Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address:		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SW1 (Surface Water Network - S104)	Outlet	SW1.000 (Surface Water Network - S104)	Free Discharge
SW2 (Surface Water Network - S104)	Outlet	SW1.001 (Surface Water Network - S104)	Free Discharge
SW8 (Surface Water Network - S104)	Outlet	SW3.000 (Surface Water Network - S104)	Free Discharge
SW3 (Surface Water Network - S104)	Outlet	SW1.002 (Surface Water Network - S104)	Free Discharge
SW7 (Surface Water Network - S104)	Outlet	SW2.001 (Surface Water Network - S104)	Free Discharge
SW4 (Surface Water Network - S104)	Outlet	SW1.003 (Surface Water Network - S104)	Free Discharge
SW6 (Surface Water Network - S104)	Outlet	SW2.000 (Surface Water Network - S104)	Free Discharge
SW9 (Surface Water Network - S104)	Outlet	SW2.002 (Surface Water Network - S104)	Free Discharge
SW5 (Surface Water Network - S104)	Outlet	SW1.004 (Surface Water Network - S104)	Free Discharge
SW10 (Surface Water Network - S104)	Outlet	SW1.005 (Surface Water Network - S104)	Free Discharge
SW12 (Surface Water Network - S104)	Outlet	SW4.000 (Surface Water Network - S104)	Free Discharge
SW16 (Surface Water Network - S104)	Outlet	SW5.000 (Surface Water Network - S104)	Free Discharge
SW13 (Surface Water Network - S104)	Outlet	SW4.001 (Surface Water Network - S104)	Free Discharge
SW14 (Surface Water Network - S104)	Outlet	SW4.002 (Surface Water Network - S104)	Free Discharge
SW11 (Surface Water Network - S104)	Outlet	SW1.006 (Surface Water Network - S104)	Free Discharge
SW17 (Surface Water Network - S104)	Outlet	Pipe	Free Discharge
SW18 (Surface Water Network - S104)	Outlet	SW5.002 (Surface Water Network - S104)	Free Discharge
SW15 (Surface Water Network - S104)	Outlet	SW1.007 (Surface Water Network - S104)	Free Discharge
SW19 (Surface Water Network - S104)	Outlet	SW1.008 (Surface Water Network - S104)	Free Discharge
SW20 (Surface Water Network - S104)	Outlet	SW1.009 (Surface Water Network - S104)	Free Discharge
SW24 (Surface Water Network - S104)	Outlet	SW6.002 (Surface Water Network - S104)	Free Discharge
SW25 (Surface Water Network - S104)	Outlet	SW6.003 (Surface Water Network - S104)	Free Discharge
SW23 (Surface Water Network - S104)	Outlet	SW6.001 (Surface Water Network - S104)	Free Discharge
SW21 (Surface Water Network - S104)	Outlet	SW1.010 (Surface Water Network - S104)	Free Discharge
SW22 (Surface Water Network - S104)	Outlet	SW6.000 (Surface Water Network - S104)	Free Discharge
SW27 (Surface Water Network - S104)	Outlet	SW6.005 (Surface Water Network - S104)	Free Discharge
SW26 (Surface Water Network - S104)	Outlet	SW6.004 (Surface Water Network - S104)	Free Discharge
	Outlet	SW1.013 (Surface Water Network - S104)	Hydro-Brake®

Project:	Date: 03/02/2022		
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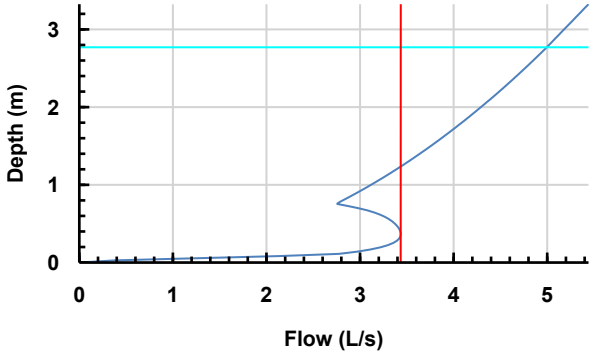
Report Details: Type: Junctions Storm Phase: Phase	Company Address:		

