

Title	Farmers Stores, Goddards Green, BN6 9LE	Job No:	E9427
Description :	Surface Water Storage Calculations (FEH Data)	By:	JWM
	Gatehouse 2 Development Site - Revision B	Date:	Nov-25
		Sheet No:	1

Design Data

FEH Point Data - 528898_119926

Design Criteria

Design Storm = 100Yr + 45% Climate Change

Design Storm = 30Yr + 35% Climate Change

CV Value 1.0 (in accordance MSDC Flood Risk and Drainage Requirements)

Discharge Point

Surface Water ditch on south-western boundary of Gatehouse 2 area

Design Discharge Rate

Restricted to 3.4l/s (less than Qbar) for all storms up to and including the 1:100yr event = 45% climate change allowance using orifice flow restriction devices

Total Impermeable Area = 5,330m² or 0.533Ha

Results

Development Site has been split in to 3No. Catchment Areas each with it's own flow restriction device and attenuation within the voided sub-base of hard paved areas.

Discharge to existing ditch via new headwall on the existing ditch

Development Site catchments are as follows.

Catchment Area	Contributing Area (m ²)	Discharge Rate (l/s)	Permeable Paving Depth	Sub-Base Depth	Orifice Diameter
Catchment A:	1,730	0.9	920mm	750mm	23mm
Catchment B:	1,630	1.4	1,140mm	870mm	32mm
Catchment C:	1,970	1.1	970mm	800mm	25mm
Total	5,330	3.4			

Please refer to attached sheets

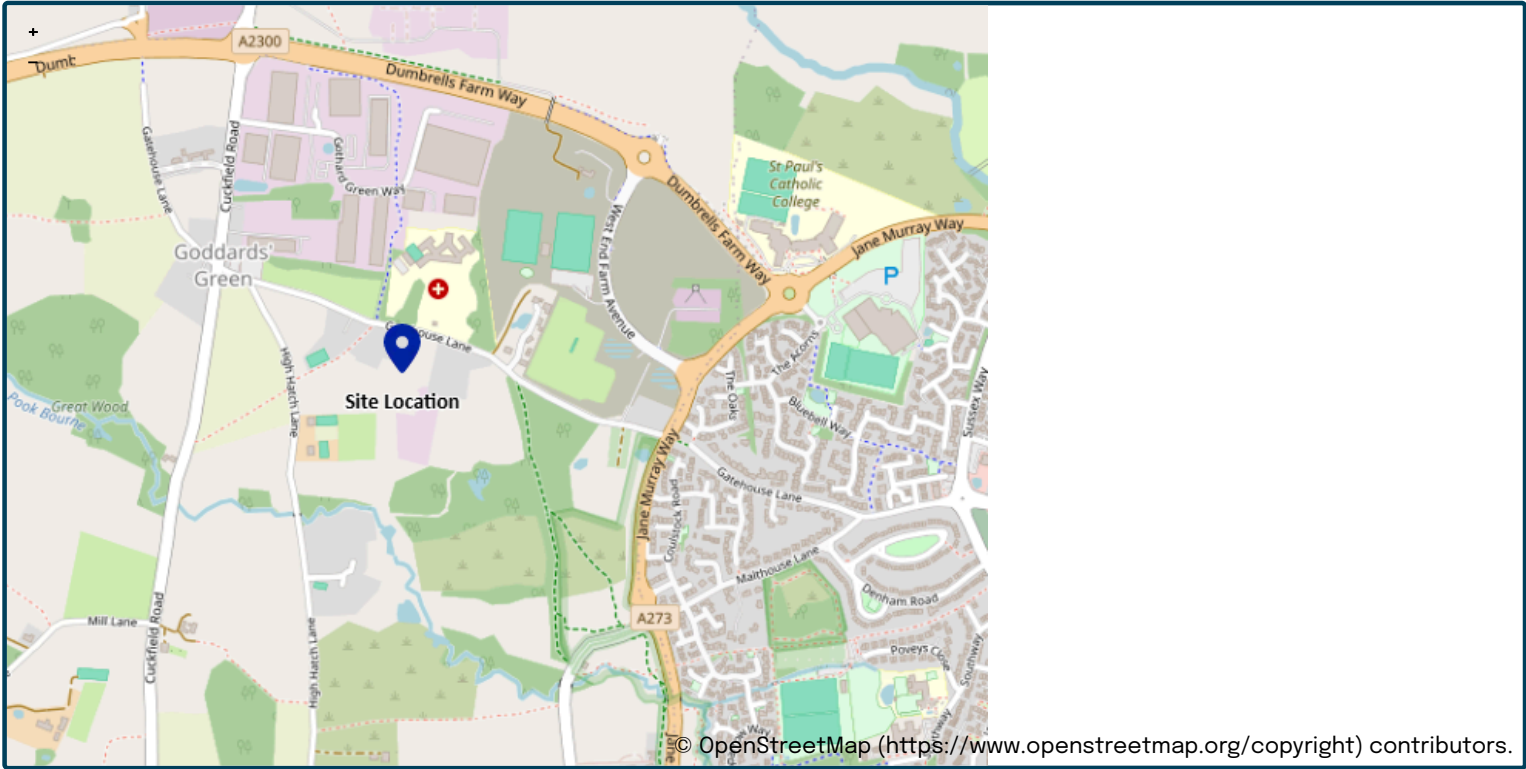
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	10/11/2025
Calculated by	SWP Ltd
Reference	E9427
Model version	2.2.2

