Existing Network Details for Existing

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
11.000	1.504	0.040	37.6	0.001	5.00	0.0	0.600	o	100	Pipe/Conduit
12.000	1.614	0.270	6.0	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit
11.001	16.402	0.410	40.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
13.000	7.150	0.170	42.1	0.006	5.00	0.0	0.600	o	100	Pipe/Conduit
13.001	1.433	0.390	3.7	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
11.002	17.296	0.170	101.7	0.005	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
11.000	8.690	0.001	0.0	1.26	9.9
12.000	8.920	0.011	0.0	3.18	25.0
11.001	8.650	0.012	0.0	1.22	9.6
13.000	8.800	0.006	0.0	1.19	9.4
13.001	8.630	0.006	0.0	4.06	31.9
11.002	8.190	0.023	0.0	1.00	17.6

Existing Network Details for Existing

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
14.000	2.179	0.040	54.5	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit
14.001	3.348	0.030	111.6	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit
15.000	3.523	0.030	117.4	0.008	5.00	0.0	0.600	o	150	Pipe/Conduit
14.002	0.544	0.010	54.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
14.003	10.217	0.100	102.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
14.004	1.130	0.010	113.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
14.005	5.932	0.050	118.6	0.012	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
14.000	9.280	0.007	0.0	1.05	8.2
14.001	8.360	0.015	0.0	0.95	16.8
15.000	8.360	0.008	0.0	0.93	16.4
14.002	8.330	0.022	0.0	1.37	24.2
14.003	8.320	0.022	0.0	0.99	17.6
14.004	8.220	0.022	0.0	0.94	16.7
14.005	8.210	0.035	0.0	0.92	16.3

Existing Network Details for Existing

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
16.000	2.517	0.130	19.4	0.006	5.00	0.0	0.600	o	100	Pipe/Conduit
17.000	1.346	0.130	10.4	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit
16.001	7.323	0.488	15.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
18.000	1.152	0.488	2.4	0.006	5.00	0.0	0.600	o	100	Pipe/Conduit
16.002	4.042	0.242	16.7	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
16.000	9.330	0.006	0.0	1.76	13.8
17.000	9.330	0.007	0.0	2.42	19.0
16.001	9.200	0.013	0.0	2.00	15.7
18.000	9.200	0.006	0.0	5.07	39.8
16.002	8.712	0.019	0.0	1.90	14.9

Existing Network Details for Existing

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
16.003	5.865	0.060	97.7	0.006	0.00	0.0	0.600	o	150	Pipe/Conduit
14.006	22.611	0.220	102.8	0.017	0.00	0.0	0.600	o	150	Pipe/Conduit
19.000	3.318	0.310	10.7	0.006	5.00	0.0	0.600	o	100	Pipe/Conduit
19.001	4.577	0.110	41.6	0.003	0.00	0.0	0.600	o	100	Pipe/Conduit
20.000	3.856	0.090	42.8	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit
19.002	1.166	0.010	116.6	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
16.003	8.420	0.025	0.0	1.02	18.0
14.006	8.160	0.077	0.0	0.99	17.5
19.000	9.520	0.006	0.0	2.38	18.7
19.001	9.210	0.009	0.0	1.20	9.4
20.000	9.420	0.007	0.0	1.18	9.3
19.002	8.060	0.023	0.0	0.93	16.4

Existing Network Details for Existing

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
19.003	10.012	0.100	100.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
21.000	4.384	1.250	3.5	0.005	5.00	0.0	0.600	o	100	Pipe/Conduit
19.004	1.124	0.010	112.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
14.007	6.025	0.060	100.4	0.039	0.00	0.0	0.600	o	150	Pipe/Conduit
22.000	20.986	0.520	40.4	0.013	5.00	0.0	0.600	o	100	Pipe/Conduit
22.001	2.961	0.030	98.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
19.003	8.050	0.023	0.0	1.00	17.7
21.000	9.250	0.005	0.0	4.16	32.7
19.004	7.950	0.029	0.0	0.95	16.7
14.007	7.940	0.144	0.0	1.00	17.7
22.000	9.670	0.013	0.0	1.22	9.6
22.001	9.100	0.013	0.0	1.01	17.9

