
From: Ray Drabble
Sent: 22 May 2018 15:27
To: Jane Moseley
Cc: Kevin Macknay
Subject: RE: WSCC/015/18/NH - WSCC Drainage response : Clariifcation

Jane,

I can confirm that the LLFA is satisfied with all the information provided in relation to flood risk and drainage for the above referenced application. The development will not create flood risk elsewhere.

Kind regards

Ray Drabble
Flood Risk Engineer (Sustainable Drainage)
Economy, Infrastructure and Environment
Highways and Transport
West Sussex County Council

 CALL  IM  EMAIL

Location: Western Area Office, Drayton Lane, Nr. Chichester, West Sussex. PO20 2AJ.

Contact: **Internal:** 24077 | **External:** +44 (0)330 2224077 | **Mobile:** +44 (0)7590183138 | **E-mail:** Ray.Drabble@westsussex.gov.uk

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From: Jane Moseley
Sent: 22 May 2018 12:31
To: Ray Drabble
Subject: FW: WSCC/015/18/NH - WSCC Drainage response : Clariifcation

Ray

Can you please confirm whether you are now satisfied with the information provided in relation to the above application.

Thanks
Jane.

Jane Moseley
County Planning Team Manager | Planning Services | Economy, Planning, and Place Directorate
West Sussex County Council, Ground Floor, Northleigh, County Hall, Chichester PO19 1RH
Phone: 0330 22 26948
Email: jane.moseley@westsussex.gov.uk | Web: www.westsussex.gov.uk

From: Wayne Llewellyn [mailto:wayne.llewellyn@rpsgroup.com]
Sent: 21 May 2018 10:50
To: Daniel Smyth
Cc: Keith (k9riley@aol.com)
Subject: RE: WSCC/015/18/NH - WSCC Drainage response : Clariifcation

Morning Dan,

Following receipt of WSCC letter reference WSCC/015/18/NH, dated 10th April 2018, we can respond as follows to the queries raised in Section 3 – Surface Water:

3. Temporary Overland Flood Volumes Plan drawing NK018074-RPS-EFWXX-DR-D-0302 is contained within the report. However, for ease of reference, I attach a copy;
4. The use of a lower safety factor will not affect the design as infiltration is not being used. For completeness, I attach an updated calculation, based on a safety factor of 3 for reference. Please refer to page 16 of the attached calculation sheet SWS01; and
5. Agreed.

I trust the above and attached is acceptable.

Kindest regards

Wayne

Wayne Llewellyn
Principal Engineering Co-ordinator - RPS Design & Development
Sherwood House, Sherwood Avenue,
Newark, Nottinghamshire, NG24 1QQ.
United Kingdom
Tel: +44 (0) 1636 605 700
Email: wayne.llewellyn@rpsgroup.com
www: www.rpsgroup.com

From: Daniel Smyth
Sent: 16 May 2018 18:14
To: Wayne Llewellyn
Cc: Keith (k9riley@aol.com)
Subject: FW: WSCC/015/18/NH - WSCC Drainage response : Clariifcation
Importance: High

Hi Wayne

Can you give me a call to discuss the attached and extract below. Keith – you may have a view.

Thanks

Dan

Daniel Smyth
Senior Director - RPS Planning & Environment
6-7 Lovers Walk,
Brighton, East Sussex, BN1 6AH.
United Kingdom
Tel: +44 (0) 1273 546 800
Mobile: +44 (0) 7831 222516
Email: smythD@rpsgroup.com
www: www.rpsgroup.com

From: Sam Dumbrell [mailto:sam.dumbrell@westsussex.gov.uk]
Sent: 16 May 2018 16:18
To: Daniel Smyth <smythD@rpsgroup.com>
Cc: Keith Riley (k9riley@aol.com) <k9riley@aol.com>
Subject: [EXT] WSCC/015/18/NH - WSCC Drainage response : Clariifcation
Importance: High

Dan,

As discussed earlier, please find attached WSCC's Drainage 'No objection' response. On discussion, with Ray Drabble today, he has concerns still as per paras 3.3 - 3.5 in his response. These are:

"The storage capacity that the applicant has suggested, based upon our analyses, is a significant underestimate. Hence, why I have indicated insufficient information to assess whether or not this development will increase flood risk elsewhere.

The LLFA is unwilling to support the application until we have resolved the storage issue. Put another way, the FRA is required to demonstrate no increase in flood risk off site. Until I see their additional calculations on which they have based their storage, The documentation, as presented, does not currently satisfy this."

and

If, as I estimate, they need to increase their storage capacity by an additional 40%, then they will need to re-draw their plans.

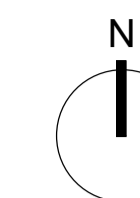
Please can you and Keith look at this, with a view to responding/resolving **by 28/05/18** so I can update Ray.

Regards, Sam

<p>Sam Dumbrell Senior Planner - County Planning, Planning Services, Economy, Planning, and Place Directorate West Sussex County Council Location: County Hall, Chichester, West Sussex, PO19 1RH Internal: 26947 External: 0330 222 6947 E-mail: sam.dumbrell@westsussex.gov.uk</p>
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Notes

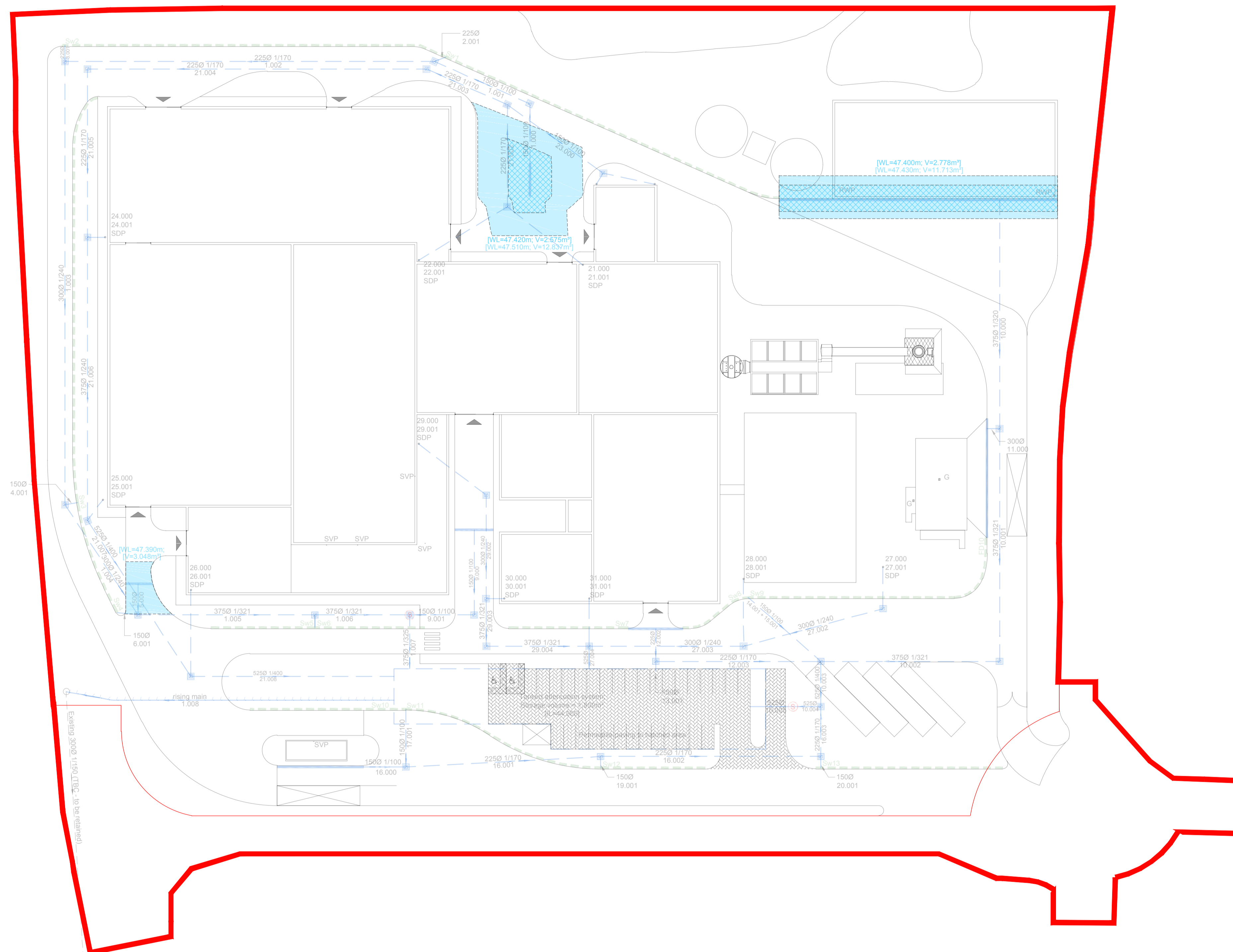
1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
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3. This drawing should be read in conjunction with all other relevant drawings and specifications.



Site Boundary

Key

- Temporary Flooding (100yr + 20%)
- Temporary Flooding (100yr + 40%)



Temporary Overland Flooded Volumes Plan
Scale 1:500

Rev	Description	By	Ckd	Date
P02	Flooded volumes updated in line with revised drainage strategy.	MF	WL	13.03.18



Sherwood House, Sherwood Avenue,
Newark, Nottinghamshire, NG24 1QQ
T:01636 605 700 E: rpsnewark@rpsgroup.com

Client




Project Sussex EFW

Title Temporary Overland Flooded Volumes Plan

Status	Scale	Date Created
Preliminary	1:500 @A1	19.02.2018
Project Leader	Drawn By	Checked by
DM	MF	WL

Document Number	Revision	Subsidiary
NK018074 - RPS-EFW-XX-DR-D-0302	P02	S3

















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Technology Services Sherwood House, Sherwood Ave. Newark, Nottinghamshire, NG24 1QQ	NK018074 - Sussex - 3R's Facility, Wealden Works [drg RPS-EFW-XX-DR-0300-P04]	
Date 17.05.18 File NK018074-RPS-EFW-XX-CS-D-	Designed by WL Checked by MF	
Innovyze	Network 2016.1	

STORM SEWER DESIGN by the Modified Rational Method


Network Design Table for Storm

- Indicates pipe length does not match coordinates
 << - Indicates pipe capacity < flow

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	11.792	0.118	100.0	0.063	4.00	0.0	0.600	o	150	Pipe/Conduit	
1.001	20.804	0.208	100.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
2.001	2.475	0.015	170.0	0.106	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.002	73.579	0.433	170.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
3.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
3.001	3.250	0.019	170.0	0.122	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.003	88.303	0.368	240.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
4.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
4.001	2.556	0.026	100.0	0.048	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.004	26.354	0.110	240.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
5.000	6.225	0.062	100.4	0.071	4.00	0.0	0.600	o	150	Pipe/Conduit	
6.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
6.001	4.177	0.042	100.0	0.029	0.00	0.0	0.600	o	150	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	65.00	4.20	46.375	0.063	0.0	0.0	0.0	1.00	17.8	11.1
1.001	65.00	4.54	46.257	0.063	0.0	0.0	0.0	1.00	17.8	11.1
2.000	65.00	4.20	46.575	0.000	0.0	0.0	0.0	0.82	14.5	0.0
2.001	65.00	4.24	46.433	0.106	0.0	0.0	0.0	1.00	39.8	18.7
1.002	61.81	5.77	45.974	0.169	0.0	0.0	0.0	1.00	39.8	28.3
3.000	65.00	4.20	46.525	0.000	0.0	0.0	0.0	0.82	14.5	0.0
3.001	65.00	4.26	46.383	0.122	0.0	0.0	0.0	1.00	39.8	21.5
1.003	55.88	7.22	45.466	0.291	0.0	0.0	0.0	1.01	71.4	44.0
4.000	65.00	4.20	46.600	0.000	0.0	0.0	0.0	0.82	14.5	0.0
4.001	65.00	4.25	46.533	0.048	0.0	0.0	0.0	1.00	17.8	8.4
1.004	54.36	7.66	45.098	0.339	0.0	0.0	0.0	1.01	71.4	49.9
5.000	65.00	4.10	46.270	0.071	0.0	0.0	0.0	1.00	17.7	12.5
6.000	65.00	4.20	46.550	0.000	0.0	0.0	0.0	0.82	14.5	0.0
6.001	65.00	4.27	46.483	0.029	0.0	0.0	0.0	1.00	17.8	5.1