Location

Site name	GateHouse Lane Phase 2
Site location	Goddards Green



Site easting (British National Grid)	528871
Site northing (British National Grid)	119847

Site details

Total site area (ha)	.53	ha
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Greenfield runoff

Method

Method	FEH statistical (2025)
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FEH statistical (2025)

	<u>My value</u>	<u>Map value</u>
SAAR9120 (mm)	812	mm
BFIHOST19scaled	0.236	
QMed-QBar conversion	1.136	1.136
QMed (l/s)	4	l/s
QBar (FEH statistical 2025) (l/s)	4.5	l/s

Growth curve factors

	<u>My value</u>	<u>Map value</u>
Hydrological region	7	7
1 year growth factor	0.85	
2 year growth factor	0.88	
10 year growth factor	1.62	
30 year growth factor	2.3	
100 year growth factor	3.19	
200 year growth factor	3.74	

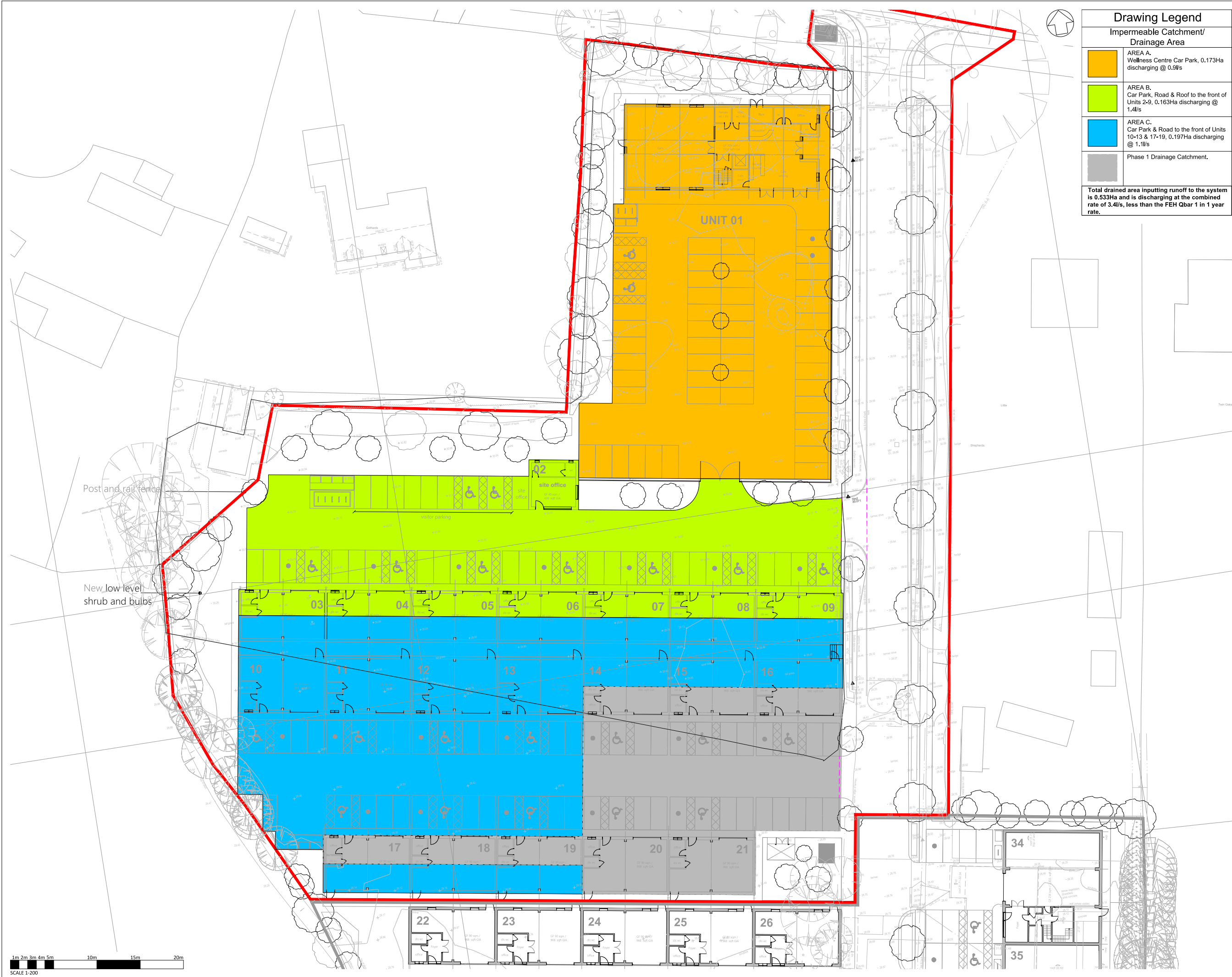
Results

Method	FEH statistical (2025)
Flow rate 1 year (l/s)	3.8
Flow rate 2 year (l/s)	4.0
Flow rate 10 years (l/s)	7.3
Flow rate 30 years (l/s)	10.3
Flow rate 100 years (l/s)	14.3
Flow rate 200 years (l/s)	16.8

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.2) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.



