0.5	1.0
24	63.529	63.493	-0.075	0.0	0.6	1.4
26	63.536	63.504	-0.069	0.0	0.6	1.9
28	63.544	63.519	-0.060	0.0	0.7	2.7
30	63.573	63.557	-0.031	0.0	0.6	3.6
32	63.597	63.575	-0.007	0.0	0.5	4.3
34	63.581	63.562	-0.023	0.0	0.5	4.2
36	63.547	63.524	-0.057	0.0	0.6	3.4
38	63.538	63.508	-0.066	0.0	0.6	2.4
40	63.530	63.513	-0.074	0.0	0.6	1.7
42	63.529	63.520	-0.075	0.0	0.5	1.2
44	63.530	63.525	-0.074	0.0	0.4	0.9
46	63.532	63.529	-0.072	0.0	0.3	0.8
48	63.536	63.533	-0.069	0.0	0.2	0.7
50	63.539	63.536	-0.065	0.0	0.2	0.6
52	63.541	63.539	-0.063	0.0	0.1	0.6
54	63.544	63.542	-0.060	0.0	0.1	0.5
56	63.546	63.544	-0.058	0.0	0.1	0.5
58	63.549	63.547	-0.055	0.0	0.1	0.5
60	63.551	63.549	-0.053	0.0	0.1	0.4
62	63.550	63.549	-0.054	0.0	0.1	0.3
64	63.548	63.548	-0.056	0.0	0.0	0.1
66	63.547	63.547	-0.058	0.0	0.0	0.0
68	63.545	63.545	-0.059	0.0	0.0	0.0
70	63.544	63.544	-0.060	0.0	0.0	0.0
72	63.543	63.543	-0.061	0.0	0.0	0.0
74	63.542	63.542	-0.062	0.0	0.0	0.0
76	63.541	63.541	-0.063	0.0	0.0	0.0
78	63.540	63.540	-0.064	0.0	0.0	0.0
80	63.539	63.539	-0.065	0.0	0.0	0.0
82	63.538	63.538	-0.066	0.0	0.0	0.0
84	63.537	63.537	-0.067	0.0	0.0	0.0
86	63.536	63.536	-0.068	0.0	0.0	0.0
88	63.535	63.535	-0.069	0.0	0.0	0.0
90	63.534	63.534	-0.070	0.0	0.0	0.0
92	63.533	63.533	-0.071	0.0	0.0	0.0
94	63.533	63.533	-0.072	0.0	0.0	0.0
96	63.532	63.532	-0.072	0.0	0.0	0.0
98	63.531	63.531	-0.073	0.0	0.0	0.0
100	63.530	63.530	-0.074	0.0	0.0	0.0

Dixon Hurst Kemp		Page 18
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.001 US/MH S1 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
102	63.529	63.530	-0.075	0.0	0.0	0.0
104	63.529	63.529	-0.075	0.0	0.0	0.0
106	63.528	63.529	-0.076	0.0	0.0	0.0
108	63.528	63.528	-0.076	0.0	0.0	0.0
110	63.527	63.527	-0.077	0.0	0.0	0.0
112	63.526	63.527	-0.078	0.0	0.0	0.0
114	63.526	63.526	-0.078	0.0	0.0	0.0
116	63.525	63.525	-0.079	0.0	0.0	0.0
118	63.525	63.525	-0.079	0.0	0.0	0.0
120	63.524	63.524	-0.080	0.0	0.0	0.0

Dixon Hurst Kemp		Page 19
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.000 US/MH RE2 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
2	65.402	65.003	-0.108	0.0	0.4	0.1
4	65.404	65.007	-0.106	0.0	0.7	0.2
6	65.406	65.008	-0.104	0.0	0.9	0.2
8	65.406	65.008	-0.104	0.0	1.0	0.2
10	65.406	65.009	-0.104	0.0	1.0	0.3
12	65.407	65.010	-0.103	0.0	1.1	0.3
14	65.407	65.010	-0.103	0.0	1.1	0.3
16	65.408	65.011	-0.102	0.0	1.0	0.3
18	65.409	65.012	-0.101	0.0	1.0	0.4
20	65.411	65.012	-0.099	0.0	0.9	0.4
22	65.412	65.014	-0.098	0.0	1.0	0.5
24	65.413	65.016	-0.097	0.0	1.1	0.7
