

Archibald Shaw Limited		Page 1
One Little London Chichester Sussex PO19 1PP	ELM GROVE NORTH PIPE NETWORK M20 EVENT	
Date July 2020 File NORTH M20.sws	Designed By PF Checked By	
Micro Drainage	System1 W.11.2	

STORM SEWER DESIGN by the Modified Rational Method

Global Variables

Pipe Size File C:\Program Files\Micro Drainage Ltd\WinDes\STANDARD.PIP
Manhole Size File C:\Program Files\Micro Drainage Ltd\WinDes\STANDARD.MHS

Location - England & Wales

Return Period (years)	20	Maximum Backdrop Height (m)	1.500
M5-60 (mm)	20.000	Min Cover Depth for Optimisation (m)	0.100
Ratio R	0.350	Min Vel for Auto Design Only (m/s)	1.00
Maximum Rainfall (mm/hr)	50	Min Slope for Optimisation (1:X)	500
Foul Sewage (l/s/ha)	0.00	Minimum Outfall Invert (m)	0.000
O'flow Setting (*Foul only)	0	Ground Level at Outfall (m)	0.000
Volumetric Runoff Coeff.	1.00	Outfall Manhole Name	
Add Flow / Climate Change (%)	0	Outfall Manhole Dia/Length (mm)	0
Minimum Backdrop Height (m)	0.200	Outfall Manhole Width (mm)	0

Designed with Level Soffits

Network Design Table

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	25.52	0.170	150.1	0.024	5.00	0.0	0.600	0	150
1.001	15.00	0.100	150.0	0.010	0.00	0.0	0.600	0	150

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E.Area (ha)	E.DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	CAP (l/s)	Flow (l/s)
1.000	50.0	5.5	5.500	0.024	0.0	0.0	0.0	0.82	14.5	4.3
1.001	50.0	5.8	5.330	0.034	0.0	0.0	0.0	0.82	14.5	6.1

Archibald Shaw Limited		Page 2
One Little London Chichester Sussex PO19 1PP	ELM GROVE NORTH PIPE NETWORK M20 EVENT	
Date July 2020 File NORTH M20.sws	Designed By PF Checked By	
Micro Drainage	System1 W.11.2	

Time Area Diagram

Time From (mins)	Time To (mins)	Area (ha)
0	4	0.024
4	8	0.010

Total Area Contributing (ha) = 0.034

Total Pipe Volume (m³) = 0.716

Archibald Shaw Limited		Page 3
One Little London Chichester Sussex PO19 1PP	ELM GROVE NORTH PIPE NETWORK M20 EVENT	
Date July 2020 File NORTH M20.sws	Designed By PF Checked By	
Micro Drainage	System1 W.11.2	

PIPELINE SCHEDULES

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
1.000	0	150	1	6.300	5.500	0.650	1050
1.001	0	150	2	6.300	5.330	0.820	1050

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
1.000	25.52	150.1	2	6.300	5.330	0.820	1050
1.001	15.00	150.0		0.000	5.230	-5.380	0