Junction	Outlet Name	Outgoing Connection	Outlet Type
SW29 (Surface Water Network - S104)	Invert Level (m)	149.325	
	Design Depth (m)	2.770	
	Design Flow (L/s)	5.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☑	
	Unit Reference	SHE-0085-5000-2770-5000	
			
SW31 (Surface Water Network - S104)	Outlet	SW1.014 (Surface Water Network - S104)	Free Discharge
Manhole (1)	Outlet	Pipe (3)	Free Discharge
SW16a	Outlet	SW5.000 (Surface Water Network - S104) (1)	Free Discharge
SW16b	Outlet	Pipe (4)	Free Discharge
SW33	Outlet	Pipe (6)	Free Discharge
SW34	Outlet	Pipe (7)	Free Discharge
SW35	Outlet	Pipe (8)	Free Discharge
SW36	Outlet	Pipe (9)	Free Discharge
SW37	Outlet	SW1.010 (Surface Water Network - S104) (1)	Free Discharge
SW30	Outlet	SW1.013 (Surface Water Network - S104) (1)	Free Discharge
SW29a	Outlet	SW1.013 (Surface Water Network - S104) (2)	Free Discharge

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		

Tank

Type : Tank

Dimensions

Exceedance Level (m)	153.800
Depth (m)	4.420
Base Level (m)	149.380
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	87.43
Average Slope (1:X)	0.00
Total Volume (m³)	877.469

Depth (m)	Area (m²)	Volume (m³)
0.000	334.00	0.000
3.000	334.00	876.049

Inlets

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	SW1.010 (Surface Water Network - S104) (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (2)
Outlet Type	Free Discharge

Advanced

Perimeter	Rectangular
Length (m)	35.522

Project:	Date: 03/02/2022		
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Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		

Tank (1)

Type : Tank

Dimensions

Exceedance Level (m)	157.296
Depth (m)	6.493
Base Level (m)	150.803
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	157.739

Depth (m)	Area (m²)	Volume (m³)
0.000	97.25	0.000
1.655	97.25	152.901

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (3)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (1)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	20.988

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	Company Address:		

Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
SW1.008 (Surface Water Network - S104)	21.352	Pipe	24.486	0.009		375	158.380	156.025
SW1.009 (Surface Water Network - S104)	6.087	Pipe	12.550	0.009		375	156.728	155.153
SW1.007 (Surface Water Network - S104)	20.481	Pipe	109.523	0.009		375	159.753	156.212
SW1.000 (Surface Water Network - S104)	21.385	Pipe	21.449	0.009		150	168.177	166.827
SW1.001 (Surface Water Network - S104)	22.680	Pipe	13.232	0.009		150	167.180	165.830
SW1.002 (Surface Water Network - S104)	11.900	Pipe	13.006	0.009		225	165.466	164.041
SW1.003 (Surface Water Network - S104)	13.081	Pipe	13.003	0.009		225	164.645	163.126
SW1.004 (Surface Water Network - S104)	34.910	Pipe	13.959	0.009		225	163.671	162.120
SW1.006 (Surface Water Network - S104)	17.321	Pipe	199.089	0.009		375	160.556	156.299
SW5.002 (Surface Water Network - S104)	13.566	Pipe	169.579	0.009		225	160.102	158.122
SW2.000 (Surface Water Network - S104)	11.452	Pipe	134.734	0.009		150	164.431	163.081
SW2.001 (Surface Water Network - S104)	16.607	Pipe	23.423	0.009		225	164.661	162.891
SW2.002 (Surface Water Network - S104)	10.408	Pipe	167.878	0.009		225	164.100	162.182
SW3.000 (Surface Water Network - S104)	8.449	Pipe	51.206	0.009		150	165.082	163.161
SW4.000 (Surface Water Network - S104)	42.523	Pipe	112.792	0.009		225	160.298	158.170
SW4.002 (Surface Water Network - S104)	22.523	Pipe	36.743	0.009		225	160.544	157.062
SW6.000 (Surface Water Network - S104)	12.517	Pipe	50.069	0.009		100	153.145	151.859
SW6.003 (Surface Water Network - S104)	55.362	Pipe	152.512	0.009		225	153.707	151.302
SW6.004 (Surface Water Network - S104)	14.035	Pipe	22.933	0.009		300	154.757	150.864
SW6.005 (Surface Water Network - S104)	9.849	Pipe	43.009	0.009		375	155.513	150.177
SW6.001 (Surface Water Network - S104)	9.506	Pipe	100.067	0.009		150	153.347	151.559
SW6.002 (Surface Water Network - S104)	8.658	Pipe	99.513	0.009		150	153.538	151.464
SW1.014 (Surface Water Network - S104)	11.140	Pipe	15.408	0.009		150	152.433	148.983
SW1.005 (Surface Water Network - S104)	12.372	Pipe	20.793	0.009		300	161.208	159.544
SW4.001 (Surface Water Network - S104)	18.035	Pipe	24.671	0.009		225	161.182	157.793
Pipe	19.293	Pipe	11.998		0.6	150	160.371	157.332
Pipe (3)	4.235	Pipe	11.998		0.6	150	157.828	152.661
Pipe (2)	12.939	Pipe	2587.710		0.6	600	153.800	149.380
SW5.000 (Surface Water Network - S104)	16.643	Pipe	61.414	0.009		150	160.767	158.950
SW5.000 (Surface Water Network - S104) (1)	12.291	Pipe	99.930	0.009		150	160.536	158.679
Pipe (4)	4.686	Pipe	13.053		0.6	100	160.388	159.088
Pipe (1)	13.075	Pipe	100.576		0.6	150	157.296	150.803
Pipe (6)	14.374	Pipe	100.520		0.6	150	154.794	150.673
Pipe (7)	8.061	Pipe	99.521		0.6	150	156.775	150.530
Pipe (8)	21.395	Pipe	84.565		0.6	150	156.180	150.449
SW1.010 (Surface Water Network - S104)	9.698	Pipe	438.618		0.6	600	156.245	149.723