26	65.415	65.019	-0.095	0.0	1.2	0.9
28	65.418	65.023	-0.092	0.0	1.3	1.3
30	65.422	65.026	-0.088	0.0	1.4	1.8
32	65.424	65.028	-0.086	0.0	1.5	2.2
34	65.423	65.027	-0.087	0.0	1.4	2.1
36	65.421	65.024	-0.089	0.0	1.3	1.7
38	65.417	65.020	-0.093	0.0	1.3	1.2
40	65.414	65.016	-0.096	0.0	1.2	0.9
42	65.412	65.014	-0.098	0.0	1.0	0.6
44	65.411	65.013	-0.099	0.0	0.9	0.5
46	65.410	65.012	-0.100	0.0	0.9	0.4
48	65.409	65.011	-0.101	0.0	1.0	0.3
50	65.408	65.011	-0.102	0.0	1.0	0.3
52	65.407	65.010	-0.103	0.0	1.1	0.3
54	65.407	65.009	-0.103	0.0	1.1	0.3
56	65.406	65.009	-0.104	0.0	1.0	0.2
58	65.406	65.008	-0.104	0.0	1.0	0.2
60	65.406	65.008	-0.104	0.0	0.9	0.2
62	65.403	65.004	-0.107	0.0	0.5	0.1
64	65.401	65.001	-0.109	0.0	0.2	0.1
66	65.400	65.000	-0.110	0.0	0.0	0.0
68	65.400	65.000	-0.110	0.0	0.0	0.0
70	65.400	65.000	-0.110	0.0	0.0	0.0
72	65.400	65.000	-0.110	0.0	0.0	0.0
74	65.400	65.000	-0.110	0.0	0.0	0.0
76	65.400	65.000	-0.110	0.0	0.0	0.0
78	65.400	65.000	-0.110	0.0	0.0	0.0
80	65.400	65.000	-0.110	0.0	0.0	0.0
82	65.400	65.000	-0.110	0.0	0.0	0.0
84	65.400	65.000	-0.110	0.0	0.0	0.0
86	65.400	65.000	-0.110	0.0	0.0	0.0
88	65.400	65.000	-0.110	0.0	0.0	0.0
90	65.400	65.000	-0.110	0.0	0.0	0.0
92	65.400	65.000	-0.110	0.0	0.0	0.0
94	65.400	65.000	-0.110	0.0	0.0	0.0
96	65.400	65.000	-0.110	0.0	0.0	0.0
98	65.400	65.000	-0.110	0.0	0.0	0.0
100	65.400	65.000	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 20
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.000 US/MH RE2 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
102	65.400	65.000	-0.110	0.0	0.0	0.0
104	65.400	65.000	-0.110	0.0	0.0	0.0
106	65.400	65.000	-0.110	0.0	0.0	0.0
108	65.400	65.000	-0.110	0.0	0.0	0.0
110	65.400	65.000	-0.110	0.0	0.0	0.0
112	65.400	65.000	-0.110	0.0	0.0	0.0
114	65.400	65.000	-0.110	0.0	0.0	0.0
116	65.400	65.000	-0.110	0.0	0.0	0.0
118	65.400	65.000	-0.110	0.0	0.0	0.0
120	65.400	65.000	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 21
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.001 US/MH S2 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Velocity (m/s)	Pipe Flow (l/s)
2	65.003	63.461	-0.107	0.0	0.8	0.2
4	65.007	63.468	-0.103	0.0	1.5	0.4
6	65.008	63.470	-0.102	0.0	1.5	0.4
8	65.008	63.471	-0.102	0.0	1.4	0.5
10	65.009	63.472	-0.101	0.0	1.4	0.5
12	65.010	63.473	-0.100	0.0	1.3	0.5
14	65.010	63.474	-0.100	0.0	1.3	0.6
16	65.011	63.476	-0.099	0.0	1.3	0.6
18	65.012	63.478	-0.098	0.0	1.4	0.7
20	65.012	63.480	-0.098	0.0	1.5	0.8
22	65.014	63.485	-0.096	0.0	1.6	1.1
24	65.016	63.493	-0.094	0.0	1.7	1.4
26	65.019	63.504	-0.091	0.0	1.9	1.9