Drawing Legend	
Impermeable Catchment/ Drainage Area	
	AREA A. Wellness Centre Car Park, 0.173Ha discharging @ 0.9l/s
	AREA B. Car Park, Road & Roof to the front of Units 2-9, 0.163Ha discharging @ 1.4l/s
	AREA C. Car Park & Road to the front of Units 10-13 & 17-19, 0.197Ha discharging @ 1.1l/s
	Phase 1 Drainage Catchment.
Total drained area inputting runoff to the system is 0.533Ha and is discharging at the combined rate of 3.4l/s, less than the FEH Qbar 1 in 1 year rate.	

- NOTES:
1. This drawing is to be read in conjunction with all other SWP drawings, and with all relevant architect's and engineer's drawings and specification and any discrepancies found are to be reported immediately to the engineer.
 2. No dimensions are to be scaled from this drawing, unless noted otherwise all dimensions are in millimeters and all levels are in metres from the site datum.
 3. All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
 4. The electronic information from this drawing can not be guaranteed as dimensionally drawn exact, figured dimensions must be used for setting out and detailing. swp logos and company information must be removed from copies if information is re-used.
 5. The main contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
 6. The main contractor is responsible for all occurrences of ground water during the construction period.
 7. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care and attention whilst undertaking the works.
 8. The contractor must comply with all current legislation relating to health & safety.
 9. All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any swp drawings, the manufacturers instructions must be used.

P02	01.12.2025	CATCHMENT AREAS UPDATED
P01	20.05.2025	PRELIMINARY ISSUE
REV.	DATE	DESCRIPTION
PRELIMINARY		
SWP STEPHEN WILSON PARTNERSHIP LTD Chalvington Barn, Dittons Business Park, Dittons Road, POLEGATE, BN26 6HY Telephone: 01323 412020 E-mail: info@swpeast.co.uk • Website: www.swpeast.co.uk		
CLIENT BEDFORD PARK DEVELOPMENTS		
ARCHITECT THE ORANGERY		
JOB TITLE GATEHOUSE LANE DEVELOPMENT, GODDARDS GREEN, BN6 9LE		
DRAWING TITLE PHASE 2 IMPERMEABLE CATCHMENT AREAS		
SCALE AT A1 1:250	DATE MAY 25 ENG. JWM	DRAWN JWM CHECKED DMG
RIBA STATUS S3	STAGE3 - SPATIAL COORDINATION REVIEW AND COMMENT	
JOB No. E9427	DRAWING No. PROJECT - ORIGINATOR - VOLUME - LEVEL - FORM - DESCRIPTION - NUMBER 9427-SWP-ZZ-XX-DP-C-1102	REV. P02

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99 South Street Eastbourne BN20 4LU	E9427 Gatehouse Hub P2 Goddards Green, BN 6 9LE SW Calculations (FEH Data)	
Date 28/11/2025 16:10 File E9427 Gatehouse 2 FEH.MDX	Designed by SWP Ltd Checked by SWP Ltd	
Micro Drainage		Network 2020.1.2

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model	
Return Period (years)	100
FEH Rainfall Version	2013
Site Location GB 528898 119926 TQ 28898 19926	
Data Type	Point
Maximum Rainfall (mm/hr)	50
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.750
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	1.00
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.074	12-16	0.039	24-28	0.038	36-40	0.018	48-52	0.010
4-8	0.111	16-20	0.039	28-32	0.000	40-44	0.028		
8-12	0.111	20-24	0.039	32-36	0.000	44-48	0.028		

Total Area Contributing (ha) = 0.533

Total Pipe Volume (m³) = 8.702

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length	Fall	Slope	I.Area	T.E.	Base	k	HYD	DIA	Section	Type	Auto
(m)	(m)	(1:X)	(ha)	(mins)	Flow	(l/s)	(mm)	SECT	(mm)			Design

Network Results Table

PN	Rain	T.C.	US/IL	Σ I.Area	Σ Base	Foul	Add Flow	Vel	Cap	Flow
(mm/hr)	(mins)	(m)	(ha)	Flow (l/s)	(l/s)	(l/s)	(l/s)	(m/s)	(l/s)	(l/s)

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Eastbourne
BN20 4LU

E9427 Gatehouse Hub P2
Goddards Green, BN 6 9LE
SW Calculations (FEH Data)

Date 28/11/2025 16:10
File E9427 Gatehouse 2 FEH.MDX

Designed by SWP Ltd
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Micro Drainage

Network 2020.1.2

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)	Section Type	Auto Design
1.000	4.000	0.040	100.0	0.173	12.00	0.0	0.600	o	300	Pipe/Conduit	
1.001	69.000	0.460	150.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.002	10.500	0.070	150.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.000	84.550	0.001	84550.0	0.083	12.00	0.0	0.600	o	225	Pipe/Conduit	
3.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	
4.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	
5.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	
6.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	
7.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	
8.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	
9.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	
10.000	4.800	0.048	100.0	0.010	12.00	0.0	0.600	o	100	Pipe/Conduit	