SW1.010 (Surface Water Network - S104) (1)	9.400	Pipe	1057.492		0.6	600	155.353	149.701
Pipe (9)	4.456	Pipe	101.280		0.6	150	155.608	150.196
SW1.013 (Surface Water Network - S104) (1)	17.353	Pipe	99.731	0.009		150	152.772	149.157
SW1.013 (Surface Water Network - S104)	4.132	Pipe	100.780	0.009		150	154.984	149.325
SW1.013 (Surface Water Network - S104) (2)	12.749	Pipe	100.389	0.009		150	155.018	149.284

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Flow Restriction (L/s)	Culvert Type	Culvert Entrance
SW1.008 (Surface Water Network - S104)	156.728	155.153		All		(None)	(None)
SW1.009 (Surface Water Network - S104)	156.245	154.668		All		(None)	(None)
SW1.007 (Surface Water Network - S104)	158.380	156.025		All		(None)	(None)
SW1.000 (Surface Water Network - S104)	167.180	165.830		All		(None)	(None)
SW1.001 (Surface Water Network - S104)	165.466	164.116		All		(None)	(None)
SW1.002 (Surface Water Network - S104)	164.645	163.126		All		(None)	(None)
SW1.003 (Surface Water Network - S104)	163.671	162.120		All		(None)	(None)
SW1.004 (Surface Water Network - S104)	161.208	159.619		All		(None)	(None)
SW1.006 (Surface Water Network - S104)	159.753	156.212		All		(None)	(None)
SW5.002 (Surface Water Network - S104)	159.753	158.042		Levels		(None)	(None)
SW2.000 (Surface Water Network - S104)	164.661	162.996		All		(None)	(None)
SW2.001 (Surface Water Network - S104)	164.100	162.182		All		(None)	(None)
SW2.002 (Surface Water Network - S104)	163.671	162.120		All		(None)	(None)
SW3.000 (Surface Water Network - S104)	164.661	162.996		All		(None)	(None)
SW4.000 (Surface Water Network - S104)	161.182	157.793		All		(None)	(None)
SW4.002 (Surface Water Network - S104)	160.556	156.449		All		(None)	(None)
SW6.000 (Surface Water Network - S104)	153.347	151.609		All		(None)	(None)
SW6.003 (Surface Water Network - S104)	154.757	150.939		All		(None)	(None)
SW6.004 (Surface Water Network - S104)	155.513	150.252		All		(None)	(None)
SW6.005 (Surface Water Network - S104)	156.245	149.948		All		(None)	(None)
SW6.001 (Surface Water Network - S104)	153.538	151.464		All		(None)	(None)
SW6.002 (Surface Water Network - S104)	153.707	151.377		All		(None)	(None)
SW1.014 (Surface Water Network - S104)	148.410	148.260		All		(None)	(None)
SW1.005 (Surface Water Network - S104)	160.556	158.949		All		(None)	(None)
SW4.001 (Surface Water Network - S104)	160.544	157.062		All		(None)	(None)
Pipe	157.828	155.724		All		(None)	(None)
Pipe (3)	157.296	152.308		All		(None)	(None)
Pipe (2)	154.984	149.375		All		(None)	(None)
SW5.000 (Surface Water Network - S104)	160.536	158.679		All		(None)	(None)
SW5.000 (Surface Water Network - S104) (1)	160.371	158.556		All		(None)	(None)