28	65.023	63.519	-0.087	0.0	2.0	2.7
30	65.026	63.557	-0.084	0.0	2.2	3.7
32	65.028	63.575	-0.082	0.0	2.3	4.4
34	65.027	63.562	-0.083	0.0	2.2	4.1
36	65.024	63.524	-0.086	0.0	2.1	3.3
38	65.020	63.508	-0.090	0.0	1.9	2.4
40	65.016	63.513	-0.094	0.0	1.8	1.7
42	65.014	63.520	-0.096	0.0	1.7	1.2
44	65.013	63.525	-0.097	0.0	1.5	1.0
46	65.012	63.529	-0.098	0.0	1.4	0.8
48	65.011	63.533	-0.099	0.0	1.3	0.7
50	65.011	63.536	-0.099	0.0	1.3	0.6
52	65.010	63.539	-0.100	0.0	1.3	0.6
54	65.009	63.542	-0.101	0.0	1.4	0.5
56	65.009	63.544	-0.101	0.0	1.4	0.5
58	65.008	63.547	-0.102	0.0	1.4	0.5
60	65.008	63.549	-0.102	0.0	1.5	0.4
62	65.004	63.549	-0.106	0.0	1.0	0.3
64	65.001	63.548	-0.109	0.0	0.2	0.1
66	65.000	63.547	-0.110	0.0	0.0	0.0
68	65.000	63.545	-0.110	0.0	0.0	0.0
70	65.000	63.544	-0.110	0.0	0.0	0.0
72	65.000	63.543	-0.110	0.0	0.0	0.0
74	65.000	63.542	-0.110	0.0	0.0	0.0
76	65.000	63.541	-0.110	0.0	0.0	0.0
78	65.000	63.540	-0.110	0.0	0.0	0.0
80	65.000	63.539	-0.110	0.0	0.0	0.0
82	65.000	63.538	-0.110	0.0	0.0	0.0
84	65.000	63.537	-0.110	0.0	0.0	0.0
86	65.000	63.536	-0.110	0.0	0.0	0.0
88	65.000	63.535	-0.110	0.0	0.0	0.0
90	65.000	63.534	-0.110	0.0	0.0	0.0
92	65.000	63.533	-0.110	0.0	0.0	0.0
94	65.000	63.533	-0.110	0.0	0.0	0.0
96	65.000	63.532	-0.110	0.0	0.0	0.0
98	65.000	63.531	-0.110	0.0	0.0	0.0
100	65.000	63.530	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 22
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 2.001 US/MH S2 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
102	65.000	63.530	-0.110	0.0	0.0	0.0
104	65.000	63.529	-0.110	0.0	0.0	0.0
106	65.000	63.529	-0.110	0.0	0.0	0.0
108	65.000	63.528	-0.110	0.0	0.0	0.0
110	65.000	63.527	-0.110	0.0	0.0	0.0
112	65.000	63.527	-0.110	0.0	0.0	0.0
114	65.000	63.526	-0.110	0.0	0.0	0.0
116	65.000	63.525	-0.110	0.0	0.0	0.0
118	65.000	63.525	-0.110	0.0	0.0	0.0
120	65.000	63.524	-0.110	0.0	0.0	0.0

Dixon Hurst Kemp		Page 24
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.002 US/MH S3 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
102	63.530	63.530	-0.025	0.0	0.0	0.0
104	63.529	63.529	-0.025	0.0	0.0	0.0
106	63.529	63.528	-0.026	0.0	0.0	0.0
108	63.528	63.528	-0.026	0.0	0.0	0.0
110	63.527	63.527	-0.027	0.0	0.0	0.0
112	63.527	63.527	-0.028	0.0	0.0	0.0
114	63.526	63.526	-0.028	0.0	0.0	0.0
116	63.525	63.525	-0.029	0.0	0.0	0.0
118	63.525	63.525	-0.029	0.0	0.0	0.0
120	63.524	63.524	-0.030	0.0	0.0	0.0

Dixon Hurst Kemp		Page 25
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.003 US/MH S4 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