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Technology Services Sherwood House, Sherwood Ave. Newark, Nottinghamshire, NG24 1QQ	NK018074 - Sussex - 3R's Facility, Wealden Works [drg RPS-EFW-XX-DR-0300-P04]	
Date 17.05.18 File NK018074-RPS-EFW-XX-CS-D-	Designed by WL Checked by MF	
Innovyze	Network 2016.1	


STORM SEWER DESIGN by the Modified Rational Method

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
1.005	35.226	0.110	321.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
7.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
7.001	2.484	0.025	100.0	0.054	0.00	0.0	0.600	o	150	Pipe/Conduit	
8.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
8.001	2.484	0.025	100.0	0.048	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.006	18.888	0.059	321.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
9.000	16.961	0.170	100.0	0.056	4.00	0.0	0.600	o	150	Pipe/Conduit	
9.001	12.835	0.128	100.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.007	10.734#	0.033	325.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
10.000	45.510	0.142	321.0	0.273	4.00	0.0	0.600	o	375	Pipe/Conduit	
11.000	5.000#	0.021	240.0	0.121	4.00	0.0	0.600	o	300	Pipe/Conduit	
10.001	46.371	0.144	321.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
10.002	35.598	0.111	321.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
12.000	10.000#	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
12.001	0.500#	0.005	100.0	0.021	0.00	0.0	0.600	o	150	Pipe/Conduit	
12.002	6.453#	0.038	169.8	0.008	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)
1.005	52.47	8.24	44.913	0.439	0.0	0.0	0.0	1.01	111.1	62.4
7.000	65.00	4.20	46.605	0.000	0.0	0.0	0.0	0.82	14.5	0.0
7.001	65.00	4.24	46.538	0.054	0.0	0.0	0.0	1.00	17.8	9.5
8.000	65.00	4.20	46.605	0.000	0.0	0.0	0.0	0.82	14.5	0.0
8.001	65.00	4.24	46.538	0.048	0.0	0.0	0.0	1.00	17.8	8.4
1.006	51.51	8.55	44.804	0.541	0.0	0.0	0.0	1.01	111.1	75.5
9.000	65.00	4.28	46.275	0.056	0.0	0.0	0.0	1.00	17.8	9.9
9.001	65.00	4.49	46.105	0.056	0.0	0.0	0.0	1.00	17.8	9.9
1.007	50.99	8.73	44.745	0.597	0.0	0.0	0.0	1.00	110.3	82.4
10.000	65.00	4.75	46.370	0.273	0.0	0.0	0.0	1.01	111.1	48.1
11.000	65.00	4.08	47.100	0.121	0.0	0.0	0.0	1.01	71.4	21.3
10.001	62.96	5.52	46.228	0.394	0.0	0.0	0.0	1.01	111.1	67.2
10.002	60.27	6.11	46.084	0.394	0.0	0.0	0.0	1.01	111.1	67.2
12.000	65.00	4.20	46.605	0.000	0.0	0.0	0.0	0.82	14.5	0.0
12.001	65.00	4.21	46.538	0.021	0.0	0.0	0.0	1.00	17.8	3.7
12.002	65.00	4.32	46.458	0.029	0.0	0.0	0.0	1.00	39.8	5.1

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Innovyze	Network 2016.1	


STORM SEWER DESIGN by the Modified Rational Method

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
13.000	2.000#	0.020	100.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
13.001	2.000#	0.020	100.0	0.162	0.00	0.0	0.600	o	150	Pipe/Conduit	
12.003	32.867	0.193	170.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
14.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
14.001	19.276	0.193	99.9	0.032	0.00	0.0	0.600	o	150	Pipe/Conduit	
15.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
15.001	19.276	0.193	99.9	0.171	0.00	0.0	0.600	o	225	Pipe/Conduit	
10.003	9.000	0.023	400.0	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
16.000	8.367	0.084	100.0	0.016	4.00	0.0	0.600	o	150	Pipe/Conduit	
17.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
17.001	11.550	0.116	100.0	0.054	0.00	0.0	0.600	o	150	Pipe/Conduit	
18.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
18.001	11.550	0.116	100.0	0.055	0.00	0.0	0.600	o	150	Pipe/Conduit	
16.001	38.801	0.228	170.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
19.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	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)
13.000	65.00	4.03	47.180	0.000	0.0	0.0	0.0	1.00	17.8	0.0
13.001	65.00	4.03	46.580	0.000	5.0	0.0	0.0	1.00	17.8	5.0
12.003	65.00	4.87	46.420	0.029	5.0	0.0	0.0	1.00	39.8	10.1
14.000	65.00	4.20	46.455	0.000	0.0	0.0	0.0	0.82	14.5	0.0
14.001	65.00	4.52	46.388	0.032	0.0	0.0	0.0	1.01	17.8	5.6
15.000	65.00	4.20	46.455	0.000	0.0	0.0	0.0	0.82	14.5	0.0
15.001	65.00	4.45	46.313	0.171	0.0	0.0	0.0	1.31	52.0	30.1
10.003	59.69	6.25	45.820	0.626	5.0	0.0	0.0	1.11	241.1	106.2
16.000	65.00	4.14	47.120	0.016	0.0	0.0	0.0	1.00	17.8	2.8
17.000	65.00	4.20	47.010	0.000	0.0	0.0	0.0	0.82	14.5	0.0
17.001	65.00	4.40	46.943	0.054	0.0	0.0	0.0	1.00	17.8	9.5
18.000	65.00	4.20	47.010	0.000	0.0	0.0	0.0	0.82	14.5	0.0
18.001	65.00	4.40	46.943	0.055	0.0	0.0	0.0	1.00	17.8	9.7
16.001	65.00	5.04	46.753	0.125	0.0	0.0	0.0	1.00	39.8	22.0
19.000	65.00	4.20	47.300	0.000	0.0	0.0	0.0	0.82	14.5	0.0

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Date 17.05.18 File NK018074-RPS-EFW-XX-CS-D-	Designed by WL Checked by MF	
Innovyze	Network 2016.1	


STORM SEWER DESIGN by the Modified Rational Method

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
19.001	2.250	0.023	100.0	0.018	0.00	0.0	0.600	o	150	Pipe/Conduit	
16.002	43.879	0.258	170.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
20.000	10.000	0.067	150.0	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
20.001	2.251	0.023	100.0	0.042	0.00	0.0	0.600	o	150	Pipe/Conduit	
16.003	9.962	0.059	168.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
10.004	5.533	0.014	400.0	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
10.005	8.500#	0.021	400.0	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
21.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	225	Pipe/Conduit	
21.001	18.992	5.685	3.3	0.047	0.00	0.0	0.600	o	150	Pipe/Conduit	
22.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	225	Pipe/Conduit	
22.001	20.651	5.760	3.6	0.092	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.002	20.325	0.120	169.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
23.000	23.462	0.235	99.8	0.014	4.00	0.0	0.600	o	150	Pipe/Conduit	
21.003	17.578	0.103	170.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.004	67.527	0.397	170.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.005	33.574	0.197	170.4	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)
19.001	65.00	4.24	47.233	0.018	0.0	0.0	0.0	1.00	17.8	3.2
16.002	61.78	5.77	46.525	0.143	0.0	0.0	0.0	1.00	39.7	23.9
20.000	65.00	4.20	47.495	0.000	0.0	0.0	0.0	0.82	14.5	0.0
20.001	65.00	4.24	47.428	0.042	0.0	0.0	0.0	1.00	17.8	7.4
16.003	61.03	5.94	46.267	0.185	0.0	0.0	0.0	1.00	39.9	30.6
10.004	59.35	6.33	45.798	0.811	5.0	0.0	0.0	1.11	241.1	135.3
10.005	58.82	6.46	45.784	0.811	5.0	0.0	0.0	1.11	241.1	135.3
21.000	65.00	2.26	52.400	0.000	0.0	0.0	0.0	0.65	25.8	0.0
21.001	65.00	2.31	52.375	0.047	0.0	0.0	0.0	5.55	98.2	8.3
22.000	65.00	2.26	52.400	0.000	0.0	0.0	0.0	0.65	25.8	0.0
22.001	65.00	2.31	52.375	0.092	0.0	0.0	0.0	6.96	276.7	16.2
21.002	65.00	2.65	46.340	0.139	0.0	0.0	0.0	1.00	39.8	24.5
23.000	65.00	4.39	46.900	0.014	0.0	0.0	0.0	1.01	17.8	2.5
21.003	65.00	4.68	46.220	0.153	0.0	0.0	0.0	1.00	39.7	26.9
21.004	61.62	5.81	46.117	0.153	0.0	0.0	0.0	1.00	39.7	26.9
21.005	59.18	6.37	45.720	0.153	0.0	0.0	0.0	1.00	39.7	26.9

RPS Group Plc		Page 5
Technology Services Sherwood House, Sherwood Ave. Newark, Nottinghamshire, NG24 1QQ	NK018074 - Sussex - 3R's Facility, Wealden Works [drg RPS-EFW-XX-DR-0300-P04]	
Date 17.05.18 File NK018074-RPS-EFW-XX-CS-D-	Designed by WL Checked by MF	
Innovyze	Network 2016.1	

STORM SEWER DESIGN by the Modified Rational Method

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
24.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	150	Pipe/Conduit	
24.001	3.450	5.475	0.6	0.247	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.006	56.402	0.235	240.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
25.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	300	Pipe/Conduit	
25.001	5.102	5.360	1.0	0.324	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.007	37.221	0.074	500.0	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
26.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	150	Pipe/Conduit	
26.001	17.184	7.749	2.2	0.065	0.00	0.0	0.600	o	150	Pipe/Conduit	
21.008	40.457#	0.081	500.0	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
27.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	150	Pipe/Conduit	
27.001	8.252	5.080	1.6	0.229	0.00	0.0	0.600	o	150	Pipe/Conduit	
27.002	28.743	0.120	239.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
28.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	100	Pipe/Conduit	
28.001	13.384	5.555	2.4	0.059	0.00	0.0	0.600	o	150	Pipe/Conduit	
27.003	30.773	0.128	240.4	0.000	0.00	0.0	0.600	o	300	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)
24.000	65.00	2.34	52.325	0.000	0.0	0.0	0.0	0.50	8.8	0.0
24.001	65.00	2.34	52.225	0.247	0.0	0.0	0.0	16.62	660.8	43.5
21.006	56.05	7.18	45.373	0.400	0.0	0.0	0.0	1.17	128.7	60.7
25.000	65.00	2.21	52.250	0.000	0.0	0.0	0.0	0.78	55.1	0.0
25.001	65.00	2.22	52.225	0.324	0.0	0.0	0.0	13.52	537.6	57.0
21.007	53.89	7.80	44.400	0.724	0.0	0.0	0.0	0.99	215.4	105.7
26.000	65.00	2.34	52.475	0.000	0.0	0.0	0.0	0.50	8.8	0.0
26.001	65.00	2.38	52.450	0.065	0.0	0.0	0.0	6.82	120.5	11.4
21.008	51.75	8.48	44.326	0.789	0.0	0.0	0.0	0.99	215.4	110.6
27.000	65.00	2.34	52.325	0.000	0.0	0.0	0.0	0.50	8.8	0.0
27.001	65.00	2.35	52.300	0.229	0.0	0.0	0.0	7.97	140.9	40.3
27.002	65.00	2.83	46.770	0.229	0.0	0.0	0.0	1.01	71.5	40.3
28.000	65.00	2.44	52.400	0.000	0.0	0.0	0.0	0.38	3.0	0.0
28.001	65.00	2.47	52.325	0.059	0.0	0.0	0.0	6.54	115.6	10.4
27.003	65.00	3.33	46.620	0.288	0.0	0.0	0.0	1.01	71.4	50.7