Pipe (4)	160.536	158.729		All		(None)	(None)
Pipe (1)	154.794	150.673		None		(None)	(None)
Pipe (6)	156.775	150.530		None		(None)	(None)
Pipe (7)	156.180	150.449		None		(None)	(None)
Pipe (8)	155.608	150.196		None		(None)	(None)
SW1.010 (Surface Water Network - S104)	155.353	149.701		All		(None)	(None)
SW1.010 (Surface Water Network - S104) (1)	153.800	149.692		All		(None)	(None)
Pipe (9)	155.353	150.152		Levels		(None)	(None)
SW1.013 (Surface Water Network - S104) (1)	152.433	148.983		All	5.0	(None)	(None)
SW1.013 (Surface Water Network - S104)	155.018	149.284		All	5.0	(None)	(None)
SW1.013 (Surface Water Network - S104) (2)	152.772	149.157		All	5.0	(None)	(None)

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Address:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	SW1 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (1)	SW1 (Surface Water Network - S104)		Time of Concentration	0.033	100	0	100	0.033
Catchment Area (2)	SW1 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (3)	SW3 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (4)	SW3 (Surface Water Network - S104)		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (5)	SW3 (Surface Water Network - S104)		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (6)	SW3 (Surface Water Network - S104)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (7)	SW3 (Surface Water Network - S104)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (8)	SW2 (Surface Water Network - S104)		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (9)	SW2 (Surface Water Network - S104)		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (10)	SW3 (Surface Water Network - S104)		Time of Concentration	0.024	100	0	100	0.024
Catchment Area (11)	SW2 (Surface Water Network - S104)		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (12)	SW5 (Surface Water Network - S104)		Time of Concentration	0.026	100	0	100	0.026

Catchment Area (13)	SW6 (Surface Water Network - S104)		Time of Concentration	0.023	100	0	100	0.023
Catchment Area (14)	SW8 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (15)	SW9 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (16)	SW10 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (17)	SW15 (Surface Water Network - S104)		Time of Concentration	0.019	100	0	100	0.019
Catchment Area (18)	SW18 (Surface Water Network - S104)		Time of Concentration	0.030	100	0	100	0.030
Catchment Area (19)	SW15 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (20)	SW17 (Surface Water Network - S104)		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (21)	SW16a		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (22)	SW14 (Surface Water Network - S104)		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (23)	SW12 (Surface Water Network - S104)		Time of Concentration	0.073	100	0	100	0.073
Catchment Area (24)	SW20 (Surface Water Network - S104)		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (25)	SW20 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (26)	SW21 (Surface Water Network - S104)		Time of Concentration	0.014	100	0	100	0.014

Catchment Area (27)	SW15 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (28)	SW26 (Surface Water Network - S104)		Time of Concentration	0.060	100	0	100	0.060
Catchment Area (29)	SW24 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (30)	SW22 (Surface Water Network - S104)		Time of Concentration	0.043	100	0	100	0.043
Catchment Area (31)	SW8 (Surface Water Network - S104)		Time of Concentration	0.020	100	0	100	0.020
Catchment Area (32)	SW8 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (33)	SW6 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (34)	SW6 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (35)	SW16 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (36)	SW16 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (37)	SW6 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (38)	SW16 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (39)	SW9 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (40)	SW9 (Surface Water Network - S104)		Time of Concentration	0.012	100	0	100	0.012