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	12.04	29.070	0.173	0.0	0.0	0.0	1.57	111.1	23.4
1.001	50.00	13.45	29.030	0.173	0.0	0.0	0.0	0.82	14.5«	23.4
1.002	50.00	13.66	28.570	0.173	0.0	0.0	0.0	0.82	14.5«	23.4
2.000	50.00	30.00	28.795	0.083	0.0	0.0	0.0	0.04	1.5«	11.2
3.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4
4.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4
5.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4
6.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4
7.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4
8.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4
9.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4
10.000	50.00	12.10	29.175	0.010	0.0	0.0	0.0	0.77	6.0	1.4

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Date 28/11/2025 16:10 File E9427 Gatehouse 2 FEH.MDX					Designed by SWP Ltd Checked by SWP Ltd						
Micro Drainage					Network 2020.1.2						
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)	Section Type	Auto Design
2.001	5.500	0.245	22.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.003	25.700	0.170	151.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
11.000	49.000	0.001	49000.0	0.117	12.00	0.0	0.600	o	225	Pipe/Conduit	
12.000	12.000	0.120	100.0	0.022	12.00	0.0	0.600	o	225	Pipe/Conduit	
13.000	4.800	0.048	100.0	0.012	12.00	0.0	0.600	o	100	Pipe/Conduit	
14.000	4.800	0.048	100.0	0.012	12.00	0.0	0.600	o	100	Pipe/Conduit	
15.000	4.800	0.048	100.0	0.012	12.00	0.0	0.600	o	100	Pipe/Conduit	
16.000	5.800	0.058	100.0	0.022	12.00	0.0	0.600	o	150	Pipe/Conduit	
11.001	3.000	0.030	100.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.004	1.000	0.010	100.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
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)	
2.001	50.00	30.00	28.794	0.163	0.0	0.0	0.0	2.13	37.7	22.1	
1.003	50.00	30.00	28.500	0.336	0.0	0.0	0.0	0.81	14.4«	45.5	
11.000	50.00	27.80	27.710	0.117	0.0	0.0	0.0	0.05	2.1«	15.8	
12.000	50.00	12.15	28.230	0.022	0.0	0.0	0.0	1.31	52.0	3.0	
13.000	50.00	12.10	28.300	0.012	0.0	0.0	0.0	0.77	6.0	1.6	
14.000	50.00	12.10	28.300	0.012	0.0	0.0	0.0	0.77	6.0	1.6	
15.000	50.00	12.10	28.300	0.012	0.0	0.0	0.0	0.77	6.0	1.6	
16.000	50.00	12.10	28.155	0.022	0.0	0.0	0.0	1.00	17.8	3.0	
11.001	50.00	27.84	27.710	0.197	0.0	0.0	0.0	1.31	52.0	26.7	
1.004	50.00	30.00	27.680	0.533	0.0	0.0	0.0	1.31	52.0«	72.2	
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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	300	S04	30.175	29.070	0.805	Open Manhole	1200 x 1000
1.001	o	150	S05	30.150	29.030	0.970	Open Manhole	1350
1.002	o	150	S06	30.205	28.570	1.485	Open Manhole	1350
2.000	o	225	S07	30.020	28.795	1.000	Open Manhole	1200
3.000	o	100	Ic04	30.075	29.175	0.800	Junction	
4.000	o	100	Ic05	30.075	29.175	0.800	Junction	
5.000	o	100	Ic06	30.075	29.175	0.800	Junction	
6.000	o	100	Ic07	30.075	29.175	0.800	Junction	
7.000	o	100	Ic08	30.075	29.175	0.800	Junction	
8.000	o	100	Ic09	30.075	29.175	0.800	Junction	
9.000	o	100	Ic10	30.075	29.175	0.800	Junction	
10.000	o	100	Ic11	30.075	29.175	0.800	Junction	

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	4.000	100.0	S05	30.150	29.030	0.820	Open Manhole	1350
1.001	69.000	150.0	S06	30.205	28.570	1.485	Open Manhole	1350
1.002	10.500	150.0	S09	30.000	28.500	1.350	Open Manhole	1350
2.000	84.550	84550.0	S08	30.145	28.794	1.126	Open Manhole	1200 x 1000
3.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000
4.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000
5.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000
6.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000
7.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000
8.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000
9.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000
10.000	4.800	100.0	S08	30.145	29.127	0.918	Open Manhole	1200 x 1000

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Micro Drainage	Network 2020.1.2	

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)
2.001	o	150	S08	30.145	28.794	1.201	Open Manhole	1200 x 1000
1.003	o	150	S09	30.000	28.500	1.350	Open Manhole	1350
11.000	o	225	S15a	29.025	27.710	1.090	Open Manhole	1200
12.000	o	225	S13	29.200	28.230	0.745	Junction	
13.000	o	100	Ic12	29.200	28.300	0.800	Junction	
14.000	o	100	Ic13	29.200	28.300	0.800	Junction	
15.000	o	100	Ic14	29.200	28.300	0.800	Junction	
16.000	o	150	Ic20	29.050	28.155	0.745	Junction	
11.001	o	225	S15	29.025	27.710	1.090	Open Manhole	1200
1.004	o	225	S16	29.350	27.680	1.445	Open Manhole	1350