Existing Network Details for Existing

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
22.002	16.431	0.170	96.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
22.003	4.682	1.020	4.6	0.025	0.00	0.0	0.600	o	150	Pipe/Conduit
14.008	2.210	0.010	221.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
23.000	5.472	0.130	42.1	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit
14.009	9.405	0.090	104.5	0.006	0.00	0.0	0.600	o	150	Pipe/Conduit
11.003	17.626	0.090	195.8	0.014	0.00	0.0	0.600	o	225	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
22.002	9.070	0.013	0.0	1.02	18.1
22.003	8.900	0.038	0.0	4.74	83.7
14.008	7.880	0.183	0.0	0.67	11.9
23.000	9.020	0.000	0.0	1.19	9.4
14.009	7.870	0.188	0.0	0.98	17.4
11.003	7.780	0.225	0.0	0.93	37.0

Existing Network Details for Existing

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
11.004	3.646	0.040	91.2	0.003	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
11.004	7.690	0.229	0.0	1.05	18.6

Manhole Schedules for Existing

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)
S11	9.290	0.600	Open Manhole	450	11.000	8.690	100				
S10.1	9.600	0.680	Open Manhole	450	12.000	8.920	100				
JUNCTION S10.1	9.290	0.640	Junction		11.001	8.650	100	11.000	8.650	100	
								12.000	8.650	100	
RE12.1	9.300	0.500	Open Manhole	100	13.000	8.800	100				
S12	9.550	0.920	Open Manhole	450	13.001	8.630	100	13.000	8.630	100	
S10	9.550	1.360	Open Manhole	450	11.002	8.190	150	11.001	8.240	100	
								13.001	8.240	100	
S24	10.040	0.760	Open Manhole	450	14.000	9.280	100				
S23 CP	10.025	1.665	Open Manhole	1200	14.001	8.360	150	14.000	9.240	100	830
S22 CP	10.110	1.750	Open Manhole	900	15.000	8.360	150				
JUNCTION S22 CP	10.020	1.690	Junction		14.002	8.330	150	14.001	8.330	150	
								15.000	8.330	150	
ATT4 (UPSTREAM)	10.020	1.700	Junction		14.003	8.320	150	14.002	8.320	150	
ATT4 (DOWNSTREAM)	10.070	1.850	Junction		14.004	8.220	150	14.003	8.220	150	
S21 CP	10.070	1.860	Open Manhole	1200	14.005	8.210	150	14.004	8.210	150	
RE25.3	10.020	0.690	Open Manhole	100	16.000	9.330	100				
S25.2	10.020	0.690	Open Manhole	450	17.000	9.330	100				
JUNCTION S25.2	10.020	0.820	Junction		16.001	9.200	100	16.000	9.200	100	

Manhole Schedules for Existing

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)
								17.000	9.200	100	
S25.1	10.020	0.820	Open Manhole	450	18.000	9.200	100				
JUNCTION S25.1	10.020	1.308	Junction		16.002	8.712	100	16.001	8.712	100	
								18.000	8.712	100	
S25	10.020	1.600	Open Manhole	450	16.003	8.420	150	16.002	8.470	100	
S20 OP	9.900	1.740	Open Manhole	1200	14.006	8.160	150	14.005	8.160	150	
								16.003	8.360	150	200
RE18.1	10.020	0.500	Open Manhole	100	19.000	9.520	100				
S18	10.020	0.810	Open Manhole	450	19.001	9.210	100	19.000	9.210	100	
RE17.1	10.120	0.700	Junction		20.000	9.420	100				
S17 CP	10.080	2.020	Open Manhole	1200	19.002	8.060	150	19.001	9.100	100	990
								20.000	9.330	100	1220
ATT3 (UPSTREAM)	10.080	2.030	Junction		19.003	8.050	150	19.002	8.050	150	
S19 CP	10.020	0.770	Open Manhole	450	21.000	9.250	100				
ATT3 (DOWNSTREAM)	9.800	1.850	Junction		19.004	7.950	150	19.003	7.950	150	
								21.000	8.000	100	
S16 CP	9.800	1.860	Open Manhole	1200	14.007	7.940	150	14.006	7.940	150	
								19.004	7.940	150	
RE15.1	10.170	0.500	Open Manhole	100	22.000	9.670	100				