Catchment Area (41)	SW10 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (42)	SW16 (Surface Water Network - S104)		Time of Concentration	0.019	100	0	100	0.019
Catchment Area (43)	SW16 (Surface Water Network - S104)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (44)	SW16 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (45)	SW17 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (46)	SW17 (Surface Water Network - S104)		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (47)	SW18 (Surface Water Network - S104)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (48)	SW18 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (49)	SW18 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (50)	SW3 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (51)	SW10 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (52)	SW10 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (53)	SW14 (Surface Water Network - S104)		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (54)	SW18 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002

Catchment Area (55)	SW14 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (56)	SW20 (Surface Water Network - S104)		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (57)	SW26 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (58)	SW26 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (59)	SW26 (Surface Water Network - S104)		Time of Concentration	0.019	100	0	100	0.019
Catchment Area (60)	SW27 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (61)	SW23 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (62)	SW23 (Surface Water Network - S104)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (63)	SW27 (Surface Water Network - S104)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (64)	SW27 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (65)	SW27 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (66)	SW27 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (67)	SW19 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (68)	SW27 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002

Catchment Area (69)	SW27 (Surface Water Network - S104)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (70)	SW27 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (71)	SW12 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (72)	Manhole (1)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (73)	Manhole (1)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (74)	Manhole (1)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (75)	Manhole (1)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (76)	SW26 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (77)	SW26 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (78)	SW26 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (79)	SW24 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (80)	SW24 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (81)	SW27 (Surface Water Network - S104)		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (82)	SW27 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (83)	SW27 (Surface Water Network - S104)		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (84)	SW27 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010

Catchment Area (85)	SW20 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (86)	SW20 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (87)	SW19 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (88)	SW15 (Surface Water Network - S104)		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (89)	SW20 (Surface Water Network - S104)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (90)	SW15 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (91)	SW14 (Surface Water Network - S104)		Time of Concentration	0.022	100	0	100	0.022
Catchment Area (92)	SW14 (Surface Water Network - S104)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (93)	SW14 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (94)	SW14 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (95)	SW14 (Surface Water Network - S104)		Time of Concentration	0.001	100	0	100	0.001
Catchment Area (96)	SW12 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (97)	SW14 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (98)	SW13 (Surface Water Network - S104)		Time of Concentration	0.012	100	0	100	0.012

Catchment Area (99)	SW13 (Surface Water Network - S104)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (100)	SW13 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (101)	SW13 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (102)	SW13 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (103)	SW13 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (104)	SW13 (Surface Water Network - S104)		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (105)	SW13 (Surface Water Network - S104)		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (106)	SW13 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (107)	SW10 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (108)	SW10 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (109)	SW10 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (110)	SW10 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (111)	SW1 (Surface Water Network - S104)		Time of Concentration	0.001	100	0	100	0.001
Catchment Area (112)	SW1 (Surface Water Network - S104)		Time of Concentration	0.004	100	0	100	0.004

Catchment Area (113)	SW1 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (114)	SW1 (Surface Water Network - S104)		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (115)	SW9 (Surface Water Network - S104)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (116)	SW9 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (117)	SW9 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (118)	SW10 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (119)	SW10 (Surface Water Network - S104)		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (120)	SW27 (Surface Water Network - S104)		Time of Concentration	0.001	100	0	100	0.001
Catchment Area (121)	SW27 (Surface Water Network - S104)		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (122)	SW13 (Surface Water Network - S104)		Time of Concentration	0.001	100	0	100	0.001
Catchment Area (123)	SW14 (Surface Water Network - S104)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (124)	SW12 (Surface Water Network - S104)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (125)	SW16b		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (126)	SW18 (Surface Water Network - S104)		Time of Concentration	0.011	100	0	100	0.011

Catchment Area (127)	SW10 (Surface Water Network - S104)		Time of Concentration	0.039	100	0	100	0.039
Catchment Area (128)	SW17 (Surface Water Network - S104)		Time of Concentration	0.013	100	0	100	0.013
TOTAL		**0.0**		**1.408**				**1.408**

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Company Address:		

Runoff Type	Dynamic
Output Interval (mins)	1
Time Step	Shortest
Urban Creep	Use Catchment Values
Junction Flood Risk Margin (mm)	50
Perform No Discharge Analysis	☐