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)
2.001	5.500	22.4	S09	30.000	28.549	1.301	Open Manhole	1350
1.003	25.700	151.2	S16	29.350	28.330	0.870	Open Manhole	1350
11.000	49.000	49000.0	S15	29.025	27.709	1.091	Open Manhole	1200
12.000	12.000	100.0	S15	29.025	28.110	0.690	Open Manhole	1200
13.000	4.800	100.0	S15	29.025	28.252	0.673	Open Manhole	1200
14.000	4.800	100.0	S15	29.025	28.252	0.673	Open Manhole	1200
15.000	4.800	100.0	S15	29.025	28.252	0.673	Open Manhole	1200
16.000	5.800	100.0	S15	29.025	28.097	0.778	Open Manhole	1200
11.001	3.000	100.0	S16	29.350	27.680	1.445	Open Manhole	1350
1.004	1.000	100.0		29.400	27.670	1.505	Open Manhole	0

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Micro Drainage Network 2020.1.2		

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall C. Level Name (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.004	29.400	27.670	0.000	0	0

Simulation Criteria for Storm

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	3
Number of Online Controls	3	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)	20.000	Storm Duration (mins)	30
Ratio R	0.350		

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Micro Drainage	Network 2020.1.2	
<u>Online Controls for Storm</u> <u>Orifice Manhole: S05, DS/PN: 1.001, Volume (m³): 1.8</u> Diameter (m) 0.023 Discharge Coefficient 0.600 Invert Level (m) 29.030 <u>Orifice Manhole: S08, DS/PN: 2.001, Volume (m³): 5.2</u> Diameter (m) 0.032 Discharge Coefficient 0.600 Invert Level (m) 28.794 <u>Orifice Manhole: S15, DS/PN: 11.001, Volume (m³): 4.0</u> Diameter (m) 0.025 Discharge Coefficient 0.600 Invert Level (m) 27.710		
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Micro Drainage		Network 2020.1.2

Storage Structures for Storm

Porous Car Park Manhole: S05, DS/PN: 1.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	41.5
Membrane Percolation (mm/hr)	1000	Length (m)	31.0
Max Percolation (l/s)	357.4	Slope (1:X)	100.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	29.070	Cap Volume Depth (m)	0.750

Porous Car Park Manhole: S08, DS/PN: 2.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	95.5
Membrane Percolation (mm/hr)	1000	Length (m)	12.0
Max Percolation (l/s)	318.3	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	28.794	Cap Volume Depth (m)	0.870

Porous Car Park Manhole: S15, DS/PN: 11.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	48.0
Membrane Percolation (mm/hr)	1000	Length (m)	15.6
Max Percolation (l/s)	208.0	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	27.710	Cap Volume Depth (m)	0.960

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99 South Street
Eastbourne
BN20 4LU

E9427 Gatehouse Hub P2
Goddards Green, BN 6 9LE
SW Calculations (FEH Data)

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File E9427 Gatehouse 2 FEH.MDX

Designed by SWP Ltd
Checked by SWP Ltd

Micro Drainage

Network 2020.1.2

2 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/ha Storage 2.000

Hot Start Level (mm) 0

Inlet Coefficient 0.800

Manhole Headloss Coeff (Global) 0.500

Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0

Number of Storage Structures 3

Number of Online Controls 3

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH

FEH Rainfall Version 2013

Site Location GB 528898 119926 TQ 28898 19926

Data Type Point

Cv (Summer) 1.000

Cv (Winter) 1.000

Margin for Flood Risk Warning (mm) 300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status ON

DVD Status OFF

Inertia Status OFF

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440

Return Period(s) (years) 2, 30, 100

Climate Change (%) 0, 0, 45

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level
1.000	S04	480 Winter	2	+0%	30/120 Summer				29.333
1.001	S05	480 Winter	2	+0%	2/15 Summer				29.332
1.002	S06	480 Winter	2	+0%					28.591
2.000	S07	30 Summer	2	+0%	30/15 Summer				28.926
3.000	Ic04	30 Summer	2	+0%					29.205
4.000	Ic05	30 Summer	2	+0%					29.205
5.000	Ic06	30 Summer	2	+0%					29.205
6.000	Ic07	30 Summer	2	+0%					29.205
7.000	Ic08	30 Summer	2	+0%					29.205
8.000	Ic09	30 Summer	2	+0%					29.205
9.000	Ic10	30 Summer	2	+0%					29.205
10.000	Ic11	30 Summer	2	+0%					29.205
2.001	S08	1440 Summer	2	+0%	30/60 Summer				28.921
1.003	S09	960 Summer	2	+0%					28.531
11.000	S15a	1440 Summer	2	+0%	2/360 Summer				27.991
12.000	S13	30 Summer	2	+0%					28.264

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Micro Drainage	Network 2020.1.2	