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Date 17.05.18

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STORM SEWER DESIGN by the Modified Rational Method

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
29.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	100	Pipe/Conduit	
29.001	16.917	5.610	3.0	0.202	0.00	0.0	0.600	o	225	Pipe/Conduit	
29.002	20.648	0.086	240.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
30.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	100	Pipe/Conduit	
30.001	3.626	5.735	0.6	0.019	0.00	0.0	0.600	o	225	Pipe/Conduit	
29.003	9.467	0.029	321.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
29.004	20.469	0.064	321.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
31.000	10.000	0.025	400.0	0.000	2.00	0.0	0.600	o	100	Pipe/Conduit	
31.001	9.450	6.000	1.6	0.034	0.00	0.0	0.600	o	225	Pipe/Conduit	
27.004	4.500#	0.011	409.1	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
1.008	65.447#	-0.550	-119.0	0.000	0.00	0.0	0.600	o	150	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)
29.000	65.00	2.44	52.325	0.000	0.0	0.0	0.0	0.38	3.0	0.0
29.001	65.00	2.48	52.175	0.202	0.0	0.0	0.0	7.59	301.8	35.6
29.002	65.00	2.82	46.490	0.202	0.0	0.0	0.0	1.01	71.4	35.6
30.000	65.00	2.44	52.400	0.000	0.0	0.0	0.0	0.38	3.0	0.0
30.001	65.00	2.44	52.250	0.019	0.0	0.0	0.0	16.59	659.7	3.3
29.003	65.00	2.97	46.329	0.221	0.0	0.0	0.0	1.01	111.1	38.9
29.004	65.00	3.31	46.299	0.221	0.0	0.0	0.0	1.01	111.1	38.9
31.000	65.00	2.44	52.325	0.000	0.0	0.0	0.0	0.38	3.0	0.0
31.001	65.00	2.46	52.175	0.034	0.0	0.0	0.0	10.51	417.8	6.0
27.004	65.00	3.40	45.875	0.543	0.0	0.0	0.0	1.10	238.4	95.6
1.008	37.27	15.77	43.800	0.000	14.9	0.0	0.0	0.09	1.6<<	14.9



Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
ACO	47.350	0.975	Open Manhole	1200	1.000	46.375	150				
S1	47.440	1.183	Open Manhole	1200	1.001	46.257	150	1.000	46.257	150	
Dummy	47.400	0.825	Open Manhole	1200	2.000	46.575	150				
Sw1	47.400	0.967	Open Manhole	1200	2.001	46.433	225	2.000	46.508	150	
S2	47.415	1.441	Open Manhole	1200	1.002	45.974	225	1.001	46.049	150	
								2.001	46.419	225	445
Dummy	47.350	0.825	Open Manhole	1200	3.000	46.525	150				
Sw2	47.350	0.967	Open Manhole	1200	3.001	46.383	225	3.000	46.458	150	
S3	47.410	1.944	Open Manhole	1200	1.003	45.466	300	1.002	45.541	225	
								3.001	46.364	225	823
Dummy	47.425	0.825	Open Manhole	1200	4.000	46.600	150				
Sw3	47.425	0.892	Open Manhole	1200	4.001	46.533	150	4.000	46.533	150	
S4	47.480	2.382	Open Manhole	1200	1.004	45.098	300	1.003	45.098	300	
								4.001	46.508	150	1259
ACO	47.270	1.000	Open Manhole	1200	5.000	46.270	150				
Dummy	47.375	0.825	Open Manhole	1200	6.000	46.550	150				
Sw4	47.375	0.892	Open Manhole	1200	6.001	46.483	150	6.000	46.483	150	
S5	47.375	2.462	Open Manhole	1350	1.005	44.913	375	1.004	44.988	300	
								5.000	46.208	150	1070
								6.001	46.442	150	1303
Dummy	47.430	0.825	Open Manhole	1200	7.000	46.605	150				
Sw5	47.430	0.892	Open Manhole	1200	7.001	46.538	150	7.000	46.538	150	
Dummy	47.430	0.825	Open Manhole	1200	8.000	46.605	150				
Sw6	47.430	0.892	Open Manhole	1200	8.001	46.538	150	8.000	46.538	150	
S6	47.555	2.751	Open Manhole	1350	1.006	44.804	375	1.005	44.804	375	
								7.001	46.513	150	1485
								8.001	46.513	150	1485
ACO	47.275	1.000	Open Manhole	1200	9.000	46.275	150				
S7	47.355	1.250	Open Manhole	1200	9.001	46.105	150	9.000	46.105	150	
S8	47.555	2.810	Open Manhole	1350	1.007	44.745	375	1.006	44.745	375	
								9.001	45.977	150	1007
ACO	47.370	1.000	Open Manhole	1350	10.000	46.370	375				
ACO	48.100	1.000	Open Manhole	1200	11.000	47.100	300				
S11	48.160	1.932	Open Manhole	1350	10.001	46.228	375	10.000	46.228	375	
								11.000	47.079	300	776
S12	48.760	2.676	Open Manhole	1350	10.002	46.084	375	10.001	46.084	375	
Dummy	47.430	0.825	Open Manhole	1200	12.000	46.605	150				
Sw7	47.430	0.892	Open Manhole	1200	12.001	46.538	150	12.000	46.538	150	
ACO	47.430	0.972	Open Manhole	1200	12.002	46.458	225	12.001	46.533	150	
Dummy	47.630	0.450	Open Manhole	1200	13.000	47.180	150				
Porous CP	47.630	1.050	Open Manhole	1200	13.001	46.580	150	13.000	47.160	150	580
S13	47.715	1.295	Open Manhole	1200	12.003	46.420	225	12.002	46.420	225	
								13.001	46.560	150	65
Dummy	47.280	0.825	Open Manhole	1200	14.000	46.455	150				

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Date 17.05.18

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
Sw8	47.280	0.892	Open Manhole	1200	14.001	46.388	150	14.000	46.388	150	
Dummy	47.280	0.825	Open Manhole	1200	15.000	46.455	150				
Sw9	47.280	0.967	Open Manhole	1200	15.001	46.313	225	15.000	46.388	150	
S14	47.935	2.115	Open Manhole	1500	10.003	45.820	525	10.002	45.973	375	3
								12.003	46.227	225	107
								14.001	46.195	150	
								15.001	46.120	225	
ACO	48.120	1.000	Open Manhole	1200	16.000	47.120	150				
Dummy	47.835	0.825	Open Manhole	1200	17.000	47.010	150				
Sw10	47.835	0.892	Open Manhole	1200	17.001	46.943	150	17.000	46.943	150	
Dummy	47.835	0.825	Open Manhole	1200	18.000	47.010	150				
Sw11	47.835	0.892	Open Manhole	1200	18.001	46.943	150	18.000	46.943	150	
S15	48.120	1.367	Open Manhole	1200	16.001	46.753	225	16.000	47.036	150	208
								17.001	46.828	150	
								18.001	46.828	150	
Dummy	48.125	0.825	Open Manhole	1200	19.000	47.300	150				
Sw12	48.125	0.892	Open Manhole	1200	19.001	47.233	150	19.000	47.233	150	
S16	48.265	1.740	Open Manhole	1200	16.002	46.525	225	16.001	46.525	225	
								19.001	47.211	150	611
Dummy	48.320	0.825	Open Manhole	1200	20.000	47.495	150				
Sw13	48.420	0.992	Open Manhole	1200	20.001	47.428	150	20.000	47.428	150	
S17	48.450	2.183	Open Manhole	1200	16.003	46.267	225	16.002	46.267	225	
								20.001	47.406	150	1064
S18	48.325	2.527	Open Manhole	1500	10.004	45.798	525	10.003	45.798	525	
								16.003	46.208	225	110
S19	48.000	2.216	Open Manhole	1500	10.005	45.784	525	10.004	45.784	525	
Dummy	52.650	0.250	Open Manhole	1200	21.000	52.400	225				
SDP	52.650	0.275	Open Manhole	1200	21.001	52.375	150	21.000	52.375	225	
Dummy	52.650	0.250	Open Manhole	1200	22.000	52.400	225				
SDP	52.650	0.275	Open Manhole	1200	22.001	52.375	225	22.000	52.375	225	
S20	47.440	1.100	Open Manhole	1200	21.002	46.340	225	21.001	46.690	150	275
								22.001	46.615	225	275
S21	47.650	0.750	Open Manhole	1200	23.000	46.900	150				
S22	47.485	1.265	Open Manhole	1200	21.003	46.220	225	21.002	46.220	225	
								23.000	46.665	150	370
S23	47.460	1.343	Open Manhole	1200	21.004	46.117	225	21.003	46.117	225	
S24	47.440	1.720	Open Manhole	1200	21.005	45.720	225	21.004	45.720	225	
Dummy	52.650	0.325	Open Manhole	1200	24.000	52.325	150				
SDP	52.650	0.425	Open Manhole	1200	24.001	52.225	225	24.000	52.300	150	
S25	47.575	2.202	Open Manhole	1350	21.006	45.373	375	21.005	45.523	225	
								24.001	46.750	225	1227
Dummy	52.650	0.400	Open Manhole	1200	25.000	52.250	300				
SDP	52.650	0.425	Open Manhole	1200	25.001	52.225	225	25.000	52.225	300	
S26	47.565	3.165	Open Manhole	1500	21.007	44.400	525	21.006	45.138	375	588

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
Dummy	52.650	0.175	Open Manhole	1200	26.000	52.475	150	25.001	46.865	225	2165
SDP	52.650	0.200	Open Manhole	1200	26.001	52.450	150	26.000	52.450	150	
S27	47.670	3.344	Open Manhole	1500	21.008	44.326	525	21.007	44.326	525	
								26.001	44.701	150	
Dummy	52.650	0.325	Open Manhole	1200	27.000	52.325	150				
SDP	52.650	0.350	Open Manhole	1200	27.001	52.300	150	27.000	52.300	150	
S28	47.970	1.200	Open Manhole	1200	27.002	46.770	300	27.001	47.220	150	300
Dummy	52.650	0.250	Open Manhole	1200	28.000	52.400	100				
SDP	52.650	0.325	Open Manhole	1200	28.001	52.325	150	28.000	52.375	100	
S29	47.520	0.900	Open Manhole	1200	27.003	46.620	300	27.002	46.650	300	30
								28.001	46.770	150	
Dummy	52.650	0.325	Open Manhole	1200	29.000	52.325	100				
SDP	52.650	0.475	Open Manhole	1200	29.001	52.175	225	29.000	52.300	100	
S30	47.390	0.900	Open Manhole	1200	29.002	46.490	300	29.001	46.565	225	
Dummy	52.650	0.250	Open Manhole	1200	30.000	52.400	100				
SDP	52.650	0.400	Open Manhole	1200	30.001	52.250	225	30.000	52.375	100	
S31	47.340	1.011	Open Manhole	1350	29.003	46.329	375	29.002	46.404	300	
								30.001	46.515	225	36
S32	47.515	1.216	Open Manhole	1350	29.004	46.299	375	29.003	46.299	375	
Dummy	52.650	0.325	Open Manhole	1200	31.000	52.325	100				
SDP	52.650	0.475	Open Manhole	1200	31.001	52.175	225	31.000	52.300	100	
S33	47.515	1.640	Open Manhole	1500	27.004	45.875	525	27.003	46.492	300	392
								29.004	46.236	375	211
								31.001	46.175	225	
Attenuation	47.630	3.830	Open Manhole	1500	1.008	43.800	150	1.007	44.712	375	1137
								10.005	45.763	525	2338
								21.008	44.245	525	820
								27.004	45.864	525	2439
	48.000	3.650	Open Manhole	0		OUTFALL		1.008	44.350	150	

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Setting Out Information - True Coordinates (Storm)