2	63.251	63.100	-0.109	0.0	0.0	0.0
4	63.253	63.100	-0.107	0.0	0.0	0.0
6	63.256	63.100	-0.104	0.0	0.0	0.0
8	63.260	63.101	-0.100	0.0	0.1	0.0
10	63.264	63.102	-0.096	0.0	0.1	0.0
12	63.268	63.103	-0.092	0.0	0.2	0.0
14	63.273	63.105	-0.087	0.0	0.2	0.1
16	63.277	63.108	-0.083	0.0	0.3	0.1
18	63.283	63.111	-0.077	0.0	0.3	0.1
20	63.289	63.114	-0.071	0.0	0.3	0.1
22	63.296	63.118	-0.064	0.0	0.3	0.1
24	63.306	63.122	-0.054	0.0	0.3	0.1
26	63.322	63.127	-0.038	0.0	0.3	0.1
28	63.343	63.132	-0.017	0.0	0.3	0.2
30	63.373	63.138	0.013	0.0	0.3	0.2
32	63.408	63.144	0.048	0.0	0.4	0.2
34	63.442	63.152	0.082	0.0	0.4	0.2
36	63.470	63.160	0.110	0.0	0.4	0.3
38	63.490	63.169	0.130	0.0	0.4	0.3
40	63.503	63.178	0.143	0.0	0.4	0.3
42	63.512	63.187	0.152	0.0	0.4	0.3
44	63.519	63.197	0.159	0.0	0.4	0.3
46	63.524	63.207	0.164	0.0	0.4	0.3
48	63.529	63.217	0.169	0.0	0.4	0.3
50	63.532	63.227	0.172	0.0	0.4	0.3
52	63.536	63.237	0.176	0.0	0.4	0.3
54	63.539	63.247	0.179	0.0	0.4	0.3
56	63.541	63.256	0.181	0.0	0.4	0.3
58	63.544	63.263	0.184	0.0	0.4	0.3
60	63.546	63.271	0.186	0.0	0.4	0.3
62	63.548	63.279	0.188	0.0	0.4	0.3
64	63.547	63.287	0.187	0.0	0.4	0.3
66	63.547	63.295	0.187	0.0	0.4	0.3
68	63.545	63.303	0.185	0.0	0.4	0.3
70	63.544	63.311	0.184	0.0	0.4	0.3
72	63.543	63.319	0.183	0.0	0.4	0.3
74	63.542	63.327	0.182	0.0	0.4	0.3
76	63.541	63.335	0.181	0.0	0.4	0.3
78	63.540	63.342	0.180	0.0	0.4	0.3
80	63.539	63.350	0.179	0.0	0.4	0.3
82	63.538	63.357	0.178	0.0	0.4	0.3
84	63.537	63.363	0.177	0.0	0.4	0.2
86	63.536	63.370	0.176	0.0	0.4	0.2
88	63.535	63.376	0.175	0.0	0.4	0.2
90	63.534	63.381	0.174	0.0	0.4	0.2
92	63.533	63.387	0.173	0.0	0.3	0.2
94	63.533	63.392	0.173	0.0	0.3	0.2
96	63.532	63.397	0.172	0.0	0.3	0.2
98	63.531	63.401	0.171	0.0	0.3	0.2
100	63.531	63.405	0.171	0.0	0.3	0.2

Dixon Hurst Kemp		Page 26
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.003 US/MH S4 (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
102	63.530	63.409	0.170	0.0	0.2	0.2
104	63.529	63.413	0.169	0.0	0.1	0.2
106	63.528	63.416	0.168	0.0	0.1	0.2
108	63.528	63.420	0.168	0.0	0.1	0.2
110	63.527	63.423	0.167	0.0	0.1	0.2
112	63.527	63.426	0.167	0.0	0.1	0.2
114	63.526	63.429	0.166	0.0	0.1	0.1
116	63.525	63.432	0.165	0.0	0.0	0.1
118	63.525	63.434	0.165	0.0	0.0	0.1
120	63.524	63.437	0.164	0.0	0.0	0.1

Dixon Hurst Kemp		Page 27
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.004 US/MH RAIN GARDEN (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
2	63.100	63.096	-0.110	0.0	0.0	0.0
4	63.100	63.096	-0.110	0.0	0.0	0.0