2 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)					
1.000	S04	-0.037	0.000	0.08		5.0	OK	
1.001	S05	0.152	0.000	0.04		0.6	SURCHARGED	
1.002	S06	-0.129	0.000	0.05		0.6	OK	
2.000	S07	-0.094	0.000	0.63		10.0	OK	
3.000	Ic04	-0.070	0.000	0.20		1.2	OK*	
4.000	Ic05	-0.070	0.000	0.20		1.2	OK*	
5.000	Ic06	-0.070	0.000	0.20		1.2	OK*	
6.000	Ic07	-0.070	0.000	0.20		1.2	OK*	
7.000	Ic08	-0.070	0.000	0.20		1.2	OK*	
8.000	Ic09	-0.070	0.000	0.20		1.2	OK*	
9.000	Ic10	-0.070	0.000	0.20		1.2	OK*	
10.000	Ic11	-0.070	0.000	0.20		1.2	OK*	
2.001	S08	-0.023	0.000	0.02		0.7	OK	
1.003	S09	-0.119	0.000	0.10		1.3	OK	
11.000	S15a	0.056	0.000	0.15		2.3	SURCHARGED	
12.000	S13	-0.191	0.000	0.05		2.7	OK*	

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99 South Street Eastbourne BN20 4LU	E9427 Gatehouse Hub P2 Goddards Green, BN 6 9LE SW Calculations (FEH Data)	
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Micro Drainage	Network 2020.1.2	

2 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

										Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	
13.000	Ic12	30 Summer	2	+0%					28.333	
14.000	Ic13	30 Summer	2	+0%					28.333	
15.000	Ic14	30 Summer	2	+0%					28.333	
16.000	Ic20	30 Summer	2	+0%					28.197	
11.001	S15	1440 Summer	2	+0%	2/480 Summer				27.991	
1.004	S16	480 Summer	2	+0%					27.716	

		Surcharged		Flooded			Pipe		
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	Status	Level Exceeded	
13.000	Ic12	-0.067	0.000	0.24		1.4	OK*		
14.000	Ic13	-0.067	0.000	0.24		1.4	OK*		
15.000	Ic14	-0.067	0.000	0.24		1.4	OK*		
16.000	Ic20	-0.108	0.000	0.18		2.7	OK*		
11.001	S15	0.056	0.000	0.02		0.6	SURCHARGED		
1.004	S16	-0.189	0.000	0.06		1.9	OK		

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99 South Street Eastbourne BN20 4LU				E9427 Gatehouse Hub P2 Goddards Green, BN 6 9LE SW Calculations (FEH Data)						
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Micro Drainage				Network 2020.1.2						
30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm										
Simulation Criteria										
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000				
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000				
Hot Start Level (mm)		0		Inlet Coefficient		0.800				
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000				
Foul Sewage per hectare (l/s)		0.000								
Number of Input Hydrographs		0		Number of Storage Structures		3				
Number of Online Controls		3		Number of Time/Area Diagrams		0				
Number of Offline Controls		0		Number of Real Time Controls		0				
Synthetic Rainfall Details										
Rainfall Model				FEH						
FEH Rainfall Version				2013						
Site Location				GB 528898 119926 TQ 28898 19926						
Data Type				Point						
Cv (Summer)				1.000						
Cv (Winter)				1.000						
Margin for Flood Risk Warning (mm)				300.0						
Analysis Timestep				2.5 Second Increment (Extended)						
DTS Status				ON						
DVD Status				OFF						
Inertia Status				OFF						
Profile(s)				Summer and Winter						
Duration(s) (mins)				15, 30, 60, 120, 240, 360, 480, 960, 1440						
Return Period(s) (years)				2, 30, 100						
Climate Change (%)				0, 0, 45						
Water Level										
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	
1.000	S04	960 Winter	30	+0%	30/120 Summer				29.453	
1.001	S05	960 Winter	30	+0%	2/15 Summer				29.453	
1.002	S06	960 Winter	30	+0%					28.592	
2.000	S07	30 Summer	30	+0%	30/15 Summer				29.190	
3.000	Ic04	30 Summer	30	+0%					29.223	
4.000	Ic05	30 Summer	30	+0%					29.223	
5.000	Ic06	30 Summer	30	+0%					29.223	
6.000	Ic07	30 Summer	30	+0%					29.223	
7.000	Ic08	30 Summer	30	+0%					29.223	
8.000	Ic09	30 Summer	30	+0%					29.223	
9.000	Ic10	30 Summer	30	+0%					29.223	
10.000	Ic11	30 Summer	30	+0%					29.223	
2.001	S08	960 Summer	30	+0%	30/60 Summer				29.022	
1.003	S09	960 Summer	30	+0%					28.535	
11.000	S15a	1440 Winter	30	+0%	2/360 Summer				28.196	
12.000	S13	30 Summer	30	+0%					28.283	
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Micro Drainage	Network 2020.1.2	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

		Surcharged	Flooded			Pipe		
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	S04	0.083	0.000	0.09		5.3	SURCHARGED	
1.001	S05	0.273	0.000	0.05		0.7	SURCHARGED	
1.002	S06	-0.128	0.000	0.05		0.7	OK	
2.000	S07	0.170	0.000	1.43		22.4	SURCHARGED	
3.000	Ic04	-0.052	0.000	0.46		2.8	OK*	
4.000	Ic05	-0.052	0.000	0.46		2.8	OK*	
5.000	Ic06	-0.052	0.000	0.46		2.8	OK*	
6.000	Ic07	-0.052	0.000	0.46		2.8	OK*	
7.000	Ic08	-0.052	0.000	0.46		2.8	OK*	
8.000	Ic09	-0.052	0.000	0.46		2.8	OK*	
9.000	Ic10	-0.052	0.000	0.46		2.8	OK*	
10.000	Ic11	-0.052	0.000	0.46		2.8	OK*	
2.001	S08	0.078	0.000	0.03		1.0	SURCHARGED	
1.003	S09	-0.115	0.000	0.12		1.7	OK	
11.000	S15a	0.261	0.000	0.17		2.6	SURCHARGED	
12.000	S13	-0.172	0.000	0.13		6.1	OK*	

