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One Little London Chichester Sussex PO19 1PP	ELM GROVE NORTH PIPE NETWORK M100 + 40%	
Date July 2020 File NORTH M100 PLUS 40.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)	100	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 (%)	40	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	1.7	0.82	14.5	6.1
1.001	50.0	5.8	5.330	0.034	0.0	0.0	2.5	0.82	14.5	8.6

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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

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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