6	63.100	63.096	-0.110	0.0	0.0	0.0
8	63.101	63.096	-0.109	0.0	0.0	0.0
10	63.102	63.096	-0.108	0.0	0.0	0.0
12	63.103	63.096	-0.107	0.0	0.0	0.0
14	63.105	63.096	-0.105	0.0	0.0	0.0
16	63.108	63.096	-0.102	0.0	0.0	0.0
18	63.111	63.096	-0.099	0.0	0.0	0.0
20	63.114	63.096	-0.096	0.0	0.0	0.0
22	63.118	63.096	-0.092	0.0	0.0	0.0
24	63.122	63.096	-0.088	0.0	0.0	0.0
26	63.127	63.096	-0.083	0.0	0.0	0.0
28	63.132	63.096	-0.078	0.0	0.0	0.0
30	63.138	63.096	-0.072	0.0	0.0	0.0
32	63.144	63.096	-0.066	0.0	0.0	0.0
34	63.152	63.096	-0.058	0.0	0.0	0.0
36	63.160	63.096	-0.050	0.0	0.0	0.0
38	63.169	63.096	-0.041	0.0	0.0	0.0
40	63.178	63.096	-0.032	0.0	0.0	0.0
42	63.187	63.096	-0.023	0.0	0.0	0.0
44	63.197	63.096	-0.013	0.0	0.0	0.0
46	63.207	63.096	-0.003	0.0	0.0	0.0
48	63.217	63.096	0.007	0.0	0.0	0.0
50	63.227	63.096	0.017	0.0	0.0	0.0
52	63.237	63.096	0.027	0.0	0.0	0.0
54	63.247	63.096	0.037	0.0	0.0	0.0
56	63.256	63.096	0.046	0.0	0.0	0.0
58	63.263	63.096	0.053	0.0	0.0	0.0
60	63.271	63.096	0.061	0.0	0.0	0.0
62	63.279	63.096	0.069	0.0	0.0	0.0
64	63.287	63.096	0.077	0.0	0.0	0.0
66	63.295	63.096	0.085	0.0	0.0	0.0
68	63.303	63.096	0.093	0.0	0.0	0.0
70	63.311	63.096	0.101	0.0	0.0	0.0
72	63.319	63.096	0.109	0.0	0.1	0.0
74	63.327	63.096	0.117	0.0	0.1	0.0
76	63.335	63.096	0.125	0.0	0.1	0.0
78	63.342	63.096	0.132	0.0	0.1	0.0
80	63.350	63.096	0.140	0.0	0.1	0.0
82	63.357	63.096	0.147	0.0	0.1	0.0
84	63.363	63.096	0.153	0.0	0.1	0.0
86	63.370	63.096	0.160	0.0	0.1	0.0
88	63.376	63.096	0.166	0.0	0.1	0.0
90	63.381	63.096	0.171	0.0	0.1	0.0
92	63.387	63.096	0.177	0.0	0.1	0.0
94	63.392	63.096	0.182	0.0	0.1	0.0
96	63.397	63.096	0.187	0.0	0.1	0.0
98	63.401	63.096	0.191	0.0	0.1	0.0
100	63.405	63.096	0.195	0.0	0.1	0.0

Dixon Hurst Kemp		Page 28
Victoria Court 22 St Pancras West Sussex PO19 7GD	34 Hurst Road. Hassocks Surface Water Drainage Design Simulation Rev03	
Date Nov 25	Designed by JS	
File COMBINED ATTENUATION ...	Checked by	
Elstree Computing Ltd	Network W.12.6	

Flows and Levels for Pipe 1.004 US/MH RAIN GARDEN (Storm)
60 minute 100 year Summer
Average Rainfall Intensity 40.510 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total (l/s)	O/F Velocity (m/s)	Pipe Flow (l/s)
102	63.409	63.096	0.199	0.0	0.1	0.0
104	63.413	63.096	0.203	0.0	0.1	0.0
106	63.416	63.096	0.206	0.0	0.1	0.0
108	63.420	63.096	0.210	0.0	0.1	0.0
110	63.423	63.096	0.213	0.0	0.1	0.0
112	63.426	63.096	0.216	0.0	0.1	0.0
114	63.429	63.096	0.219	0.0	0.1	0.0
116	63.432	63.096	0.222	0.0	0.1	0.0
118	63.434	63.096	0.224	0.0	0.1	0.0
120	63.437	63.096	0.227	0.0	0.1	0.0