Manhole Schedules for Existing

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)
S15	10.010	0.910	Open Manhole	450	22.001	9.100	150	22.000	9.150	100	
RE14.1	10.000	0.930	Open Manhole	150	22.002	9.070	150	22.001	9.070	150	
S14	10.020	1.120	Open Manhole	450	22.003	8.900	150	22.002	8.900	150	
JUNCTION S14	9.960	2.080	Junction		14.008	7.880	150	14.007	7.880	150	
								22.003	7.880	150	
RE13.1	10.020	1.000	Open Manhole	100	23.000	9.020	100				
S13 OP	10.020	2.150	Open Manhole	1200	14.009	7.870	150	14.008	7.870	150	
								23.000	8.890	100	970
S9 CP	9.810	2.030	Open Manhole	1200	11.003	7.780	225	11.002	8.020	150	165
								14.009	7.780	150	
S8 OP	9.900	2.210	Open Manhole	1200	11.004	7.690	150	11.003	7.690	225	
C3	9.870	2.220	Open Manhole	1200		OUTFALL		11.004	7.650	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S11	614688.917	158092.226	614688.917	158092.226	Required	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S10.1	614686.912	158092.066	614686.912	158092.066	Required	
JUNCTION S10.1	614687.905	158093.338			No Entry	
RE12.1	614681.951	158100.069	614681.951	158100.069	Required	
S12	614676.156	158104.257	614676.156	158104.257	Required	
S10	614674.981	158103.437	614674.981	158103.437	Required	
S24	614660.108	158064.710	614660.108	158064.710	Required	
S23 CP	614659.473	158066.795	614659.473	158066.795	Required	
S22 CP	614658.785	158071.606	614658.785	158071.606	Required	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
JUNCTION S22 CP	614661.549	158069.422			No Entry	
ATT4 (UPSTREAM)	614661.748	158069.928			No Entry	
ATT4 (DOWNSTREAM)	614666.030	158079.205			No Entry	
S21 CP	614666.726	158080.096	614666.726	158080.096	Required	
RE25.3	614663.588	158070.596	614663.588	158070.596	Required	
S25.2	614666.223	158071.695	614666.223	158071.695	Required	
JUNCTION S25.2	614665.179	158072.546			No Entry	
S25.1	614670.716	158077.511	614670.716	158077.511	Required	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
JUNCTION S25.1	614669.809	158078.220			No Entry	
S25	614672.364	158081.352	614672.364	158081.352	Required	
S20 OP	614668.494	158085.758	614668.494	158085.758	Required	
RE18.1	614642.585	158094.623	614642.585	158094.623	Required	
S18	614641.421	158091.516	614641.421	158091.516	Required	
RE17.1	614645.396	158085.227			No Entry	
S17 CP	614645.297	158089.082	614645.297	158089.082	Required	
ATT3 (UPSTREAM)	614645.790	158090.138			No Entry	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S19 CP	614646.122	158099.582	614646.122	158099.582	Required	
ATT3 (DOWNSTREAM)	614650.466	158098.992			No Entry	
S16 CP	614650.941	158100.011	614650.941	158100.011	Required	
RE15.1	614624.494	158092.901	614624.494	158092.901	Required	
S15	614633.545	158111.835	614633.545	158111.835	Required	
RE14.1	614635.346	158114.185	614635.346	158114.185	Required	
S14	614650.242	158107.251	614650.242	158107.251	Required	
JUNCTION S14	614654.339	158104.985			No Entry	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
RE13.1	614651.245	158110.142	614651.245	158110.142	Required	
S13 OP	614655.586	158106.810	614655.586	158106.810	Required	
S9 CP	614661.427	158114.181	614661.427	158114.181	Required	
S8 OP	614647.539	158125.035	614647.539	158125.035	Required	
C3	614646.013	158128.346			No Entry	