- Indicates pipe length does not match coordinates

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
1.000	ACO	1200		517105.244	134374.809	
1.001	S1	1200		517105.244	134386.601	
2.000	Dummy	1200				
2.001	Sw1	1200		517088.534	134395.922	
1.002	S2	1200		517086.225	134395.031	
3.000	Dummy	1200				
3.001	Sw2	1200		517012.646	134398.281	
1.003	S3	1200		517012.646	134395.031	
4.000	Dummy	1200				
4.001	Sw3	1200		517015.169	134307.138	
1.004	S4	1200		517012.646	134306.728	
5.000	ACO	1200		517027.196	134290.979	
6.000	Dummy	1200				
6.001	Sw4	1200		517023.050	134285.258	
1.005	S5	1350		517027.196	134284.754	
7.000	Dummy	1200				
7.001	Sw5	1200		517062.422	134282.270	
8.000	Dummy	1200				

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Setting Out Information - True Coordinates (Storm)

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
8.001	Sw6	1200		517062.422	134282.270	
1.006	S6	1350		517062.422	134284.754	
9.000	ACO	1200		517094.145	134301.715	
9.001	S7	1200		517094.145	134284.754	
1.007	S8	1350		517081.310 #	134284.770 #	
10.000	ACO	1350		517198.783	134367.402	
11.000	ACO	1200		517196.283 #	134321.892 #	
10.001	S11	1350		517198.783	134321.892	
10.002	S12	1350		517198.783	134275.520	
12.000	Dummy	1200				
12.001	Sw7	1200				
12.002	ACO	1200		517130.318 #	134285.020 #	
13.000	Dummy	1200		517130.318 #	134273.520 #	
13.001	Porous CP	1200				
12.003	S13	1200		517130.318	134275.520	
14.000	Dummy	1200				
14.001	Sw8	1200		517148.729	134288.270	
15.000	Dummy	1200				
15.001	Sw9	1200		517148.729	134288.270	

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Setting Out Information - True Coordinates (Storm)

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
10.003	S14	1500		517163.185	134275.520	
16.000	ACO	1200		517072.195	134254.458	
17.000	Dummy	1200				
17.001	Sw10	1200		517080.562	134266.008	
18.000	Dummy	1200				
18.001	Sw11	1200		517080.562	134266.008	
16.001	S15	1200		517080.562	134254.458	
19.000	Dummy	1200				
19.001	Sw12	1200		517119.306	134254.308	
16.002	S16	1200		517119.306	134256.558	
20.000	Dummy	1200				
20.001	Sw13	1200		517163.185	134254.308	
16.003	S17	1200		517163.185	134256.558	
10.004	S18	1500		517163.185	134266.520	
10.005	S19	1500		517157.652 #	134266.520 #	
21.000	Dummy	1200				
21.001	SDP	1200		517115.808	134354.520	
22.000	Dummy	1200				
22.001	SDP	1200		517083.058	134355.420	

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Setting Out Information - True Coordinates (Storm)

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
21.002	S20	1200		517100.743	134366.084	
23.000	S21	1200		517119.852	134372.794	
21.003	S22	1200		517100.744	134386.409	
21.004	S23	1200		517084.673	134393.531	
21.005	S24	1200		517017.146	134393.531	
24.000	Dummy	1200				
24.001	SDP	1200		517020.596	134359.957	
21.006	S25	1350		517017.146	134359.957	
25.000	Dummy	1200				
25.001	SDP	1200		517020.146	134307.682	
21.007	S26	1500		517017.146	134303.555	
26.000	Dummy	1200				
26.001	SDP	1200		517037.695	134289.704	
21.008	S27	1500		517037.695 #	134272.520 #	
27.000	Dummy	1200				
27.001	SDP	1200		517175.570	134294.272	
27.002	S28	1200		517175.570	134286.020	
28.000	Dummy	1200				
28.001	SDP	1200		517147.759	134291.904	

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Setting Out Information - True Coordinates (Storm)


PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
27.003	S29	1200		517147.823	134278.520	
29.000	Dummy	1200				
29.001	SDP	1200		517083.058	134318.825	
29.002	S30	1200		517096.562	134308.635	
30.000	Dummy	1200				
30.001	SDP	1200		517100.135	134287.987	
29.003	S31	1350		517096.509	134287.987	
29.004	S32	1350		517096.581	134278.520	
31.000	Dummy	1200				
31.001	SDP	1200		517117.050	134287.970	
27.004	S33	1500		517117.050 #	134278.520 #	
1.008	Attenuation	1500		517074.195 #	134266.779 #	

- Indicates pipe length does not match coordinates

PN	DSMH Name	Dia/Len (mm)	Width (mm)	DS Easting (m)	DS Northing (m)	Layout (North)
1.008		0		517012.858 #	134269.461 #	

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
1.008		48.000	44.350	0.000	0	0


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Online Controls for Storm

Pump Manhole: Attenuation, DS/PN: 1.008, Volume (m³): 18.4

Invert Level (m) 43.800

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	14.9000	1.400	14.9000	2.600	14.9000	3.800	14.9000	5.000	14.9000
0.400	14.9000	1.600	14.9000	2.800	14.9000	4.000	14.9000	5.200	14.9000
0.600	14.9000	1.800	14.9000	3.000	14.9000	4.200	14.9000	5.400	14.9000
0.800	14.9000	2.000	14.9000	3.200	14.9000	4.400	14.9000	5.600	14.9000
1.000	14.9000	2.200	14.9000	3.400	14.9000	4.600	14.9000	5.800	14.9000
1.200	14.9000	2.400	14.9000	3.600	14.9000	4.800	14.9000	6.000	14.9000

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Storage Structures for Storm

Porous Car Park Manhole: Porous CP, DS/PN: 13.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	59.0
Membrane Percolation (mm/hr)	1000	Length (m)	16.0
Max Percolation (l/s)	262.2	Slope (1:X)	40.0
Safety Factor	3.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	46.580	Cap Volume Depth (m)	0.340

Cellular Storage Manhole: Attenuation, DS/PN: 1.008

Invert Level (m)	43.800	Safety Factor	3.0
Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.97
Infiltration Coefficient Side (m/hr)	0.00000		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	1027.5	0.0	1.800	1027.5	0.0	1.801	0.0	0.0

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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 Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 2 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.793
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.837

Margin for Flood Risk Warning (mm) 100.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status OFF
 Inertia Status OFF

Profile(s)

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 0, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
1.000	ACO	15 Summer	2	+0%	30/15 Summer				46.474	-0.051
1.001	S1	15 Summer	2	+0%	30/15 Summer				46.353	-0.054
2.000	Dummy	60 Winter	2	+0%	100/15 Summer				46.575	-0.150
2.001	Sw1	15 Summer	2	+0%	30/15 Summer				46.554	-0.104
1.002	S2	15 Summer	2	+0%	30/15 Summer				46.116	-0.083
3.000	Dummy	60 Winter	2	+0%	30/15 Summer				46.525	-0.150
3.001	Sw2	15 Summer	2	+0%	30/15 Summer				46.520	-0.088
1.003	S3	15 Summer	2	+0%	30/15 Summer				45.637	-0.129
4.000	Dummy	15 Winter	2	+0%	100/15 Summer				46.612	-0.138
4.001	Sw3	15 Summer	2	+0%	30/15 Summer				46.622	-0.062
1.004	S4	15 Winter	2	+0%	30/15 Summer				45.284	-0.114
5.000	ACO	15 Summer	2	+0%	30/15 Summer				46.384	-0.036
6.000	Dummy	60 Winter	2	+0%					46.550	-0.150
6.001	Sw4	15 Summer	2	+0%	100/15 Summer				46.543	-0.090
1.005	S5	15 Winter	2	+0%	30/15 Summer				45.127	-0.161
7.000	Dummy	15 Winter	2	+0%	100/15 Summer				46.623	-0.132
7.001	Sw5	15 Summer	2	+0%	30/15 Summer				46.634	-0.054
8.000	Dummy	15 Winter	2	+0%	100/15 Summer				46.617	-0.138
8.001	Sw6	15 Summer	2	+0%	30/15 Summer				46.627	-0.062
1.006	S6	15 Winter	2	+0%	30/15 Summer				45.065	-0.114
9.000	ACO	15 Summer	2	+0%	30/15 Summer				46.364	-0.061
9.001	S7	15 Summer	2	+0%	30/15 Summer				46.196	-0.060
1.007	S8	15 Winter	2	+0%	30/15 Summer				45.019	-0.101
10.000	ACO	15 Summer	2	+0%	30/15 Summer	100/15 Summer			46.562	-0.183
11.000	ACO	15 Summer	2	+0%	100/15 Summer				47.250	-0.150
10.001	S11	15 Summer	2	+0%	30/15 Summer				46.459	-0.144
10.002	S12	15 Summer	2	+0%	30/15 Summer				46.310	-0.149
12.000	Dummy	60 Winter	2	+0%	100/15 Summer				46.605	-0.150
12.001	Sw7	15 Summer	2	+0%	100/15 Summer				46.593	-0.095
12.002	ACO	30 Winter	2	+0%	100/15 Summer				46.520	-0.164
13.000	Dummy	60 Winter	2	+0%					47.180	-0.150

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

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)		
1.000	ACO	0.000	0.77		12.3	OK	
1.001	S1	0.000	0.72		12.1	OK	
2.000	Dummy	0.000	0.00		0.0	OK	
2.001	Sw1	0.000	0.55		15.4	OK	
1.002	S2	0.000	0.66		25.4	OK	
3.000	Dummy	0.000	0.00		0.0	OK	
3.001	Sw2	0.000	0.67		17.6	OK	
1.003	S3	0.000	0.56		38.9	OK	
4.000	Dummy	0.000	0.00		0.0	OK	
4.001	Sw3	0.000	0.64		6.9	OK	
1.004	S4	0.000	0.70		44.7	OK	
5.000	ACO	0.000	0.93		13.9	OK	
6.000	Dummy	0.000	0.00		0.0	OK	
6.001	Sw4	0.000	0.33		4.2	OK	
1.005	S5	0.000	0.54		53.7	OK	
7.000	Dummy	0.000	0.01		0.1	OK	
7.001	Sw5	0.000	0.71		7.7	OK	
8.000	Dummy	0.000	0.00		0.0	OK	
8.001	Sw6	0.000	0.64		6.9	OK	
1.006	S6	0.000	0.71		65.4	OK	
9.000	ACO	0.000	0.66		10.9	OK	
9.001	S7	0.000	0.67		10.8	OK	
1.007	S8	0.000	0.88		70.0	OK	
10.000	ACO	0.000	0.49		49.9	OK	3
11.000	ACO	0.000	0.50		23.6	OK	
10.001	S11	0.000	0.67		68.4	OK	
10.002	S12	0.000	0.66		65.6	OK	
12.000	Dummy	0.000	0.00		0.0	OK	
12.001	Sw7	0.000	0.28		3.1	OK	
12.002	ACO	0.000	0.12		3.6	OK	
13.000	Dummy	0.000	0.00		0.0	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
13.001	Porous CP	60 Summer	2	+0%	30/15 Summer				46.701
12.003	S13	60 Summer	2	+0%	100/15 Summer				46.513
14.000	Dummy	60 Winter	2	+0%	100/15 Summer				46.455
14.001	Sw8	15 Summer	2	+0%	100/15 Summer				46.443
15.000	Dummy	60 Winter	2	+0%	30/15 Summer				46.455
15.001	Sw9	15 Summer	2	+0%	30/15 Summer				46.431
10.003	S14	15 Winter	2	+0%	30/15 Summer				46.213
16.000	ACO	15 Summer	2	+0%	100/15 Summer				47.166
17.000	Dummy	15 Winter	2	+0%	100/15 Summer				47.012
17.001	Sw10	15 Summer	2	+0%	30/15 Summer				47.018
18.000	Dummy	15 Winter	2	+0%	100/15 Summer				47.012
18.001	Sw11	15 Summer	2	+0%	30/15 Summer				47.019
16.001	S15	15 Summer	2	+0%	30/15 Summer				46.867
19.000	Dummy	60 Winter	2	+0%					47.300
19.001	Sw12	15 Summer	2	+0%					47.284
16.002	S16	15 Summer	2	+0%	30/15 Summer				46.645
20.000	Dummy	15 Winter	2	+0%	100/15 Summer				47.500
20.001	Sw13	15 Summer	2	+0%	30/15 Summer				47.510
16.003	S17	15 Winter	2	+0%	30/15 Summer				46.418
10.004	S18	15 Winter	2	+0%	30/15 Summer				46.194
10.005	S19	15 Winter	2	+0%	30/15 Summer				46.179
21.000	Dummy	15 Summer	2	+0%					52.400
21.001	SDP	15 Summer	2	+0%					52.402
22.000	Dummy	15 Winter	2	+0%					52.405
22.001	SDP	15 Summer	2	+0%					52.409
21.002	S20	15 Summer	2	+0%	30/15 Summer	100/15 Summer			46.462
23.000	S21	15 Summer	2	+0%	100/15 Summer				46.940
21.003	S22	15 Summer	2	+0%	30/15 Summer				46.351
21.004	S23	15 Summer	2	+0%	30/15 Summer				46.242
21.005	S24	15 Winter	2	+0%	30/15 Summer				45.842
24.000	Dummy	60 Winter	2	+0%					52.325
24.001	SDP	15 Summer	2	+0%					52.275
21.006	S25	15 Winter	2	+0%	100/15 Summer				45.546
25.000	Dummy	15 Winter	2	+0%					52.278
25.001	SDP	15 Summer	2	+0%					52.282
21.007	S26	15 Winter	2	+0%	30/15 Summer				44.688
26.000	Dummy	15 Winter	2	+0%					52.476
26.001	SDP	15 Summer	2	+0%					52.479
21.008	S27	15 Winter	2	+0%	30/15 Summer				44.602
27.000	Dummy	15 Winter	2	+0%	100/15 Summer				52.346
27.001	SDP	15 Summer	2	+0%	100/15 Summer				52.354
27.002	S28	15 Summer	2	+0%	30/15 Summer				46.924
28.000	Dummy	60 Winter	2	+0%					52.400
28.001	SDP	15 Summer	2	+0%					52.354
27.003	S29	15 Winter	2	+0%	30/15 Summer				46.794
29.000	Dummy	60 Winter	2	+0%					52.325
29.001	SDP	15 Summer	2	+0%					52.225
29.002	S30	15 Summer	2	+0%	30/15 Summer				46.636
30.000	Dummy	60 Winter	2	+0%					52.400
30.001	SDP	15 Summer	2	+0%					52.259
29.003	S31	15 Summer	2	+0%	100/15 Summer				46.497
29.004	S32	15 Winter	2	+0%	100/15 Summer				46.451
31.000	Dummy	60 Winter	2	+0%					52.325
31.001	SDP	15 Summer	2	+0%					52.191
27.004	S33	15 Summer	2	+0%	100/15 Summer				46.133
1.008	Attenuation	480 Winter	2	+0%	2/15 Summer				44.274

