Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
SWMH01	0.025	5.00	66.150	1200	380875.420	385057.015	1.300
SWMH02	0.260	5.00	66.150	1350	380915.318	385056.780	1.450
SWMH04			67.000	1350	380986.806	385055.739	2.450
SWMH05	0.210	5.00	66.700	4050	380996.158	385045.367	2.300
SWMH08			66.700	3000	381092.733	385043.894	2.700
SWMH03	0.150	5.00	67.000	1200	381033.866	385056.508	1.350
SWMH06	0.260	5.00	66.600	1200	381090.427	385009.577	1.600
SWMH07	0.260	5.00	66.600	1200	381090.562	385034.806	1.850
SWMH9			67.300	1500	381103.719	385043.758	3.670
10			68.850	1500	381104.262	384997.447	5.535
SWMH05A			66.700	1350	380986.252	385044.561	2.200

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	SWMH01	SWMH02	51.000	0.600	64.850	64.700	0.150	340.0	300	6.00	50.0
1.001	SWMH02	SWMH04	41.000	0.600	64.700	64.550	0.150	273.3	375	6.63	48.0
1.002	SWMH04	SWMH05A	11.192	0.600	64.550	64.500	0.050	223.8	375	6.78	47.5
2.000	SWMH03	SWMH04	86.000	0.600	65.650	64.625	1.025	83.9	300	5.83	50.0
3.000	SWMH06	SWMH07	25.229	0.600	65.000	64.750	0.250	100.9	300	5.27	50.0
3.001	SWMH07	SWMH08	9.344	0.600	64.750	64.000	0.750	12.5	300	5.30	50.0
1.004	SWMH08	SWMH9	10.987	0.600	64.000	63.630	0.370	29.7	375	7.66	42.8
1.006	SWMH9	10	46.314	0.600	63.630	63.315	0.315	147.0	525	8.08	43.4
1.004_1	SWMH05	SWMH08	97.000	0.600	64.400	64.000	0.400	242.5	1050	7.61	45.4

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.847	59.9	3.4	1.000	1.150	0.025	0.0	48	0.463
1.001	1.091	120.5	37.1	1.075	2.075	0.285	0.0	142	0.964
1.002	1.207	133.3	56.0	2.075	1.825	0.435	0.0	170	1.156
2.000	1.717	121.4	20.3	1.050	2.075	0.150	0.0	82	1.282
3.000	1.565	110.6	35.2	1.300	1.550	0.260	0.0	116	1.397
3.001	4.477	316.5	70.5	1.550	2.400	0.520	0.0	96	3.629
1.004	3.335	368.4	135.2	2.325	3.295	1.165	0.0	157	3.090
1.006	1.845	399.3	137.1	3.145	5.010	1.165	0.0	211	1.679
1.004_1	2.208	5736.2	79.4	1.250	1.650	0.645	0.0	84	0.814

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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.003	SWMH05A	SWMH05	9.939	0.600	64.500	64.400	0.100	99.4	375	6.88	47.8

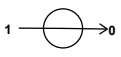
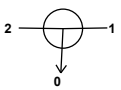
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.003	1.817	200.7	56.4	1.825	1.925	0.435	0.0	135	1.566

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	51.000	340.0	300	Circular	66.150	64.850	1.000	66.150	64.700	1.150
1.001	41.000	273.3	375	Circular	66.150	64.700	1.075	67.000	64.550	2.075
1.002	11.192	223.8	375	Circular	67.000	64.550	2.075	66.700	64.500	1.825
2.000	86.000	83.9	300	Circular	67.000	65.650	1.050	67.000	64.625	2.075
3.000	25.229	100.9	300	Circular	66.600	65.000	1.300	66.600	64.750	1.550
3.001	9.344	12.5	300	Circular	66.600	64.750	1.550	66.700	64.000	2.400
1.004	10.987	29.7	375	Circular	66.700	64.000	2.325	67.300	63.630	3.295
1.006	46.314	147.0	525	Circular	67.300	63.630	3.145	68.850	63.315	5.010
1.004_1	97.000	242.5	1050	twin	66.700	64.400	1.250	66.700	64.000	1.650
1.003	9.939	99.4	375	Circular	66.700	64.500	1.825	66.700	64.400	1.925

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	SWMH01	1200	Manhole	Adoptable	SWMH02	1350	Manhole	Adoptable
1.001	SWMH02	1350	Manhole	Adoptable	SWMH04	1350	Manhole	Adoptable
1.002	SWMH04	1350	Manhole	Adoptable	SWMH05A	1350	Manhole	Adoptable
2.000	SWMH03	1200	Manhole	Adoptable	SWMH04	1350	Manhole	Adoptable
3.000	SWMH06	1200	Manhole	Adoptable	SWMH07	1200	Manhole	Adoptable
3.001	SWMH07	1200	Manhole	Adoptable	SWMH08	3000	Manhole	Adoptable
1.004	SWMH08	3000	Manhole	Adoptable	SWMH9	1500	Manhole	Adoptable
1.006	SWMH9	1500	Manhole	Adoptable	10	1500	Manhole	Adoptable
1.004_1	SWMH05	4050	Manhole	Adoptable	SWMH08	3000	Manhole	Adoptable
1.003	SWMH05A	1350	Manhole	Adoptable	SWMH05	4050	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SWMH01	380875.420	385057.015	66.150	1.300	1200	 0	1.000	64.850	300
SWMH02	380915.318	385056.780	66.150	1.450	1350	1  0	1.000 1.001	64.700 64.700	300 375
SWMH04	380986.806	385055.739	67.000	2.450	1350	1  2 0	2.000 1.001 1.002	64.625 64.550 64.550	300 375 375

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SWMH05	380996.158	385045.367	66.700	2.300	4050	1	1.003	64.400	375
						0	1.004_1	64.400	1050
SWMH08	381092.733	385043.894	66.700	2.700	3000	1	3.001	64.000	300
						2	1.004_1	64.000	1050
						0	1.004	64.000	375
SWMH03	381033.866	385056.508	67.000	1.350	1200	0	2.000	65.650	300
SWMH06	381090.427	385009.577	66.600	1.600	1200	0	3.000	65.000	300
SWMH07	381090.562	385034.806	66.600	1.850	1200	1	3.000	64.750	300
						0	3.001	64.750	300
SWMH9	381103.719	385043.758	67.300	3.670	1500	1	1.004	63.630	375
						0	1.006	63.630	525
10	381104.262	384997.447	68.850	5.535	1500	1	1.006	63.315	525
SWMH05A	380986.252	385044.561	66.700	2.200	1350	1	1.002	64.500	375
						0	1.003	64.500	375

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
Ratio-R	0.400	Starting Level (m)	
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	30	0	0
100	30	0	0

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Node SWMH08 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	64.000	Product Number	CTL-SHE-0290-5470-2200-5470
Design Depth (m)	2.200	Min Outlet Diameter (m)	0.375
Design Flow (l/s)	54.7	Min Node Diameter (mm)	3000

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