Rainfall

09.21011 - Birkenshaw

Type: FSR

Region	England And Wales
M5-60 (mm)	19.0
Ratio R	0.352
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	30.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		

09.21011 - Birkenshaw: 100 years: Increase Rainfall (%): +30: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Outfall	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter		148.260	148.290	0.030	5.0			5.0	725.044	OK
SW1 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	168.177	166.827	166.925	0.098	34.6	0.111	0.000	34.5	15.976	OK
SW2 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	167.180	165.830	165.967	0.137	58.8	0.155	0.000	57.6	27.205	OK
SW8 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	165.082	163.161	163.302	0.141	24.2	0.160	0.000	24.0	11.171	OK
SW3 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	165.466	164.041	164.188	0.147	103.1	0.166	0.000	102.9	48.251	OK
SW7 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	164.661	162.891	163.203	0.312	50.3	0.353	0.000	50.2	23.570	Surcharged
SW4 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	164.645	163.126	163.256	0.130	102.9	0.147	0.000	102.7	48.218	OK
SW6 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	164.431	163.081	163.375	0.294	26.9	0.332	0.000	26.3	12.404	Surcharged
SW9 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	164.100	162.182	163.112	0.930	72.5	1.051	0.000	69.2	33.857	Surcharged
SW5 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	163.671	162.120	162.965	0.845	176.9	0.956	0.000	172.9	88.392	Surcharged
SW10 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	161.208	159.544	159.798	0.254	224.5	0.364	0.000	224.3	113.687	OK
SW12 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.298	158.170	159.008	0.838	51.9	0.947	0.000	47.0	23.887	Surcharged

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		

SW16 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.767	158.950	159.979	1.029	39.6	1.163	0.000	36.2	18.268	Surcharged
SW13 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	161.182	157.793	158.773	0.980	73.3	1.108	0.000	75.1	36.820	Surcharged
SW14 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.544	157.062	158.510	1.448	111.7	1.638	0.000	110.4	57.417	Surcharged
SW11 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.556	156.299	157.764	1.465	334.2	1.657	0.000	333.5	171.088	Surcharged
SW17 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.371	157.332	158.837	1.505	73.1	1.702	0.000	69.8	38.387	Surcharged
SW18 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.102	158.122	158.264	0.142	30.5	0.160	0.000	30.2	14.099	OK
SW15 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	159.753	156.212	157.262	1.050	389.2	1.502	0.000	388.9	198.232	Surcharged
SW19 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	158.380	156.025	156.346	0.321	392.2	0.459	0.000	392.2	199.811	OK
SW20 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	156.728	155.153	155.490	0.337	428.4	0.483	0.000	428.2	217.553	OK
SW24 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	153.538	151.464	152.217	0.753	2.5	0.852	0.000	2.5	83.630	Surcharged
SW25 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	153.707	151.302	152.217	0.915	2.5	1.035	0.000	2.5	83.560	Surcharged
SW23 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	153.347	151.559	152.217	0.658	1.6	0.744	0.000	1.6	53.319	Surcharged
SW21 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	156.245	149.723	152.217	2.494	33.0	4.407	0.000	32.8	1140.662	Surcharged
SW22 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	153.145	151.859	152.929	1.070	22.5	1.210	0.000	19.2	10.368	Surcharged

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		

SW27 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	155.513	150.177	152.217	2.040	8.3	2.307	0.000	8.2	287.280	Surcharged
SW26 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	154.757	150.864	152.217	1.353	6.1	1.530	0.000	5.9	205.132	Surcharged
SW29 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	154.984	149.325	152.217	2.892	5.1	5.110	0.000	5.0	725.384	Surcharged
SW31 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	152.433	148.983	149.015	0.032	5.0	0.036	0.000	5.0	725.044	OK
Manhole (1)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	157.828	152.661	153.733	1.072	81.7	1.213	0.000	80.9	44.582	Surcharged
SW16a	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.536	158.679	159.533	0.854	49.7	0.966	0.000	47.3	25.800	Surcharged
SW16b	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	160.388	159.088	159.652	0.564	11.1	0.638	0.000	10.2	5.124	Surcharged
SW33	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	154.794	150.673	152.218	1.545	4.9	1.747	0.000	4.7	208.388	Surcharged
SW34	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	156.775	150.530	152.217	1.687	4.7	1.908	0.000	4.6	210.242	Surcharged
SW35	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	156.180	150.449	152.217	1.768	4.6	2.000	0.000	4.4	212.015	Surcharged
SW36	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	155.608	150.196	152.217	2.021	4.4	2.286	0.000	4.3	213.395	Surcharged
SW37	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	155.353	149.701	152.217	2.516	35.7	4.445	0.000	35.5	1307.659	Surcharged
SW30	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	152.772	149.157	149.210	0.053	5.0	0.060	0.000	5.0	725.111	OK
SW29a	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	155.018	149.284	149.335	0.051	5.0	0.058	0.000	5.0	725.235	OK