PIPELINE SCHEDULES for Existing

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)
11.000	o	100	S11	9.290	8.690	0.500	Open Manhole	450
12.000	o	100	S10.1	9.600	8.920	0.580	Open Manhole	450
11.001	o	100	JUNCTION S10.1	9.290	8.650	0.540	Junction	
13.000	o	100	RE12.1	9.300	8.800	0.400	Open Manhole	100
13.001	o	100	S12	9.550	8.630	0.820	Open Manhole	450

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)
11.000	1.504	37.6	JUNCTION S10.1	9.290	8.650	0.540	Junction	
12.000	1.614	6.0	JUNCTION S10.1	9.290	8.650	0.540	Junction	
11.001	16.402	40.0	S10	9.550	8.240	1.210	Open Manhole	450
13.000	7.150	42.1	S12	9.550	8.630	0.820	Open Manhole	450
13.001	1.433	3.7	S10	9.550	8.240	1.210	Open Manhole	450

PIPELINE SCHEDULES for Existing

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)
11.002	o	150	S10	9.550	8.190	1.210	Open Manhole	450
14.000	o	100	S24	10.040	9.280	0.660	Open Manhole	450
14.001	o	150	S23 CP	10.025	8.360	1.515	Open Manhole	1200
15.000	o	150	S22 CP	10.110	8.360	1.600	Open Manhole	900
14.002	o	150	JUNCTION S22 CP	10.020	8.330	1.540	Junction	
14.003	o	150	ATT4 (UPSTREAM)	10.020	8.320	1.550	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
11.002	17.296	101.7	S9 CP	9.810	8.020	1.640	Open Manhole	1200
14.000	2.179	54.5	S23 CP	10.025	9.240	0.685	Open Manhole	1200
14.001	3.348	111.6	JUNCTION S22 CP	10.020	8.330	1.540	Junction	
15.000	3.523	117.4	JUNCTION S22 CP	10.020	8.330	1.540	Junction	
14.002	0.544	54.4	ATT4 (UPSTREAM)	10.020	8.320	1.550	Junction	
14.003	10.217	102.2	ATT4 (DOWNSTREAM)	10.070	8.220	1.700	Junction	

PIPELINE SCHEDULES for Existing

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)
14.004	o	150	ATT4 (DOWNSTREAM)	10.070	8.220	1.700	Junction	
14.005	o	150	S21 CP	10.070	8.210	1.710	Open Manhole	1200
16.000	o	100	RE25.3	10.020	9.330	0.590	Open Manhole	100
17.000	o	100	S25.2	10.020	9.330	0.590	Open Manhole	450
16.001	o	100	JUNCTION S25.2	10.020	9.200	0.720	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
14.004	1.130	113.0	S21 CP	10.070	8.210	1.710	Open Manhole	1200
14.005	5.932	118.6	S20 OP	9.900	8.160	1.590	Open Manhole	1200
16.000	2.517	19.4	JUNCTION S25.2	10.020	9.200	0.720	Junction	
17.000	1.346	10.4	JUNCTION S25.2	10.020	9.200	0.720	Junction	
16.001	7.323	15.0	JUNCTION S25.1	10.020	8.712	1.208	Junction	