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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 (m ³)					
13.001	Porous CP	-0.029	0.000	1.00		10.8	OK	
12.003	S13	-0.132	0.000	0.36		13.3	OK	
14.000	Dummy	-0.150	0.000	0.00		0.0	OK	
14.001	Sw8	-0.096	0.000	0.28		4.6	OK	
15.000	Dummy	-0.150	0.000	0.00		0.0	OK	
15.001	Sw9	-0.107	0.000	0.53		25.0	OK	
10.003	S14	-0.133	0.000	0.71		95.6	OK	
16.000	ACO	-0.104	0.000	0.20		3.1	OK	
17.000	Dummy	-0.148	0.000	0.00		0.0	OK	
17.001	Sw10	-0.075	0.000	0.49		7.9	OK	
18.000	Dummy	-0.148	0.000	0.00		0.0	OK	
18.001	Sw11	-0.074	0.000	0.50		8.0	OK	
16.001	S15	-0.111	0.000	0.50		18.7	OK	
19.000	Dummy	-0.150	0.000	0.00		0.0	OK	
19.001	Sw12	-0.100	0.000	0.24		2.6	OK	
16.002	S16	-0.105	0.000	0.54		20.6	OK	
20.000	Dummy	-0.145	0.000	0.00		0.0	OK	
20.001	Sw13	-0.069	0.000	0.56		6.1	OK	
16.003	S17	-0.074	0.000	0.78		25.9	OK	
10.004	S18	-0.129	0.000	0.76		120.0	OK	
10.005	S19	-0.130	0.000	0.92		120.8	OK	
21.000	Dummy	-0.225	0.000	0.00		0.0	OK	
21.001	SDP	-0.123	0.000	0.07		6.9	OK	
22.000	Dummy	-0.220	0.000	0.00		0.0	OK	
22.001	SDP	-0.191	0.000	0.05		13.5	OK	
21.002	S20	-0.103	0.000	0.56		20.2	OK	3
23.000	S21	-0.110	0.000	0.16		2.7	OK	
21.003	S22	-0.094	0.000	0.64		22.8	OK	
21.004	S23	-0.100	0.000	0.55		21.2	OK	
21.005	S24	-0.103	0.000	0.57		21.3	OK	
24.000	Dummy	-0.150	0.000	0.00		0.0	OK	
24.001	SDP	-0.175	0.000	0.11		36.3	OK	
21.006	S25	-0.202	0.000	0.43		51.9	OK	
25.000	Dummy	-0.272	0.000	0.00		0.1	OK	
25.001	SDP	-0.168	0.000	0.15		47.4	OK	
21.007	S26	-0.237	0.000	0.51		94.1	OK	
26.000	Dummy	-0.149	0.000	0.00		0.0	OK	
26.001	SDP	-0.121	0.000	0.08		9.5	OK	
21.008	S27	-0.249	0.000	0.54		101.4	OK	
27.000	Dummy	-0.129	0.000	0.01		0.1	OK	
27.001	SDP	-0.096	0.000	0.27		33.4	OK	
27.002	S28	-0.146	0.000	0.51		33.2	OK	
28.000	Dummy	-0.100	0.000	0.00		0.0	OK	
28.001	SDP	-0.121	0.000	0.08		8.7	OK	
27.003	S29	-0.126	0.000	0.64		41.4	OK	
29.000	Dummy	-0.100	0.000	0.00		0.0	OK	
29.001	SDP	-0.175	0.000	0.11		29.7	OK	
29.002	S30	-0.154	0.000	0.47		29.3	OK	
30.000	Dummy	-0.100	0.000	0.00		0.0	OK	
30.001	SDP	-0.216	0.000	0.01		2.8	OK	
29.003	S31	-0.207	0.000	0.41		32.4	OK	
29.004	S32	-0.224	0.000	0.34		32.0	OK	
31.000	Dummy	-0.100	0.000	0.00		0.0	OK	
31.001	SDP	-0.209	0.000	0.01		5.0	OK	
27.004	S33	-0.267	0.000	0.48		78.0	OK	
1.008	Attenuation	0.324	0.000	2.77		14.9	SURCHARGED	

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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 Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 2 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.793
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.837

Margin for Flood Risk Warning (mm) 100.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status OFF
 Inertia Status OFF

Profile(s)

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 0, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
1.000	ACO	15 Summer	30	+0%	30/15 Summer				46.857	0.332
1.001	S1	15 Summer	30	+0%	30/15 Summer				46.729	0.322
2.000	Dummy	15 Summer	30	+0%	100/15 Summer				46.698	-0.027
2.001	Sw1	15 Summer	30	+0%	30/15 Summer				46.707	0.049
1.002	S2	15 Summer	30	+0%	30/15 Summer				46.549	0.350
3.000	Dummy	15 Summer	30	+0%	30/15 Summer				46.678	0.003
3.001	Sw2	15 Summer	30	+0%	30/15 Summer				46.678	0.070
1.003	S3	15 Summer	30	+0%	30/15 Summer				45.918	0.152
4.000	Dummy	15 Summer	30	+0%	100/15 Summer				46.722	-0.028
4.001	Sw3	15 Summer	30	+0%	30/15 Summer				46.726	0.042
1.004	S4	15 Winter	30	+0%	30/15 Summer				45.530	0.132
5.000	ACO	15 Summer	30	+0%	30/15 Summer				46.542	0.122
6.000	Dummy	15 Summer	30	+0%					46.575	-0.125
6.001	Sw4	15 Summer	30	+0%	100/15 Summer				46.588	-0.045
1.005	S5	15 Winter	30	+0%	30/15 Summer				45.365	0.076
7.000	Dummy	15 Summer	30	+0%	100/15 Summer				46.745	-0.010
7.001	Sw5	15 Summer	30	+0%	30/15 Summer				46.752	0.063
8.000	Dummy	15 Summer	30	+0%	100/15 Summer				46.728	-0.027
8.001	Sw6	15 Summer	30	+0%	30/15 Summer				46.731	0.043
1.006	S6	15 Summer	30	+0%	30/15 Summer				45.272	0.093
9.000	ACO	15 Summer	30	+0%	30/15 Summer				46.513	0.088
9.001	S7	15 Summer	30	+0%	30/15 Summer				46.287	0.032
1.007	S8	15 Winter	30	+0%	30/15 Summer				45.180	0.060
10.000	ACO	15 Summer	30	+0%	30/15 Summer	100/15 Summer			46.782	0.037
11.000	ACO	15 Summer	30	+0%	100/15 Summer				47.331	-0.069
10.001	S11	15 Summer	30	+0%	30/15 Summer				46.699	0.096
10.002	S12	15 Summer	30	+0%	30/15 Summer				46.524	0.065
12.000	Dummy	15 Summer	30	+0%	100/15 Summer				46.620	-0.135
12.001	Sw7	15 Summer	30	+0%	100/15 Summer				46.632	-0.056
12.002	ACO	30 Summer	30	+0%	100/15 Summer				46.559	-0.124
13.000	Dummy	60 Winter	30	+0%					47.180	-0.150