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

09.21011 - Birkenshaw: 100 years: Increase Rainfall (%): +30: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Tank	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	152.217	152.217	2.837	2.837	35.5	828.397	0.000	0.000	5.1	730.681	5.592	OK
Tank (1)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	152.218	152.218	1.415	1.415	7.9	130.719	0.000	0.000	4.9	171.495	17.130	OK

Project:	Date: 03/02/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		

09.21011 - Birkenshaw: 100 years: Increase Rainfall (%): +30: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
SW1.008 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW19 (Surface Water Network - S104)	SW20 (Surface Water Network - S104)	158.380	156.346	0.329	199.811	3.8	0.77	392.2	OK
SW1.009 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW20 (Surface Water Network - S104)	SW21 (Surface Water Network - S104)	156.728	155.490	0.273	217.553	5.0	0.6	428.2	OK
SW1.007 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW15 (Surface Water Network - S104)	SW19 (Surface Water Network - S104)	159.753	157.262	0.375	198.232	3.5	1.61	388.9	Surcharged
SW1.000 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW1 (Surface Water Network - S104)	SW2 (Surface Water Network - S104)	168.177	166.925	0.118	15.976	2.4	0.73	34.5	OK
SW1.001 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW2 (Surface Water Network - S104)	SW3 (Surface Water Network - S104)	167.180	165.967	0.127	27.205	3.6	0.95	57.6	OK
SW1.002 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW3 (Surface Water Network - S104)	SW4 (Surface Water Network - S104)	165.466	164.188	0.134	48.251	4.2	0.57	102.9	OK
SW1.003 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW4 (Surface Water Network - S104)	SW5 (Surface Water Network - S104)	164.645	163.256	0.225	48.218	3.0	0.57	102.7	OK
SW1.004 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW5 (Surface Water Network - S104)	SW10 (Surface Water Network - S104)	163.671	162.965	0.225	88.392	4.6	1	172.9	Surcharged
SW1.006 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW11 (Surface Water Network - S104)	SW15 (Surface Water Network - S104)	160.556	157.764	0.375	171.088	3.0	1.86	333.5	Surcharged
SW5.002 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW18 (Surface Water Network - S104)	SW15 (Surface Water Network - S104)	160.102	158.264	0.134	14.099	1.2	0.61	30.2	OK
SW2.000 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW6 (Surface Water Network - S104)	SW7 (Surface Water Network - S104)	164.431	163.375	0.150	12.404	1.5	1.39	26.3	Surcharged