PIPELINE SCHEDULES for Existing

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)
18.000	o	100	S25.1	10.020	9.200	0.720	Open Manhole	450
16.002	o	100	JUNCTION S25.1	10.020	8.712	1.208	Junction	
16.003	o	150	S25	10.020	8.420	1.450	Open Manhole	450
14.006	o	150	S20 OP	9.900	8.160	1.590	Open Manhole	1200
19.000	o	100	RE18.1	10.020	9.520	0.400	Open Manhole	100
19.001	o	100	S18	10.020	9.210	0.710	Open Manhole	450

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)
18.000	1.152	2.4	JUNCTION S25.1	10.020	8.712	1.208	Junction	
16.002	4.042	16.7	S25	10.020	8.470	1.450	Open Manhole	450
16.003	5.865	97.7	S20 OP	9.900	8.360	1.390	Open Manhole	1200
14.006	22.611	102.8	S16 CP	9.800	7.940	1.710	Open Manhole	1200
19.000	3.318	10.7	S18	10.020	9.210	0.710	Open Manhole	450
19.001	4.577	41.6	S17 CP	10.080	9.100	0.880	Open Manhole	1200

PIPELINE SCHEDULES for Existing

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)
20.000	o	100	RE17.1	10.120	9.420	0.600	Junction	
19.002	o	150	S17 CP	10.080	8.060	1.870	Open Manhole	1200
19.003	o	150	ATT3 (UPSTREAM)	10.080	8.050	1.880	Junction	
21.000	o	100	S19 CP	10.020	9.250	0.670	Open Manhole	450
19.004	o	150	ATT3 (DOWNSTREAM)	9.800	7.950	1.700	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
20.000	3.856	42.8	S17 CP	10.080	9.330	0.650	Open Manhole	1200
19.002	1.166	116.6	ATT3 (UPSTREAM)	10.080	8.050	1.880	Junction	
19.003	10.012	100.1	ATT3 (DOWNSTREAM)	9.800	7.950	1.700	Junction	
21.000	4.384	3.5	ATT3 (DOWNSTREAM)	9.800	8.000	1.700	Junction	
19.004	1.124	112.4	S16 CP	9.800	7.940	1.710	Open Manhole	1200

PIPELINE SCHEDULES for Existing

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)
14.007	o	150	S16 CP	9.800	7.940	1.710	Open Manhole	1200
22.000	o	100	RE15.1	10.170	9.670	0.400	Open Manhole	100
22.001	o	150	S15	10.010	9.100	0.760	Open Manhole	450
22.002	o	150	RE14.1	10.000	9.070	0.780	Open Manhole	150
22.003	o	150	S14	10.020	8.900	0.970	Open Manhole	450
14.008	o	150	JUNCTION S14	9.960	7.880	1.930	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
14.007	6.025	100.4	JUNCTION S14	9.960	7.880	1.930	Junction	
22.000	20.986	40.4	S15	10.010	9.150	0.760	Open Manhole	450
22.001	2.961	98.7	RE14.1	10.000	9.070	0.780	Open Manhole	150
22.002	16.431	96.7	S14	10.020	8.900	0.970	Open Manhole	450
22.003	4.682	4.6	JUNCTION S14	9.960	7.880	1.930	Junction	
14.008	2.210	221.0	S13 OP	10.020	7.870	2.000	Open Manhole	1200

PIPELINE SCHEDULES for Existing

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)
23.000	o	100	RE13.1	10.020	9.020	0.900	Open Manhole	100
14.009	o	150	S13 OP	10.020	7.870	2.000	Open Manhole	1200
11.003	o	225	S9 CP	9.810	7.780	1.805	Open Manhole	1200
11.004	o	150	S8 OP	9.900	7.690	2.060	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)
23.000	5.472	42.1	S13 OP	10.020	8.890	1.030	Open Manhole	1200
14.009	9.405	104.5	S9 CP	9.810	7.780	1.880	Open Manhole	1200
11.003	17.626	195.8	S8 OP	9.900	7.690	1.985	Open Manhole	1200
11.004	3.646	91.2	C3	9.870	7.650	2.070	Open Manhole	1200

Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
11.000	User	-	100	0.001	0.001	0.001
12.000	User	-	100	0.011	0.011	0.011
11.001	-	-	100	0.000	0.000	0.000
13.000	User	-	100	0.006	0.006	0.006
13.001	-	-	100	0.000	0.000	0.000
11.002	User	-	100	0.005	0.005	0.005
14.000	User	-	100	0.007	0.007	0.007
14.001	User	-	100	0.004	0.004	0.004
	User	-	100	0.003	0.003	0.008
15.000	User	-	100	0.006	0.006	0.006
	User	-	100	0.001	0.001	0.008
14.002	-	-	100	0.000	0.000	0.000
14.003	-	-	100	0.000	0.000	0.000
14.004	-	-	100	0.000	0.000	0.000
14.005	User	-	100	0.012	0.012	0.012
16.000	User	-	100	0.006	0.006	0.006
17.000	User	-	100	0.007	0.007	0.007
16.001	-	-	100	0.000	0.000	0.000
18.000	User	-	100	0.006	0.006	0.006
16.002	-	-	100	0.000	0.000	0.000
16.003	User	-	100	0.006	0.006	0.006
14.006	User	-	100	0.005	0.005	0.005
	User	-	100	0.012	0.012	0.017
19.000	User	-	100	0.006	0.006	0.006
19.001	User	-	100	0.003	0.003	0.003
20.000	User	-	100	0.003	0.003	0.003
	User	-	100	0.004	0.004	0.007

Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
19.002	User	-	100	0.008	0.008	0.008
19.003	-	-	100	0.000	0.000	0.000
21.000	User	-	100	0.005	0.005	0.005
19.004	-	-	100	0.000	0.000	0.000
14.007	User	-	100	0.007	0.007	0.007
	User	-	100	0.015	0.015	0.021
	User	-	100	0.008	0.008	0.029
	User	-	100	0.006	0.006	0.035
	User	-	100	0.004	0.004	0.039
22.000	User	-	100	0.013	0.013	0.013
22.001	-	-	100	0.000	0.000	0.000
22.002	-	-	100	0.000	0.000	0.000
22.003	User	-	100	0.025	0.025	0.025
14.008	-	-	100	0.000	0.000	0.000
23.000	-	-	100	0.000	0.000	0.000
14.009	User	-	100	0.006	0.006	0.006
11.003	User	-	100	0.009	0.009	0.009
	User	-	100	0.005	0.005	0.014
11.004	User	-	100	0.003	0.003	0.003
				Total	Total	Total
				0.229	0.229	0.229

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
11.004	C3	9.870	7.650	0.000	1200	0

Simulation Criteria for Existing

Volumetric Runoff Coeff	0.750	Manhole Headloss Coeff (Global)	0.500	Inlet Coeffiecient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m³/ha Storage	2.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	3	Number of Storage Structures	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	Summer Storms	Yes
Return Period (years)	100	Winter Storms	No
FEH Rainfall Version	2013	Cv (Summer)	0.750
Site Location	GB 614650 158103 TR 14650 58103	Cv (Winter)	0.840
Data Type	Point	Storm Duration (mins)	30

Online Controls for Existing

Orifice Manhole: S20 OP, DS/PN: 14.006, Volume (m³): 2.1

Diameter (m) 0.057 Discharge Coefficient 0.600 Invert Level (m) 8.160

Orifice Manhole: S13 OP, DS/PN: 14.009, Volume (m³): 2.5

Diameter (m) 0.081 Discharge Coefficient 0.600 Invert Level (m) 7.870

Orifice Manhole: S8 OP, DS/PN: 11.004, Volume (m³): 3.2

Diameter (m) 0.087 Discharge Coefficient 0.600 Invert Level (m) 7.690

Storage Structures for Existing

Cellular Storage Manhole: ATT4 (DOWNSTREAM), DS/PN: 14.004

Invert Level (m) 8.220 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	30.0	0.0	0.800	30.0	0.0	0.801	0.0	0.0

