

Shape Consulting Engineers		Page 0
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Surface Network 1

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.377	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Surface Network 1

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.107	4-8	0.047

Total Area Contributing (ha) = 0.154

Total Pipe Volume (m³) = 3.563

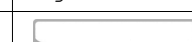
Network Design Table for Surface Network 1

« - 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	13.388	0.134	99.9	0.005	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.001	13.455	0.135	99.7	0.005	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.000	13.144	0.298	44.1	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.002	13.035	0.130	100.3	0.015	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.000	12.356	0.369	33.5	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	I.Area (ha)	Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	46.75	5.29	56.750	0.005	0.0	0.0	0.0	0.77	6.0	0.6
1.001	45.91	5.51	56.566	0.010	0.0	0.0	0.0	1.01	17.8	1.2
2.000	47.15	5.19	56.900	0.010	0.0	0.0	0.0	1.16	9.1	1.3
1.002	45.13	5.73	56.432	0.035	0.0	0.0	0.0	1.00	17.7	4.3
3.000	47.29	5.15	56.900	0.010	0.0	0.0	0.0	1.34	10.5	1.3

Shape Consulting Engineers		Page 1
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

Network Design Table for Surface Network 1

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
1.003	1.950	0.020	97.5	0.015	0.00	0.0	0.600	o	150	Pipe/Conduit	
4.000	11.911	0.119	100.1	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	
4.001	12.101	0.121	100.0	0.010	0.00	0.0	0.600	o	100	Pipe/Conduit	
5.000	11.578	0.240	48.2	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	
4.002	11.007	0.110	100.1	0.015	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.004	29.753	0.198	150.3	0.015	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.005	19.967	0.208	96.0	0.020	0.00	0.0	0.600	o	225	Pipe/Conduit	
6.000	23.940	0.234	102.3	0.014	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.006	2.706	0.017	163.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.007	3.855	0.026	148.3	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)
1.003	45.01	5.76	56.301	0.060	0.0	0.0	0.0	1.02	18.0	7.3
4.000	46.88	5.26	57.200	0.010	0.0	0.0	0.0	0.77	6.0	1.3
4.001	45.88	5.52	57.081	0.020	0.0	0.0	0.0	0.77	6.0	2.5
5.000	47.21	5.17	57.200	0.010	0.0	0.0	0.0	1.11	8.7	1.3
4.002	45.22	5.70	56.910	0.045	0.0	0.0	0.0	1.00	17.8	5.5
1.004	43.43	6.23	56.207	0.120	0.0	0.0	0.0	1.06	42.3	14.1
1.005	42.64	6.48	56.008	0.140	0.0	0.0	0.0	1.33	53.1	16.2
6.000	45.87	5.52	57.200	0.014	0.0	0.0	0.0	0.76	6.0	1.7
1.006	42.46	6.53	55.800	0.154	0.0	0.0	0.0	0.78	13.8«	17.7
1.007	42.22	6.61	55.783	0.154	0.0	0.0	0.0	0.82	14.5«	17.7

Shape Consulting Engineers		Page 2
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Invert Level (m)	Diameter (mm)	Pipes In PN	Invert Level (m)	Diameter (mm)	Backdrop (mm)
PS1	57.400	0.650	Open Manhole	300	1.000	56.750	100				
PS2	57.497	0.931	Open Manhole	180	1.001	56.566	150	1.000	56.616	100	
PS11	57.550	0.650	Open Manhole	300	2.000	56.900	100				
PS3	57.550	1.119	Open Manhole	450	1.002	56.432	150	1.001	56.431	150	
								2.000	56.602	100	120
PS12	57.550	0.650	Open Manhole	300	3.000	56.900	100				
PS4	57.550	1.249	Open Manhole	450	1.003	56.301	150	1.002	56.302	150	1
								3.000	56.531	100	180
PS15	57.850	0.650	Open Manhole	300	4.000	57.200	100				
PS13	57.700	0.619	Open Manhole	450	4.001	57.081	100	4.000	57.081	100	
PS16	57.850	0.650	Open Manhole	300	5.000	57.200	100				
PS14	57.700	0.790	Open Manhole	450	4.002	56.910	150	4.001	56.960	100	
								5.000	56.960	100	
PS5	57.700	1.493	Open Manhole	600	1.004	56.207	225	1.003	56.281	150	
								4.002	56.800	150	518
PS6	57.684	1.676	Open Manhole	600	1.005	56.008	225	1.004	56.009	225	1
PS17	57.568	0.368	Open Manhole	300	6.000	57.200	100				
PS7	57.541	1.741	Open Manhole	1200	1.006	55.800	150	1.005	55.800	225	
								6.000	56.966	100	1116
PS9	57.506	1.723	Open Manhole	1200	1.007	55.783	150	1.006	55.783	150	
PS10	57.475	1.718	Open Manhole	180		OUTFALL		1.007	55.757	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
PS1	380809.726	387153.912	380809.726	387153.912	Required	
PS2	380810.140	387167.293	380810.140	387167.293	Required	
PS11	380823.411	387153.819	380823.411	387153.819	Required	
PS3	380823.591	387166.962	380823.591	387166.962	Required	
PS12	380836.472	387154.283	380836.472	387154.283	Required	
PS4	380836.622	387166.638	380836.622	387166.638	Required	