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

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Cap. / Overflow (l/s)	Flow (l/s)			
1.000	ACO	0.000	1.18	18.9		SURCHARGED	
1.001	S1	0.000	1.07	17.9		SURCHARGED	
2.000	Dummy	0.000	0.11	1.4		OK	
2.001	Sw1	0.000	1.37	38.2		SURCHARGED	
1.002	S2	0.000	1.19	46.0		SURCHARGED	
3.000	Dummy	0.000	0.09	1.2		SURCHARGED	
3.001	Sw2	0.000	1.66	43.9		SURCHARGED	
1.003	S3	0.000	1.04	71.7		SURCHARGED	
4.000	Dummy	0.000	0.07	0.9		OK	
4.001	Sw3	0.000	1.55	16.8		SURCHARGED	
1.004	S4	0.000	1.27	81.7		SURCHARGED	
5.000	ACO	0.000	1.72	25.6		SURCHARGED	
6.000	Dummy	0.000	0.02	0.2		OK	
6.001	Sw4	0.000	0.83	10.6		OK	
1.005	S5	0.000	0.94	93.5		SURCHARGED	
7.000	Dummy	0.000	0.07	0.9		OK	
7.001	Sw5	0.000	1.74	18.9		SURCHARGED	
8.000	Dummy	0.000	0.07	0.9		OK	
8.001	Sw6	0.000	1.55	16.8		SURCHARGED	
1.006	S6	0.000	1.23	113.5		SURCHARGED	
9.000	ACO	0.000	1.14	18.8		SURCHARGED	
9.001	S7	0.000	1.14	18.4		SURCHARGED	
1.007	S8	0.000	1.66	131.4		SURCHARGED	
10.000	ACO	0.000	0.85	87.2		SURCHARGED	3
11.000	ACO	0.000	0.95	44.8		OK	
10.001	S11	0.000	1.13	115.2		SURCHARGED	
10.002	S12	0.000	1.10	109.5		SURCHARGED	
12.000	Dummy	0.000	0.01	0.1		OK	
12.001	Sw7	0.000	0.71	7.7		OK	
12.002	ACO	0.000	0.31	9.1		OK	
13.000	Dummy	0.000	0.00	0.0		OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
13.001	Porous CP	30 Winter	30	+0%	30/15 Summer				46.780
12.003	S13	30 Summer	30	+0%	100/15 Summer				46.550
14.000	Dummy	15 Summer	30	+0%	100/15 Summer				46.469
14.001	Sw8	15 Summer	30	+0%	100/15 Summer				46.482
15.000	Dummy	15 Summer	30	+0%	30/15 Summer				46.650
15.001	Sw9	15 Summer	30	+0%	30/15 Summer				46.655
10.003	S14	15 Summer	30	+0%	30/15 Summer				46.383
16.000	ACO	15 Summer	30	+0%	100/15 Summer				47.184
17.000	Dummy	15 Summer	30	+0%	100/15 Summer				47.140
17.001	Sw10	15 Summer	30	+0%	30/15 Summer				47.143
18.000	Dummy	15 Summer	30	+0%	100/15 Summer				47.145
18.001	Sw11	15 Summer	30	+0%	30/15 Summer				47.148
16.001	S15	15 Summer	30	+0%	30/15 Summer				47.035
19.000	Dummy	15 Summer	30	+0%					47.308
19.001	Sw12	15 Summer	30	+0%					47.318
16.002	S16	15 Summer	30	+0%	30/15 Summer				46.836
20.000	Dummy	15 Summer	30	+0%	100/15 Summer				47.602
20.001	Sw13	15 Summer	30	+0%	30/15 Summer				47.606
16.003	S17	15 Summer	30	+0%	30/15 Summer				46.555
10.004	S18	15 Summer	30	+0%	30/15 Summer				46.353
10.005	S19	15 Summer	30	+0%	30/15 Summer				46.311
21.000	Dummy	15 Summer	30	+0%					52.412
21.001	SDP	15 Summer	30	+0%					52.419
22.000	Dummy	15 Summer	30	+0%					52.423
22.001	SDP	15 Summer	30	+0%					52.430
21.002	S20	15 Summer	30	+0%	30/15 Summer	100/15 Summer			46.912
23.000	S21	15 Summer	30	+0%	100/15 Summer				46.957
21.003	S22	15 Summer	30	+0%	30/15 Summer				46.748
21.004	S23	15 Summer	30	+0%	30/15 Summer				46.561
21.005	S24	15 Summer	30	+0%	30/15 Summer				45.991
24.000	Dummy	60 Winter	30	+0%					52.325
24.001	SDP	15 Summer	30	+0%					52.305
21.006	S25	15 Summer	30	+0%	100/15 Summer				45.669
25.000	Dummy	15 Summer	30	+0%					52.319
25.001	SDP	15 Summer	30	+0%					52.319
21.007	S26	15 Summer	30	+0%	30/15 Summer				44.976
26.000	Dummy	15 Summer	30	+0%					52.488
26.001	SDP	15 Summer	30	+0%					52.497
21.008	S27	15 Summer	30	+0%	30/15 Summer				44.874
27.000	Dummy	15 Summer	30	+0%	100/15 Summer				52.392
27.001	SDP	15 Summer	30	+0%	100/15 Summer				52.392
27.002	S28	15 Summer	30	+0%	30/15 Summer				47.303
28.000	Dummy	60 Winter	30	+0%					52.400
28.001	SDP	15 Summer	30	+0%					52.371
27.003	S29	15 Summer	30	+0%	30/15 Summer				47.101
29.000	Dummy	60 Winter	30	+0%					52.325
29.001	SDP	15 Summer	30	+0%					52.255
29.002	S30	15 Summer	30	+0%	30/15 Summer				46.813
30.000	Dummy	60 Winter	30	+0%					52.400
30.001	SDP	15 Summer	30	+0%					52.272
29.003	S31	15 Summer	30	+0%	100/15 Summer				46.660
29.004	S32	15 Summer	30	+0%	100/15 Summer				46.562
31.000	Dummy	60 Winter	30	+0%					52.325
31.001	SDP	15 Summer	30	+0%					52.203
27.004	S33	15 Winter	30	+0%	100/15 Summer				46.400
1.008	Attenuation	480 Winter	30	+0%	2/15 Summer				44.786

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

PN	US/MH Name	Surcharged Flooded			Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Overflow Cap. (l/s)			
13.001	Porous CP	0.050	0.000	1.61	17.4	SURCHARGED	
12.003	S13	-0.096	0.000	0.62	23.2	OK	
14.000	Dummy	-0.136	0.000	0.01	0.1	OK	
14.001	Sw8	-0.057	0.000	0.70	11.7	OK	
15.000	Dummy	0.045	0.000	0.15	2.0	SURCHARGED	
15.001	Sw9	0.116	0.000	1.23	57.9	SURCHARGED	
10.003	S14	0.038	0.000	1.33	177.9	SURCHARGED	
16.000	ACO	-0.086	0.000	0.38	5.9	OK	
17.000	Dummy	-0.020	0.000	0.09	1.2	OK	
17.001	Sw10	0.050	0.000	1.09	17.5	SURCHARGED	
18.000	Dummy	-0.015	0.000	0.10	1.3	OK	
18.001	Sw11	0.055	0.000	1.11	17.8	SURCHARGED	
16.001	S15	0.058	0.000	0.99	37.4	SURCHARGED	
19.000	Dummy	-0.142	0.000	0.00	0.0	OK	
19.001	Sw12	-0.065	0.000	0.61	6.6	OK	
16.002	S16	0.087	0.000	1.04	39.2	SURCHARGED	
20.000	Dummy	-0.043	0.000	0.06	0.8	OK	
20.001	Sw13	0.027	0.000	1.35	14.7	SURCHARGED	
16.003	S17	0.064	0.000	1.50	50.0	SURCHARGED	
10.004	S18	0.030	0.000	1.43	226.5	SURCHARGED	
10.005	S19	0.002	0.000	1.73	228.2	SURCHARGED	
21.000	Dummy	-0.213	0.000	0.00	0.0	OK	
21.001	SDP	-0.106	0.000	0.19	17.4	OK	
22.000	Dummy	-0.202	0.000	0.01	0.1	OK	
22.001	SDP	-0.170	0.000	0.14	34.0	OK	
21.002	S20	0.347	0.000	1.34	48.5	SURCHARGED	3
23.000	S21	-0.093	0.000	0.31	5.2	OK	
21.003	S22	0.303	0.000	1.38	48.9	SURCHARGED	
21.004	S23	0.219	0.000	1.16	44.7	SURCHARGED	
21.005	S24	0.046	0.000	1.12	41.8	SURCHARGED	
24.000	Dummy	-0.150	0.000	0.00	0.0	OK	
24.001	SDP	-0.145	0.000	0.28	91.4	OK	
21.006	S25	-0.079	0.000	0.96	115.5	OK	
25.000	Dummy	-0.231	0.000	0.01	0.4	OK	
25.001	SDP	-0.131	0.000	0.37	119.8	OK	
21.007	S26	0.051	0.000	1.18	218.5	SURCHARGED	
26.000	Dummy	-0.137	0.000	0.01	0.0	OK	
26.001	SDP	-0.103	0.000	0.21	24.0	OK	
21.008	S27	0.024	0.000	1.27	239.1	SURCHARGED	
27.000	Dummy	-0.083	0.000	0.05	0.4	OK	
27.001	SDP	-0.058	0.000	0.69	84.5	OK	
27.002	S28	0.233	0.000	1.25	80.8	SURCHARGED	
28.000	Dummy	-0.100	0.000	0.00	0.0	OK	
28.001	SDP	-0.104	0.000	0.21	21.8	OK	
27.003	S29	0.181	0.000	1.58	102.6	SURCHARGED	
29.000	Dummy	-0.100	0.000	0.00	0.0	OK	
29.001	SDP	-0.145	0.000	0.28	74.7	OK	
29.002	S30	0.023	0.000	1.19	74.1	SURCHARGED	
30.000	Dummy	-0.100	0.000	0.00	0.0	OK	
30.001	SDP	-0.203	0.000	0.02	7.0	OK	
29.003	S31	-0.044	0.000	1.00	78.1	OK	
29.004	S32	-0.112	0.000	0.83	77.4	OK	
31.000	Dummy	-0.100	0.000	0.00	0.0	OK	
31.001	SDP	-0.197	0.000	0.04	12.6	OK	
27.004	S33	0.000	0.000	1.07	175.2	OK	
1.008	Attenuation	0.836	0.000	2.77	14.9	SURCHARGED	

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Network 2016.1

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 Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 2 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.793
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.837

Margin for Flood Risk Warning (mm) 100.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status OFF
 Inertia Status OFF

Profile(s)

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, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
1.000	ACO	15 Winter	100	+20%	30/15 Summer				47.349	0.824
1.001	S1	15 Summer	100	+20%	30/15 Summer				47.318	0.911
2.000	Dummy	15 Winter	100	+20%	100/15 Summer				47.321	0.596
2.001	Sw1	15 Summer	100	+20%	30/15 Summer				47.334	0.676
1.002	S2	15 Summer	100	+20%	30/15 Summer				47.263	1.064
3.000	Dummy	15 Summer	100	+20%	30/15 Summer				46.825	0.150
3.001	Sw2	15 Summer	100	+20%	30/15 Summer				46.840	0.232
1.003	S3	15 Summer	100	+20%	30/15 Summer				46.713	0.947
4.000	Dummy	15 Summer	100	+20%	100/15 Summer				46.836	0.086
4.001	Sw3	15 Summer	100	+20%	30/15 Summer				46.837	0.154
1.004	S4	15 Winter	100	+20%	30/15 Summer				46.120	0.721
5.000	ACO	15 Summer	100	+20%	30/15 Summer				46.795	0.375
6.000	Dummy	15 Summer	100	+20%					46.646	-0.054
6.001	Sw4	15 Summer	100	+20%	100/15 Summer				46.651	0.017
1.005	S5	15 Winter	100	+20%	30/15 Summer				45.811	0.523
7.000	Dummy	15 Summer	100	+20%	100/15 Summer				46.887	0.132
7.001	Sw5	15 Summer	100	+20%	30/15 Summer				46.889	0.201
8.000	Dummy	15 Summer	100	+20%	100/15 Summer				46.842	0.087
8.001	Sw6	15 Summer	100	+20%	30/15 Summer				46.843	0.155
1.006	S6	15 Winter	100	+20%	30/15 Summer				45.571	0.393
9.000	ACO	15 Summer	100	+20%	30/15 Summer				46.900	0.475
9.001	S7	15 Summer	100	+20%	30/15 Summer				46.465	0.210
1.007	S8	960 Winter	100	+20%	30/15 Summer				45.471	0.352
10.000	ACO	15 Summer	100	+20%	30/15 Summer	100/15 Summer			47.373	0.628
11.000	ACO	15 Summer	100	+20%	100/15 Summer				47.442	0.042
10.001	S11	15 Summer	100	+20%	30/15 Summer				47.308	0.705
10.002	S12	15 Summer	100	+20%	30/15 Summer				46.995	0.537
12.000	Dummy	15 Winter	100	+20%	100/15 Summer				46.781	0.026
12.001	Sw7	15 Winter	100	+20%	100/15 Summer				46.781	0.093
12.002	ACO	15 Winter	100	+20%	100/15 Summer				46.776	0.093
13.000	Dummy	60 Winter	100	+20%					47.180	-0.150