SW2.001 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW7 (Surface Water Network - S104)	SW9 (Surface Water Network - S104)	164.661	163.203	0.225	23.570	1.3	0.37	50.2	Surcharged
SW2.002 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW9 (Surface Water Network - S104)	SW5 (Surface Water Network - S104)	164.100	163.112	0.225	33.857	1.7	1.38	69.2	Surcharged
SW3.000 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW8 (Surface Water Network - S104)	SW7 (Surface Water Network - S104)	165.082	163.302	0.150	11.171	1.7	0.78	24.0	OK
SW4.000 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW12 (Surface Water Network - S104)	SW13 (Surface Water Network - S104)	160.298	159.008	0.225	23.887	1.7	0.77	47.0	Surcharged
SW4.002 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW14 (Surface Water Network - S104)	SW11 (Surface Water Network - S104)	160.544	158.510	0.225	57.417	2.8	1.03	110.4	Surcharged
SW6.000 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW22 (Surface Water Network - S104)	SW23 (Surface Water Network - S104)	153.145	152.929	0.100	10.368	2.4	1.82	19.2	Surcharged
SW6.003 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW25 (Surface Water Network - S104)	SW26 (Surface Water Network - S104)	153.707	151.458	0.152	21.518	1.4	0.77	40.4	OK
SW6.004 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW26 (Surface Water Network - S104)	SW27 (Surface Water Network - S104)	154.757	150.996	0.275	53.199	3.0	0.36	105.8	OK
SW6.005 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW27 (Surface Water Network - S104)	SW21 (Surface Water Network - S104)	155.513	150.679	0.375	74.212	2.0	0.39	150.1	Surcharged
SW6.001 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW23 (Surface Water Network - S104)	SW24 (Surface Water Network - S104)	153.347	152.107	0.150	13.707	1.5	1.17	25.8	Surcharged
SW6.002 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW24 (Surface Water Network - S104)	SW25 (Surface Water Network - S104)	153.538	151.942	0.150	21.533	2.3	1.84	40.5	Surcharged
SW1.014 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	Pipe	SW31 (Surface Water Network - S104)	Outfall	152.433	149.015	0.031	725.044	1.9	0.09	5.0	OK
SW1.005 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW10 (Surface Water Network - S104)	SW11 (Surface Water Network - S104)	161.208	159.798	0.222	113.687	4.0	0.73	224.3	OK
SW4.001 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW13 (Surface Water Network - S104)	SW14 (Surface Water Network - S104)	161.182	158.773	0.225	36.820	2.0	0.58	75.1	Surcharged

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Pipe	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW17 (Surface Water Network - S104)	Manhole (1)	160.371	158.837	0.150	38.387	4.0	1.35	69.8	Surcharged
Pipe (3)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	Manhole (1)	Tank (1)	157.828	153.733	0.150	44.582	4.6	1.56	80.9	Surcharged
Pipe (2)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	Tank	SW29 (Surface Water Network - S104)	153.800	150.408	0.600	8.222	0.3	0.11	14.1	Surcharged
SW5.000 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW16 (Surface Water Network - S104)	SW16a	160.767	159.979	0.150	18.268	2.0	1.29	36.2	Surcharged
SW5.000 (Surface Water Network - S104) (1)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Summer	Pipe	SW16a	SW17 (Surface Water Network - S104)	160.536	159.430	0.150	23.030	2.7	2.15	47.3	Surcharged
Pipe (4)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW16b	SW16a	160.388	159.652	0.100	5.124	1.4	0.6	10.2	Surcharged
Pipe (1)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	Tank (1)	SW33	157.296	151.158	0.150	24.016	1.1	1.12	19.8	Surcharged
Pipe (6)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW33	SW34	154.794	150.979	0.150	23.505	1.1	1.11	19.6	Surcharged
Pipe (7)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW34	SW35	156.775	150.799	0.150	23.033	1.1	1.09	19.3	Surcharged
Pipe (8)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW35	SW36	156.180	150.691	0.150	22.542	1.1	0.99	19.1	Surcharged
SW1.010 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW21 (Surface Water Network - S104)	SW37	156.245	150.603	0.600	292.062	2.1	1.78	583.0	Surcharged
SW1.010 (Surface Water Network - S104) (1)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Winter	Pipe	SW37	Tank	155.353	150.434	0.600	308.546	2.1	2.85	596.4	Surcharged
Pipe (9)	09.21011 - Birkenshaw: 100 years: +30 %: 15 mins: Summer	Pipe	SW36	SW37	155.608	150.459	0.150	22.252	1.1	1.12	19.7	Surcharged
SW1.013 (Surface Water Network - S104) (1)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	Pipe	SW30	SW31 (Surface Water Network - S104)	152.772	149.210	0.042	725.111	1.2	0.23	5.0	OK

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SW1.013 (Surface Water Network - S104)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	Pipe	SW29 (Surface Water Network - S104)	SW29a	154.984	152.217	0.053	725.326	0.9	0.23	5.0	Surcharged
SW1.013 (Surface Water Network - S104) (2)	09.21011 - Birkenshaw: 100 years: +30 %: 1440 mins: Winter	Pipe	SW29a	SW30	155.018	149.335	0.052	725.235	0.9	0.23	5.0	OK