Shape Consulting Engineers		Page 3
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

Manhole Schedules for Surface Network 1

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
PS15	380863.122	387157.793	380863.122	387157.793	Required	
PS13	380851.353	387155.963	380851.353	387155.963	Required	
PS16	380860.991	387169.321	380860.991	387169.321	Required	
PS14	380849.498	387167.921	380849.498	387167.921	Required	
PS5	380838.572	387166.592	380838.572	387166.592	Required	
PS6	380836.671	387196.284	380836.671	387196.284	Required	
PS17	380859.838	387176.223	380859.838	387176.223	Required	
PS7	380856.308	387199.901	380856.308	387199.901	Required	
PS9	380858.799	387198.844	380858.799	387198.844	Required	
PS10	380862.626	387199.304			No Entry	

Shape Consulting Engineers		Page 4
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

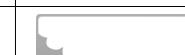
PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	100	PS1	57.400	56.750	0.550	Open Manhole	300
1.001	o	150	PS2	57.497	56.566	0.781	Open Manhole	180
2.000	o	100	PS11	57.550	56.900	0.550	Open Manhole	300
1.002	o	150	PS3	57.550	56.432	0.968	Open Manhole	450
3.000	o	100	PS12	57.550	56.900	0.550	Open Manhole	300
1.003	o	150	PS4	57.550	56.301	1.099	Open Manhole	450
4.000	o	100	PS15	57.850	57.200	0.550	Open Manhole	300
4.001	o	100	PS13	57.700	57.081	0.519	Open Manhole	450
5.000	o	100	PS16	57.850	57.200	0.550	Open Manhole	300
4.002	o	150	PS14	57.700	56.910	0.640	Open Manhole	450
1.004	o	225	PS5	57.700	56.207	1.268	Open Manhole	600
1.005	o	225	PS6	57.684	56.008	1.451	Open Manhole	600
6.000	o	100	PS17	57.568	57.200	0.268	Open Manhole	300
1.006	o	150	PS7	57.541	55.800	1.591	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	13.388	99.9	PS2	57.497	56.616	0.781	Open Manhole	180
1.001	13.455	99.7	PS3	57.550	56.431	0.969	Open Manhole	450
2.000	13.144	44.1	PS3	57.550	56.602	0.848	Open Manhole	450
1.002	13.035	100.3	PS4	57.550	56.302	1.098	Open Manhole	450
3.000	12.356	33.5	PS4	57.550	56.531	0.919	Open Manhole	450
1.003	1.950	97.5	PS5	57.700	56.281	1.269	Open Manhole	600
4.000	11.911	100.1	PS13	57.700	57.081	0.519	Open Manhole	450
4.001	12.101	100.0	PS14	57.700	56.960	0.640	Open Manhole	450
5.000	11.578	48.2	PS14	57.700	56.960	0.640	Open Manhole	450
4.002	11.007	100.1	PS5	57.700	56.800	0.750	Open Manhole	600
1.004	29.753	150.3	PS6	57.684	56.009	1.450	Open Manhole	600
1.005	19.967	96.0	PS7	57.541	55.800	1.516	Open Manhole	1200
6.000	23.940	102.3	PS7	57.541	56.966	0.475	Open Manhole	1200
1.006	2.706	163.4	PS9	57.506	55.783	1.573	Open Manhole	1200

Shape Consulting Engineers		Page 5
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.007	o	150	PS9	57.506	55.783	1.573	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.007	3.855	148.3	PS10	57.475	55.757	1.568	Open Manhole	180

Shape Consulting Engineers		Page 6
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

