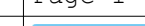


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STORM SEWER DESIGN by the Modified Rational Method

Pipe Sizes NET1 Manhole Sizes NET1

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	19.900	Add Flow / Climate Change (%)	0
Ratio R	0.350	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	550	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	150

Network Design Table for NET2.SWS

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	159.34	4.27	18.900	0.015	0.0	0.0	0.0	2.21	155.9	6.5
1.001	151.01	5.01	18.194	0.190	0.0	0.0	0.0	1.24	87.7	77.7
1.002	144.77	5.64	17.849	0.204	0.0	0.0	0.0	1.24	87.8	80.0
1.003	137.46	6.48	17.480	0.299	0.0	0.0	0.0	1.43	158.0	111.3
1.004	131.11	7.31	17.032	0.363	0.0	0.0	0.0	1.43	157.9	128.9
1.005	127.00	7.90	16.589	0.413	0.0	0.0	0.0	1.43	157.7	142.1
1.006	123.65	8.42	16.272	0.451	0.0	0.0	0.0	1.43	157.9	151.0
1.007	120.65	8.92	15.917	0.541	0.0	0.0	0.0	1.61	255.3	176.8
1.008	119.05	9.20	15.615	0.569	0.0	0.0	0.0	1.52	242.1	183.5
2.000	162.16	4.04	15.901	0.007	0.0	0.0	0.0	2.38	94.6	3.1
1.009	118.61	9.28	15.470	0.590	0.0	0.0	0.0	1.60	254.1	189.5

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Free Flowing Outfall Details for NET2.SWS

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.009	basin	16.810	15.423	14.220	0	0

Simulation Criteria for NET2.SWS

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha	Storage 2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

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

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.900	Storm Duration (mins)	30
Ratio R	0.350		

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Summary of Critical Results by Maximum Level (Rank 1) for NET2.SWS

PN	US/MH Name	Surcharged		Flooded		Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)				
1.003	13	0.389	0.000	1.00			149.2	SURCHARGED	
1.004	14	0.419	0.000	1.09			162.9	SURCHARGED	
1.005	15	0.345	0.000	1.19			173.5	SURCHARGED	
1.006	16	0.201	0.000	1.26			182.7	SURCHARGED	
1.007	17	0.052	0.000	0.89			206.7	SURCHARGED	
1.008	18	0.110	0.000	1.06			216.7	SURCHARGED	
2.000	19	-0.114	0.000	0.08			5.0	OK	
1.009	20	0.090	0.000	1.37			223.8	SURCHARGED	