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

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)		
1.000	ACO	0.000	1.35		21.6	FLOOD RISK	
1.001	S1	0.000	1.41		23.6	SURCHARGED	
2.000	Dummy	0.000	0.29		3.8	FLOOD RISK	
2.001	Sw1	0.000	1.72		48.0	FLOOD RISK	
1.002	S2	0.000	1.25		48.5	SURCHARGED	
3.000	Dummy	0.000	0.21		2.7	SURCHARGED	
3.001	Sw2	0.000	2.59		68.5	SURCHARGED	
1.003	S3	0.000	1.30		89.8	SURCHARGED	
4.000	Dummy	0.000	0.12		1.5	SURCHARGED	
4.001	Sw3	0.000	2.41		26.1	SURCHARGED	
1.004	S4	0.000	1.67		106.8	SURCHARGED	
5.000	ACO	0.000	2.58		38.3	SURCHARGED	
6.000	Dummy	0.000	0.07		1.0	OK	
6.001	Sw4	0.000	1.24		15.9	SURCHARGED	
1.005	S5	0.000	1.44		143.7	SURCHARGED	
7.000	Dummy	0.000	0.15		1.9	SURCHARGED	
7.001	Sw5	0.000	2.68		29.1	SURCHARGED	
8.000	Dummy	0.000	0.12		1.5	SURCHARGED	
8.001	Sw6	0.000	2.41		26.1	SURCHARGED	
1.006	S6	0.000	1.94		179.3	SURCHARGED	
9.000	ACO	0.000	1.61		26.6	SURCHARGED	
9.001	S7	0.000	1.62		26.2	SURCHARGED	
1.007	S8	0.000	0.27		21.8	SURCHARGED	
10.000	ACO	2.778	1.11		113.5	FLOOD	3
11.000	ACO	0.000	1.47		69.7	SURCHARGED	
10.001	S11	0.000	1.62		165.9	SURCHARGED	
10.002	S12	0.000	1.56		156.3	SURCHARGED	
12.000	Dummy	0.000	0.07		0.9	SURCHARGED	
12.001	Sw7	0.000	1.00		10.8	SURCHARGED	
12.002	ACO	0.000	0.49		14.6	SURCHARGED	
13.000	Dummy	0.000	0.00		0.0	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
13.001	Porous CP	30	Winter	100	+20%	30/15	Summer		46.849
12.003	S13	15	Winter	100	+20%	100/15	Summer		46.767
14.000	Dummy	15	Winter	100	+20%	100/15	Summer		46.765
14.001	Sw8	15	Winter	100	+20%	100/15	Summer		46.766
15.000	Dummy	15	Summer	100	+20%	30/15	Summer		47.118
15.001	Sw9	15	Summer	100	+20%	30/15	Summer		47.134
10.003	S14	15	Summer	100	+20%	30/15	Summer		46.705
16.000	ACO	15	Summer	100	+20%	100/15	Summer		47.477
17.000	Dummy	15	Winter	100	+20%	100/15	Summer		47.596
17.001	Sw10	15	Summer	100	+20%	30/15	Summer		47.611
18.000	Dummy	15	Winter	100	+20%	100/15	Summer		47.602
18.001	Sw11	15	Summer	100	+20%	30/15	Summer		47.618
16.001	S15	15	Summer	100	+20%	30/15	Summer		47.466
19.000	Dummy	15	Summer	100	+20%				47.335
19.001	Sw12	15	Summer	100	+20%				47.347
16.002	S16	15	Summer	100	+20%	30/15	Summer		47.228
20.000	Dummy	15	Summer	100	+20%	100/15	Summer		47.692
20.001	Sw13	15	Summer	100	+20%	30/15	Summer		47.693
16.003	S17	15	Summer	100	+20%	30/15	Summer		46.842
10.004	S18	15	Summer	100	+20%	30/15	Summer		46.597
10.005	S19	15	Summer	100	+20%	30/15	Summer		46.428
21.000	Dummy	15	Summer	100	+20%				52.423
21.001	SDP	15	Summer	100	+20%				52.430
22.000	Dummy	15	Summer	100	+20%				52.440
22.001	SDP	15	Summer	100	+20%				52.445
21.002	S20	15	Summer	100	+20%	30/15	Summer	100/15 Summer	47.442
23.000	S21	15	Summer	100	+20%	100/15	Summer		47.258
21.003	S22	15	Summer	100	+20%	30/15	Summer		47.224
21.004	S23	15	Winter	100	+20%	30/15	Summer		46.986
21.005	S24	15	Winter	100	+20%	30/15	Summer		46.202
24.000	Dummy	15	Summer	100	+20%				52.325
24.001	SDP	15	Summer	100	+20%				52.328
21.006	S25	15	Summer	100	+20%	100/15	Summer		45.946
25.000	Dummy	15	Summer	100	+20%				52.347
25.001	SDP	15	Summer	100	+20%				52.347
21.007	S26	960	Winter	100	+20%	30/15	Summer		45.473
26.000	Dummy	15	Summer	100	+20%				52.501
26.001	SDP	15	Summer	100	+20%				52.509
21.008	S27	960	Winter	100	+20%	30/15	Summer		45.472
27.000	Dummy	15	Summer	100	+20%	100/15	Summer		52.489
27.001	SDP	15	Summer	100	+20%	100/15	Summer		52.495
27.002	S28	15	Summer	100	+20%	30/15	Summer		47.840
28.000	Dummy	60	Winter	100	+20%				52.400
28.001	SDP	15	Summer	100	+20%				52.383
27.003	S29	15	Summer	100	+20%	30/15	Summer		47.449
29.000	Dummy	60	Winter	100	+20%				52.325
29.001	SDP	15	Summer	100	+20%				52.278
29.002	S30	15	Summer	100	+20%	30/15	Summer		47.108
30.000	Dummy	60	Winter	100	+20%				52.400
30.001	SDP	15	Summer	100	+20%				52.276
29.003	S31	15	Summer	100	+20%	100/15	Summer		46.811
29.004	S32	15	Summer	100	+20%	100/15	Summer		46.707
31.000	Dummy	60	Winter	100	+20%				52.325
31.001	SDP	15	Summer	100	+20%				52.209
27.004	S33	15	Summer	100	+20%	100/15	Summer		46.506
1.008	Attenuation	960	Winter	100	+20%	2/15	Summer		45.470

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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	Status	Level Exceeded
		Depth (m)	Volume (m ³)			Flow (l/s)		
13.001	Porous CP	0.119	0.000	2.21		24.0	SURCHARGED	
12.003	S13	0.122	0.000	0.85		31.6	SURCHARGED	
14.000	Dummy	0.160	0.000	0.11		1.4	SURCHARGED	
14.001	Sw8	0.228	0.000	0.89		14.8	SURCHARGED	
15.000	Dummy	0.513	0.000	0.30		3.9	SURCHARGED	
15.001	Sw9	0.596	0.000	1.74		81.6	SURCHARGED	
10.003	S14	0.360	0.000	1.87		250.8	SURCHARGED	
16.000	ACO	0.207	0.000	0.56		8.7	SURCHARGED	
17.000	Dummy	0.436	0.000	0.21		2.7	SURCHARGED	
17.001	Sw10	0.517	0.000	1.27		20.4	SURCHARGED	
18.000	Dummy	0.442	0.000	0.21		2.7	SURCHARGED	
18.001	Sw11	0.525	0.000	1.30		20.8	SURCHARGED	
16.001	S15	0.488	0.000	1.14		43.1	SURCHARGED	
19.000	Dummy	-0.115	0.000	0.03		0.3	OK	
19.001	Sw12	-0.036	0.000	0.93		10.1	OK	
16.002	S16	0.479	0.000	1.23		46.6	SURCHARGED	
20.000	Dummy	0.047	0.000	0.09		1.2	SURCHARGED	
20.001	Sw13	0.115	0.000	2.11		22.9	SURCHARGED	
16.003	S17	0.350	0.000	1.96		65.1	SURCHARGED	
10.004	S18	0.274	0.000	1.99		315.5	SURCHARGED	
10.005	S19	0.119	0.000	2.38		313.6	SURCHARGED	
21.000	Dummy	-0.202	0.000	0.01		0.1	OK	
21.001	SDP	-0.095	0.000	0.29		26.9	OK	
22.000	Dummy	-0.185	0.000	0.01		0.2	OK	
22.001	SDP	-0.155	0.000	0.21		52.7	OK	
21.002	S20	0.877	2.575	1.77		63.8	FLOOD	3
23.000	S21	0.208	0.000	0.43		7.3	SURCHARGED	
21.003	S22	0.779	0.000	1.67		59.3	SURCHARGED	
21.004	S23	0.644	0.000	1.40		54.0	SURCHARGED	
21.005	S24	0.257	0.000	1.49		55.5	SURCHARGED	
24.000	Dummy	-0.150	0.000	0.00		0.0	OK	
24.001	SDP	-0.122	0.000	0.43		142.1	OK	
21.006	S25	0.198	0.000	1.33		160.2	SURCHARGED	
25.000	Dummy	-0.203	0.000	0.02		0.6	OK	
25.001	SDP	-0.103	0.000	0.57		186.5	OK	
21.007	S26	0.548	0.000	0.14		26.3	SURCHARGED	
26.000	Dummy	-0.124	0.000	0.02		0.1	OK	
26.001	SDP	-0.091	0.000	0.33		37.3	OK	
21.008	S27	0.621	0.000	0.15		27.5	SURCHARGED	
27.000	Dummy	0.014	0.000	0.25		1.8	SURCHARGED	
27.001	SDP	0.045	0.000	0.96		117.7	SURCHARGED	
27.002	S28	0.770	0.000	1.81		116.9	SURCHARGED	
28.000	Dummy	-0.100	0.000	0.00		0.0	OK	
28.001	SDP	-0.092	0.000	0.32		33.9	OK	
27.003	S29	0.529	0.000	2.28		148.0	FLOOD RISK	
29.000	Dummy	-0.100	0.000	0.00		0.0	OK	
29.001	SDP	-0.122	0.000	0.43		116.2	OK	
29.002	S30	0.318	0.000	1.82		114.0	SURCHARGED	
30.000	Dummy	-0.100	0.000	0.00		0.0	OK	
30.001	SDP	-0.199	0.000	0.03		10.9	OK	
29.003	S31	0.107	0.000	1.57		122.6	SURCHARGED	
29.004	S32	0.032	0.000	1.33		124.0	SURCHARGED	
31.000	Dummy	-0.100	0.000	0.00		0.0	OK	
31.001	SDP	-0.191	0.000	0.06		19.5	OK	
27.004	S33	0.106	0.000	1.76		288.1	SURCHARGED	
1.008	Attenuation	1.520	0.000	2.77		14.9	SURCHARGED	

RPS Group Plc		Page 1
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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 Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 2 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.793
Region England and Wales Ratio R 0.350 Cv (Winter) 0.837

Margin for Flood Risk Warning (mm) 100.0
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) 100
Climate Change (%) 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
1.000	ACO	15 Winter	100	+40%	100/15 Summer	100/15 Summer			47.356	0.831
1.001	S1	15 Summer	100	+40%	100/15 Summer				47.360	0.953
2.000	Dummy	15 Winter	100	+40%	100/15 Summer				47.395	0.670
2.001	Sw1	15 Winter	100	+40%	100/15 Summer				47.399	0.741
1.002	S2	15 Summer	100	+40%	100/15 Summer				47.353	1.154
3.000	Dummy	960 Winter	100	+40%	100/15 Summer				47.283	0.608
3.001	Sw2	960 Winter	100	+40%	100/15 Summer				47.283	0.674
1.003	S3	960 Winter	100	+40%	100/15 Summer				47.284	1.517
4.000	Dummy	960 Winter	100	+40%	100/15 Summer				47.279	0.529
4.001	Sw3	960 Winter	100	+40%	100/15 Summer				47.279	0.596
1.004	S4	960 Winter	100	+40%	100/15 Summer				47.280	1.881
5.000	ACO	960 Winter	100	+40%	100/15 Summer	100/960 Winter			47.272	0.852
6.000	Dummy	960 Winter	100	+40%	100/360 Winter				47.277	0.577
6.001	Sw4	960 Winter	100	+40%	100/15 Summer				47.277	0.644
1.005	S5	960 Winter	100	+40%	100/15 Summer				47.278	1.989
7.000	Dummy	960 Winter	100	+40%	100/15 Summer				47.277	0.522
7.001	Sw5	960 Winter	100	+40%	100/15 Summer				47.276	0.588
8.000	Dummy	960 Winter	100	+40%	100/15 Summer				47.277	0.522
8.001	Sw6	960 Winter	100	+40%	100/15 Summer				47.276	0.588
1.006	S6	960 Winter	100	+40%	100/15 Summer				47.277	2.098
9.000	ACO	960 Winter	100	+40%	100/15 Summer	100/960 Winter			47.275	0.850
9.001	S7	960 Winter	100	+40%	100/15 Summer				47.277	1.022
1.007	S8	960 Winter	100	+40%	100/15 Summer				47.279	2.159
10.000	ACO	15 Summer	100	+40%	100/15 Summer	100/15 Summer			47.381	0.636
11.000	ACO	15 Summer	100	+40%	100/15 Summer				47.472	0.072
10.001	S11	15 Summer	100	+40%	100/15 Summer				47.373	0.770
10.002	S12	960 Winter	100	+40%	100/15 Summer				47.279	0.821
12.000	Dummy	960 Winter	100	+40%	100/15 Summer				47.279	0.524
12.001	Sw7	960 Winter	100	+40%	100/15 Summer				47.279	0.591
12.002	ACO	960 Winter	100	+40%	100/15 Summer				47.279	0.595
13.000	Dummy	960 Winter	100	+40%					47.280	-0.050