Network Classifications for Surface Network 1

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
1.000	PS1	100	0.550	0.781	Unclassified	300	0	0.550	Unclassified
1.001	PS2	150	0.781	0.969	Unclassified	180	0	0.781	Unclassified
2.000	PS11	100	0.550	0.848	Unclassified	300	0	0.550	Unclassified
1.002	PS3	150	0.968	1.098	Unclassified	450	0	0.968	Unclassified
3.000	PS12	100	0.550	0.919	Unclassified	300	0	0.550	Unclassified
1.003	PS4	150	1.099	1.269	Unclassified	450	0	1.099	Unclassified
4.000	PS15	100	0.519	0.550	Unclassified	300	0	0.550	Unclassified
4.001	PS13	100	0.519	0.640	Unclassified	450	0	0.519	Unclassified
5.000	PS16	100	0.550	0.640	Unclassified	300	0	0.550	Unclassified
4.002	PS14	150	0.640	0.750	Unclassified	450	0	0.640	Unclassified
1.004	PS5	225	1.268	1.450	Unclassified	600	0	1.268	Unclassified
1.005	PS6	225	1.451	1.516	Unclassified	600	0	1.451	Unclassified
6.000	PS17	100	0.268	0.475	Unclassified	300	0	0.268	Unclassified
1.006	PS7	150	1.573	1.591	Unclassified	1200	0	1.591	Unclassified
1.007	PS9	150	1.568	1.573	Unclassified	1200	0	1.573	Unclassified

Free Flowing Outfall Details for Surface Network 1

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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1.007	PS10	57.475	55.757	0.000	180	0
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Simulation Criteria for Surface Network 1

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.377		

Shape Consulting Engineers		Page 7
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

Online Controls for Surface Network 1

Hydro-Brake® Optimum Manhole: PS7, DS/PN: 1.006, Volume (m³): 2.9

Unit Reference	MD-SHE-0105-5000-1000-5000
Design Head (m)	1.000
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	105
Invert Level (m)	55.800
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	5.0	Kick-Flo®	0.637	4.1
Flush-Flo™	0.296	5.0	Mean Flow over Head Range	-	4.3

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6	1.200	5.4	3.000	8.4	7.000	12.5
0.200	4.8	1.400	5.8	3.500	9.0	7.500	12.9
0.300	5.0	1.600	6.2	4.000	9.6	8.000	13.3
0.400	4.9	1.800	6.6	4.500	10.1	8.500	13.7
0.500	4.7	2.000	6.9	5.000	10.6	9.000	14.1
0.600	4.3	2.200	7.2	5.500	11.1	9.500	14.5
0.800	4.5	2.400	7.5	6.000	11.6		
1.000	5.0	2.600	7.8	6.500	12.1		

Storage Structures for Surface Network 1

Cellular Storage Manhole: PS7, DS/PN: 1.006

Invert Level (m) 55.800 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	54.0	54.0	1.100	0.0	112.0
1.000	54.0	112.0			

Manhole Headloss for Surface Network 1

PN	US/MH Name	US/MH Headloss
1.000	PS1	0.500
1.001	PS2	0.500
2.000	PS11	0.500
1.002	PS3	0.500
3.000	PS12	0.500
1.003	PS4	0.500
4.000	PS15	0.500
4.001	PS13	0.500
5.000	PS16	0.500
4.002	PS14	0.500
1.004	PS5	0.500
1.005	PS6	0.500
6.000	PS17	0.500
1.006	PS7	0.500
1.007	PS9	0.500

Shape Consulting Engineers		Page 10
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for
Surface Network 1

PN	US/MH Name	Flooded	Flow / Overflow		Pipe	Status	Level Exceeded
		Volume (m³)	Flow Cap.	(l/s)	Flow (l/s)		
5.000	PS16	0.000	0.15		1.2	OK	
4.002	PS14	0.000	0.31		5.0	OK	
1.004	PS5	0.000	0.33		13.2	OK	
1.005	PS6	0.000	0.31		15.1	OK	
6.000	PS17	0.000	0.29		1.7	OK	
1.006	PS7	0.000	0.35		3.8	SURCHARGED	
1.007	PS9	0.000	0.35		3.8	OK	

Shape Consulting Engineers		Page 11
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

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

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 1 Number of Real Time Controls 0

Synthetic Rainfall Details

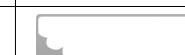
Rainfall Model FSR M5-60 (mm) 18.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.377 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 45