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Micro Drainage	Network 2020.1.2	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH		Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water
	Name	Storm							Level (m)
13.000	Ic12	30 Summer	30	+0%					28.353
14.000	Ic13	30 Summer	30	+0%					28.353
15.000	Ic14	30 Summer	30	+0%					28.353
16.000	Ic20	30 Summer	30	+0%					28.221
11.001	S15	1440 Winter	30	+0%	2/480 Summer				28.195
1.004	S16	960 Winter	30	+0%					27.722

PN	US/MH		Surcharged Flooded		Flow / Overflow		Pipe	Level	
	Name		Depth (m)	Volume (m³)	Cap.	(l/s)	Flow (l/s)	Status	Exceeded
13.000	Ic12		-0.047	0.000	0.55		3.3	OK*	
14.000	Ic13		-0.047	0.000	0.55		3.3	OK*	
15.000	Ic14		-0.047	0.000	0.55		3.3	OK*	
16.000	Ic20		-0.084	0.000	0.41		6.1	OK*	
11.001	S15		0.260	0.000	0.02		0.7	SURCHARGED	
1.004	S16		-0.183	0.000	0.08		2.4	OK	

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E9427 Gatehouse Hub P2
Goddards Green, BN 6 9LE
SW Calculations (FEH Data)

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Designed by SWP Ltd
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Micro Drainage

Network 2020.1.2

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/ha Storage 2.000

Hot Start Level (mm) 0

Inlet Coefficient 0.800

Manhole Headloss Coeff (Global) 0.500

Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0

Number of Storage Structures 3

Number of Online Controls 3

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH

FEH Rainfall Version 2013

Site Location GB 528898 119926 TQ 28898 19926

Data Type Point

Cv (Summer) 1.000

Cv (Winter) 1.000

Margin for Flood Risk Warning (mm) 300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status ON

DVD Status OFF

Inertia Status OFF

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440

Return Period(s) (years) 2, 30, 100

Climate Change (%) 0, 0, 45

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level
									(m)
1.000	S04	1440 Winter	100	+45%	30/120 Summer				29.701
1.001	S05	1440 Winter	100	+45%	2/15 Summer				29.701
1.002	S06	1440 Winter	100	+45%					28.596
2.000	S07	30 Summer	100	+45%	30/15 Summer				29.626
3.000	Ic04	30 Summer	100	+45%					29.246
4.000	Ic05	30 Summer	100	+45%					29.246
5.000	Ic06	30 Summer	100	+45%					29.246
6.000	Ic07	30 Summer	100	+45%					29.246
7.000	Ic08	30 Summer	100	+45%					29.246
8.000	Ic09	30 Summer	100	+45%					29.246
9.000	Ic10	30 Summer	100	+45%					29.246
10.000	Ic11	30 Summer	100	+45%					29.246
2.001	S08	1440 Summer	100	+45%	30/60 Summer				29.243
1.003	S09	960 Winter	100	+45%					28.541
11.000	S15a	30 Summer	100	+45%	2/360 Summer				28.661
12.000	S13	1440 Winter	100	+45%					28.455

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Micro Drainage	Network 2020.1.2	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)					
1.000	S04	0.441	0.000	0.12		7.1	SURCHARGED	
1.001	S05	0.521	0.000	0.06		0.9	SURCHARGED	
1.002	S06	-0.124	0.000	0.07		0.9	OK	
2.000	S07	0.606	0.000	2.64		41.4	SURCHARGED	
3.000	Ic04	-0.029	0.000	0.86		5.2	OK*	
4.000	Ic05	-0.029	0.000	0.86		5.2	OK*	
5.000	Ic06	-0.029	0.000	0.86		5.2	OK*	
6.000	Ic07	-0.029	0.000	0.86		5.2	OK*	
7.000	Ic08	-0.029	0.000	0.86		5.2	OK*	
8.000	Ic09	-0.029	0.000	0.86		5.2	OK*	
9.000	Ic10	-0.029	0.000	0.86		5.2	OK*	
10.000	Ic11	-0.029	0.000	0.86		5.2	OK*	
2.001	S08	0.299	0.000	0.05		1.4	SURCHARGED	
1.003	S09	-0.109	0.000	0.17		2.3	OK	
11.000	S15a	0.726	0.000	3.87		59.2	SURCHARGED	
12.000	S13	0.000	0.000	0.02		0.9	SURCHARGED*	