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

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Cap. (l/s)	Flow / Cap. (l/s)	Overflow (l/s)		
1.000	ACO	6.387	1.90	30.5		FLOOD	4
1.001	S1	0.000	1.80	30.1		FLOOD RISK	
2.000	Dummy	0.000	0.40	5.2		FLOOD RISK	
2.001	Sw1	0.000	1.67	46.6		FLOOD RISK	
1.002	S2	0.000	1.29	49.8		FLOOD RISK	
3.000	Dummy	0.000	0.02	0.3		FLOOD RISK	
3.001	Sw2	0.000	0.20	5.2		FLOOD RISK	
1.003	S3	0.000	0.18	12.4		SURCHARGED	
4.000	Dummy	0.000	0.02	0.3		SURCHARGED	
4.001	Sw3	0.000	0.19	2.0		SURCHARGED	
1.004	S4	0.000	0.23	14.4		SURCHARGED	
5.000	ACO	2.210	0.34	5.0		FLOOD	1
6.000	Dummy	0.000	0.02	0.3		FLOOD RISK	
6.001	Sw4	0.000	0.10	1.2		FLOOD RISK	
1.005	S5	0.000	0.19	18.7		FLOOD RISK	
7.000	Dummy	0.000	0.02	0.3		SURCHARGED	
7.001	Sw5	0.000	0.21	2.3		SURCHARGED	
8.000	Dummy	0.000	0.02	0.3		SURCHARGED	
8.001	Sw6	0.000	0.19	2.0		SURCHARGED	
1.006	S6	0.000	0.25	23.0		SURCHARGED	
9.000	ACO	0.220	0.14	2.4		FLOOD	1
9.001	S7	0.000	0.15	2.4		FLOOD RISK	
1.007	S8	0.000	0.32	25.4		SURCHARGED	
10.000	ACO	11.603	1.20	122.7		FLOOD	4
11.000	ACO	0.000	1.72	81.3		SURCHARGED	
10.001	S11	0.000	1.67	170.3		SURCHARGED	
10.002	S12	0.000	0.17	16.8		SURCHARGED	
12.000	Dummy	0.000	0.02	0.2		SURCHARGED	
12.001	Sw7	0.000	0.08	0.9		SURCHARGED	
12.002	ACO	0.000	0.04	1.2		SURCHARGED	
13.000	Dummy	0.000	0.01	0.1		OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
13.001	Porous CP	960 Winter	100	+40%	100/15 Summer				47.280
12.003	S13	960 Winter	100	+40%	100/15 Summer				47.279
14.000	Dummy	960 Winter	100	+40%	100/15 Summer				47.275
14.001	Sw8	960 Winter	100	+40%	100/15 Summer				47.278
15.000	Dummy	960 Winter	100	+40%	100/15 Summer				47.275
15.001	Sw9	15 Summer	100	+40%	100/15 Summer				47.277
10.003	S14	960 Winter	100	+40%	100/15 Summer				47.280
16.000	ACO	15 Summer	100	+40%	100/15 Summer				47.702
17.000	Dummy	15 Summer	100	+40%	100/15 Summer				47.830
17.001	Sw10	15 Winter	100	+40%	100/15 Summer				47.833
18.000	Dummy	15 Summer	100	+40%	100/15 Summer				47.830
18.001	Sw11	15 Winter	100	+40%	100/15 Summer				47.834
16.001	S15	15 Summer	100	+40%	100/15 Summer				47.680
19.000	Dummy	15 Summer	100	+40%					47.383
19.001	Sw12	15 Summer	100	+40%	100/15 Summer				47.396
16.002	S16	15 Summer	100	+40%	100/15 Summer				47.384
20.000	Dummy	15 Summer	100	+40%	100/15 Summer				47.744
20.001	Sw13	15 Summer	100	+40%	100/15 Summer				47.745
16.003	S17	960 Winter	100	+40%	100/15 Summer				47.280
10.004	S18	960 Winter	100	+40%	100/15 Summer				47.280
10.005	S19	960 Winter	100	+40%	100/15 Summer				47.279
21.000	Dummy	15 Summer	100	+40%					52.428
21.001	SDP	15 Summer	100	+40%					52.435
22.000	Dummy	15 Summer	100	+40%					52.449
22.001	SDP	15 Summer	100	+40%					52.450
22.002	S20	15 Summer	100	+40%	100/15 Summer	100/15 Summer			47.446
23.000	S21	15 Summer	100	+40%	100/15 Summer				47.323
21.003	S22	960 Winter	100	+40%	100/15 Summer				47.287
21.004	S23	960 Winter	100	+40%	100/15 Summer				47.285
21.005	S24	960 Winter	100	+40%	100/15 Summer				47.284
24.000	Dummy	15 Summer	100	+40%					52.328
24.001	SDP	15 Summer	100	+40%					52.338
21.006	S25	960 Winter	100	+40%	100/15 Summer				47.280
25.000	Dummy	15 Summer	100	+40%					52.360
25.001	SDP	15 Summer	100	+40%					52.360
21.007	S26	960 Winter	100	+40%	100/15 Summer				47.278
26.000	Dummy	15 Summer	100	+40%					52.507
26.001	SDP	15 Summer	100	+40%					52.515
21.008	S27	960 Winter	100	+40%	100/15 Summer				47.278
27.000	Dummy	15 Summer	100	+40%	100/15 Summer				52.645
27.001	SDP	15 Summer	100	+40%	100/15 Summer	100/15 Summer			52.651
27.002	S28	15 Summer	100	+40%	100/15 Summer				47.910
28.000	Dummy	60 Winter	100	+40%					52.400
28.001	SDP	15 Summer	100	+40%					52.388
27.003	S29	15 Summer	100	+40%	100/15 Summer				47.513
29.000	Dummy	60 Winter	100	+40%					52.325
29.001	SDP	15 Summer	100	+40%					52.288
29.002	S30	15 Summer	100	+40%	100/15 Summer				47.294
30.000	Dummy	60 Winter	100	+40%					52.400
30.001	SDP	15 Summer	100	+40%					52.278
29.003	S31	960 Winter	100	+40%	100/15 Summer				47.276
29.004	S32	960 Winter	100	+40%	100/15 Summer				47.276
31.000	Dummy	60 Winter	100	+40%					52.325
31.001	SDP	15 Summer	100	+40%					52.213
27.004	S33	960 Winter	100	+40%	100/15 Summer				47.278
1.008	Attenuation	960 Winter	100	+40%	100/15 Summer				47.278

Technology Services
 Sherwood House, Sherwood Ave.
 Newark, Nottinghamshire, NG24 1QQ

NK018074 - Sussex - 3R's
 Facility, Wealden Works
 [drg RPS-EFW-XX-DR-0300-P04]



Date 17.05.18

Designed by WL

File NK018074-RPS-EFW-XX-CS-D-

Checked by MF

Innovyze

Network 2016.1

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

PN	US/MH Name	Surcharged Flooded			Pipe		Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)		
13.001	Porous CP	0.550	0.000	0.99		10.7	SURCHARGED	
12.003	S13	0.634	0.000	0.29		10.8	SURCHARGED	
14.000	Dummy	0.670	0.000	0.04		0.6	FLOOD RISK	
14.001	Sw8	0.740	0.000	0.08		1.4	FLOOD RISK	
15.000	Dummy	0.670	0.000	0.05		0.6	FLOOD RISK	
15.001	Sw9	0.739	0.000	1.92		90.1	FLOOD RISK	
10.003	S14	0.935	0.000	0.25		33.5	SURCHARGED	
16.000	ACO	0.432	0.000	0.60		9.3	SURCHARGED	
17.000	Dummy	0.670	0.000	0.24		3.1	FLOOD RISK	
17.001	Sw10	0.740	0.000	1.29		20.8	FLOOD RISK	
18.000	Dummy	0.670	0.000	0.24		3.1	FLOOD RISK	
18.001	Sw11	0.740	0.000	1.32		21.2	FLOOD RISK	
16.001	S15	0.702	0.000	1.18		44.3	SURCHARGED	
19.000	Dummy	-0.067	0.000	0.07		0.9	OK	
19.001	Sw12	0.012	0.000	1.00		10.8	SURCHARGED	
16.002	S16	0.634	0.000	1.35		51.2	SURCHARGED	
20.000	Dummy	0.099	0.000	0.13		1.6	SURCHARGED	
20.001	Sw13	0.166	0.000	2.48		26.9	SURCHARGED	
16.003	S17	0.789	0.000	0.24		7.9	SURCHARGED	
10.004	S18	0.957	0.000	0.26		41.4	SURCHARGED	
10.005	S19	0.970	0.000	0.31		41.4	SURCHARGED	
21.000	Dummy	-0.197	0.000	0.01		0.2	OK	
21.001	SDP	-0.090	0.000	0.34		31.4	OK	
22.000	Dummy	-0.176	0.000	0.02		0.3	OK	
22.001	SDP	-0.150	0.000	0.24		61.5	OK	
21.002	S20	0.881	6.296	1.91		68.8	FLOOD	5
23.000	S21	0.273	0.000	0.44		7.5	SURCHARGED	
21.003	S22	0.842	0.000	0.18		6.5	SURCHARGED	
21.004	S23	0.943	0.000	0.17		6.5	SURCHARGED	
21.005	S24	1.339	0.000	0.17		6.5	SURCHARGED	
24.000	Dummy	-0.147	0.000	0.00		0.0	OK	
24.001	SDP	-0.112	0.000	0.50		165.7	OK	
21.006	S25	1.532	0.000	0.14		17.0	SURCHARGED	
25.000	Dummy	-0.190	0.000	0.02		0.7	OK	
25.001	SDP	-0.090	0.000	0.67		217.6	OK	
21.007	S26	2.353	0.000	0.17		30.8	SURCHARGED	
26.000	Dummy	-0.118	0.000	0.03		0.2	OK	
26.001	SDP	-0.085	0.000	0.39		43.5	OK	
21.008	S27	2.428	0.000	0.18		33.2	SURCHARGED	
27.000	Dummy	0.170	0.000	0.50		3.5	FLOOD RISK	
27.001	SDP	0.201	0.562	0.97		118.9	FLOOD	1
27.002	S28	0.840	0.000	1.85		120.0	FLOOD RISK	
28.000	Dummy	-0.100	0.000	0.00		0.0	OK	
28.001	SDP	-0.087	0.000	0.37		39.6	OK	
27.003	S29	0.593	0.000	2.37		154.1	FLOOD RISK	
29.000	Dummy	-0.100	0.000	0.00		0.0	OK	
29.001	SDP	-0.112	0.000	0.50		135.5	OK	
29.002	S30	0.504	0.000	2.12		132.8	FLOOD RISK	
30.000	Dummy	-0.100	0.000	0.00		0.0	OK	
30.001	SDP	-0.197	0.000	0.04		12.7	OK	
29.003	S31	0.572	0.000	0.12		9.4	FLOOD RISK	
29.004	S32	0.602	0.000	0.10		9.4	SURCHARGED	
31.000	Dummy	-0.100	0.000	0.00		0.0	OK	
31.001	SDP	-0.187	0.000	0.07		22.8	OK	
27.004	S33	0.878	0.000	0.14		23.1	SURCHARGED	
1.008	Attenuation	3.328	0.000	2.77		14.9	SURCHARGED	