									Water	Surcharged	
	US/MH			Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level	Depth
PN	Name	Storm		Period	Change	Surcharge	Flood	Overflow	Act.	(m)	(m)
1.000	PS1	15 Winter		30	+0%	100/15 Summer				56.785	-0.065
1.001	PS2	15 Winter		30	+0%	100/15 Summer				56.610	-0.106
2.000	PS11	15 Winter		30	+0%	100/15 Summer				56.941	-0.059
1.002	PS3	15 Winter		30	+0%	100/15 Summer				56.568	-0.014
3.000	PS12	15 Winter		30	+0%	100/15 Summer				56.938	-0.062
1.003	PS4	15 Winter		30	+0%	30/15 Summer				56.510	0.059
4.000	PS15	15 Winter		30	+0%	100/15 Summer				57.252	-0.048
4.001	PS13	15 Winter		30	+0%	30/15 Summer				57.194	0.013
5.000	PS16	15 Winter		30	+0%					57.242	-0.058
4.002	PS14	15 Winter		30	+0%	100/15 Summer				57.018	-0.042
1.004	PS5	15 Winter		30	+0%	100/15 Summer				56.378	-0.054
1.005	PS6	60 Winter		30	+0%	30/60 Winter				56.244	0.011
6.000	PS17	15 Winter		30	+0%	100/15 Summer				57.264	-0.036
1.006	PS7	60 Winter		30	+0%	1/30 Winter				56.234	0.284
1.007	PS9	30 Winter		30	+0%					55.854	-0.079

Flooded				Pipe			
	US/MH	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m ³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.000	PS1	0.000	0.26		1.5	OK	
1.001	PS2	0.000	0.19		3.1	OK	
2.000	PS11	0.000	0.35		3.0	OK	
1.002	PS3	0.000	0.65		10.6	OK	
3.000	PS12	0.000	0.30		3.0	OK	
1.003	PS4	0.000	1.65		17.9	SURCHARGED	
4.000	PS15	0.000	0.53		3.0	OK	
4.001	PS13	0.000	1.05		6.0	SURCHARGED	

Shape Consulting Engineers		Page 12
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

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

PN	US/MH Name	Flooded	Flow / Overflow		Pipe	Status	Level
		Volume (m³)	Flow Cap.	(l/s)	Flow (l/s)		Exceeded
5.000	PS16	0.000	0.37		3.0	OK	
4.002	PS14	0.000	0.85		13.5	OK	
1.004	PS5	0.000	0.91		35.9	OK	
1.005	PS6	0.000	0.45		21.6	SURCHARGED	
6.000	PS17	0.000	0.72		4.2	OK	
1.006	PS7	0.000	0.46		5.0	SURCHARGED	
1.007	PS9	0.000	0.46		5.0	OK	

Simulation Criteria

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	1	Number of Real Time Controls	0

Rainfall Model	FSR M5-60 (mm)	18.000	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.377	Cv (Winter)
				0.840

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 45

PN	US/MH Name	Flooded		Pipe	Status	Level Exceeded
		Volume (m ³)	Flow / Cap.	Flow (l/s)		
1.000	PS1	0.000	0.43	2.5	FLOOD	RISK
1.001	PS2	0.000	0.28	4.6	FLOOD	RISK
2.000	PS11	0.000	0.57	4.9	FLOOD	RISK
1.002	PS3	0.000	0.98	15.9	FLOOD	RISK
3.000	PS12	0.000	0.52	5.2	SURCHARGED	
1.003	PS4	0.000	2.53	27.4	SURCHARGED	
4.000	PS15	0.000	0.93	5.3	FLOOD	RISK
4.001	PS13	0.000	1.79	10.2	FLOOD	RISK

Shape Consulting Engineers		Page 14
Amber House Green Lane, Old Swan Liverpool, L13 7GD	Greenbrow Social Club SW Hydraulic Calcs	
Date 19/01/2024 11:22 File 2639 - DESIGN.MDX	Designed by EJC Checked by	
Innovyze	Network 2019.1	

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

PN	US/MH Name	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status	Level Exceeded
		Volume (m³)			Flow (l/s)		
5.000	PS16	0.000	0.67		5.5	OK	
4.002	PS14	0.000	1.48		23.6	SURCHARGED	
1.004	PS5	0.000	1.43		56.6	SURCHARGED	
1.005	PS6	0.000	0.51		24.6	SURCHARGED	
6.000	PS17	0.000	1.26		7.3	FLOOD RISK	
1.006	PS7	0.000	0.46		5.0	SURCHARGED	
1.007	PS9	0.000	0.46		5.0	OK	