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Micro Drainage			Network 2020.1.2						
30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm									
Simulation Criteria									
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000			
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000			
Hot Start Level (mm)		0		Inlet Coeffiecient		0.800			
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000			
Foul Sewage per hectare (l/s)		0.000							
Number of Input Hydrographs		0		Number of Storage Structures		3			
Number of Online Controls		3		Number of Time/Area Diagrams		0			
Number of Offline Controls		0		Number of Real Time Controls		0			
Synthetic Rainfall Details									
Rainfall Model			FEH						
FEH Rainfall Version			2013						
Site Location			GB 528898 119926 TQ 28898 19926						
Data Type			Point						
Cv (Summer)			1.000						
Cv (Winter)			1.000						
Margin for Flood Risk Warning (mm)			300.0						
Analysis Timestep			2.5 Second Increment (Extended)						
DTS Status			ON						
DVD Status			OFF						
Inertia Status			OFF						
Profile(s)			Summer and Winter						
Duration(s) (mins)			15, 30, 60, 120, 240, 360, 480, 960, 1440						
Return Period(s) (years)			30						
Climate Change (%)			35						
Water									
PN	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000	S04	960 Winter	30	+35%	30/30 Summer				29.553
1.001	S05	960 Winter	30	+35%	30/15 Summer				29.552
1.002	S06	960 Winter	30	+35%					28.594
2.000	S07	30 Summer	30	+35%	30/15 Summer				29.337
3.000	Ic04	30 Summer	30	+35%					29.232
4.000	Ic05	30 Summer	30	+35%					29.232
5.000	Ic06	30 Summer	30	+35%					29.232
6.000	Ic07	30 Summer	30	+35%					29.232
7.000	Ic08	30 Summer	30	+35%					29.232
8.000	Ic09	30 Summer	30	+35%					29.232
9.000	Ic10	30 Summer	30	+35%					29.232
10.000	Ic11	30 Summer	30	+35%					29.232
2.001	S08	960 Summer	30	+35%	30/30 Summer				29.113
1.003	S09	960 Winter	30	+35%					28.538
11.000	S15a	1440 Winter	30	+35%	30/15 Summer				28.379
12.000	S13	1440 Winter	30	+35%					28.378
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Micro Drainage	Network 2020.1.2	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

		Surcharged	Flooded			Pipe		
	US/MH	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	S04	0.183	0.000	0.12		7.1	SURCHARGED	
1.001	S05	0.372	0.000	0.06		0.8	SURCHARGED	
1.002	S06	-0.126	0.000	0.06		0.8	OK	
2.000	S07	0.317	0.000	1.92		30.3	SURCHARGED	
3.000	Ic04	-0.043	0.000	0.62		3.8	OK*	
4.000	Ic05	-0.043	0.000	0.62		3.8	OK*	
5.000	Ic06	-0.043	0.000	0.62		3.8	OK*	
6.000	Ic07	-0.043	0.000	0.62		3.8	OK*	
7.000	Ic08	-0.043	0.000	0.62		3.8	OK*	
8.000	Ic09	-0.043	0.000	0.62		3.8	OK*	
9.000	Ic10	-0.043	0.000	0.62		3.8	OK*	
10.000	Ic11	-0.043	0.000	0.62		3.8	OK*	
2.001	S08	0.169	0.000	0.04		1.2	SURCHARGED	
1.003	S09	-0.112	0.000	0.14		2.0	OK	
11.000	S15a	0.444	0.000	0.23		3.5	SURCHARGED	
12.000	S13	-0.077	0.000	0.01		0.7	OK*	

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Micro Drainage	Network 2020.1.2	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH		Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Water	
	Name	Storm						Overflow Act.	Level (m)
13.000	Ic12	1440 Winter	30	+35%					28.378
14.000	Ic13	1440 Winter	30	+35%					28.378
15.000	Ic14	1440 Winter	30	+35%					28.378
16.000	Ic20	960 Summer	30	+35%					28.305
11.001	S15	1440 Winter	30	+35%	30/15 Summer				28.378
1.004	S16	960 Winter	30	+35%					27.727

PN	US/MH		Surcharged Flooded		Flow / Overflow		Pipe Flow	Status	Level Exceeded
	Name		Depth (m)	Volume (m³)	Cap.	(l/s)	(l/s)		
13.000	Ic12		-0.022	0.000	0.06		0.4	OK*	
14.000	Ic13		-0.022	0.000	0.06		0.4	OK*	
15.000	Ic14		-0.022	0.000	0.06		0.4	OK*	
16.000	Ic20		0.000	0.000	0.09		1.4	SURCHARGED*	
11.001	S15		0.443	0.000	0.03		0.9	SURCHARGED	
1.004	S16		-0.178	0.000	0.10		2.9	OK	

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Micro Drainage	Network 2020.1.2	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

										Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.		Level (m)
13.000	Ic12	240 Winter	100	+45%						28.400
14.000	Ic13	240 Winter	100	+45%						28.400
15.000	Ic14	240 Winter	100	+45%						28.400
16.000	Ic20	120 Winter	100	+45%						28.305
11.001	S15	1440 Winter	100	+45%	2/480 Summer					28.645
1.004	S16	1440 Winter	100	+45%						27.730

		Surcharged		Flooded			Pipe		
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded	
13.000	Ic12	0.000	0.000	0.32		1.9	SURCHARGED*		
14.000	Ic13	0.000	0.000	0.32		1.9	SURCHARGED*		
15.000	Ic14	0.000	0.000	0.32		1.9	SURCHARGED*		
16.000	Ic20	0.000	0.000	0.38		5.7	SURCHARGED*		
11.001	S15	0.710	0.000	0.04		1.1	SURCHARGED		
1.004	S16	-0.175	0.000	0.11		3.4	OK		