Cellular Storage Manhole: ATT3 (DOWNSTREAM), DS/PN: 19.004

Invert Level (m) 7.950 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	20.0	0.0	0.800	20.0	0.0	0.801	0.0	0.0

Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 3 Number of Storage Structures 2 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
FEH Rainfall Version 2013 Cv (Summer) 0.750
Site Location GB 614650 158103 TR 14650 58103 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status ON
DTS Status ON

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, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
11.000	S11	30 Winter	100	+40%	100/15 Summer				9.241	0.451	0.000	0.06		

Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
11.000	S11	0.3	FLOOD RISK	

Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
12.000	S10.1	30 Winter	100	+40%	100/15 Summer				9.246	0.226	0.000	0.38	
11.001	JUNCTION S10.1	30 Winter	100	+40%					8.750	0.000	0.000	0.48	
13.000	RE12.1	30 Winter	100	+40%	100/15 Summer				9.222	0.322	0.000	0.32	
13.001	S12	30 Winter	100	+40%	100/15 Summer				9.213	0.483	0.000	0.13	
11.002	S10	30 Winter	100	+40%	30/15 Summer				9.210	0.870	0.000	0.49	
14.000	S24	120 Winter	100	+40%	100/60 Winter				9.749	0.369	0.000	0.26	
14.001	S23 CP	120 Winter	100	+40%	30/15 Winter				9.749	1.239	0.000	0.23	
15.000	S22 CP	120 Winter	100	+40%	30/15 Winter				9.748	1.238	0.000	0.11	
14.002	JUNCTION S22 CP	1440 Summer	100	+40%					8.480	0.000	0.000	0.10	
14.003	ATT4 (UPSTREAM)	1440 Summer	100	+40%					8.470	0.000	0.000	0.06	
14.004	ATT4 (DOWNSTREAM)	360 Summer	100	+40%	30/15 Summer				9.021	0.651	0.000	0.31	
14.005	S21 CP	120 Winter	100	+40%	30/15 Summer				9.744	1.384	0.000	0.31	
16.000	RE25.3	120 Winter	100	+40%	100/60 Winter				9.751	0.321	0.000	0.11	
17.000	S25.2	120 Winter	100	+40%	100/60 Winter				9.751	0.321	0.000	0.15	
16.001	JUNCTION S25.2	30 Winter	100	+40%					9.300	0.000	0.000	0.40	
18.000	S25.1	120 Winter	100	+40%	100/30 Winter				9.747	0.447	0.000	0.07	
16.002	JUNCTION S25.1	30 Winter	100	+40%					8.812	0.000	0.000	0.58	
16.003	S25	120 Winter	100	+40%	30/30 Winter				9.743	1.173	0.000	0.33	
14.006	S20 OP	120 Winter	100	+40%	2/15 Summer				9.740	1.430	0.000	0.31	
19.000	RE18.1	60 Winter	100	+40%	100/30 Winter				9.822	0.202	0.000	0.14	
19.001	S18	60 Winter	100	+40%	100/15 Winter				9.819	0.509	0.000	0.37	
20.000	RE17.1	30 Winter	100	+40%					9.520	0.000	0.000	0.40	
19.002	S17 CP	60 Winter	100	+40%	30/15 Summer				9.812	1.602	0.000	0.57	
19.003	ATT3 (UPSTREAM)	1440 Summer	100	+40%					8.200	0.000	0.000	0.07	
21.000	S19 CP	60 Winter	100	+40%	100/15 Winter				9.803	0.453	0.000	0.06	

Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
12.000	S10.1		5.4	SURCHARGED	
11.001	JUNCTION S10.1		4.6	SURCHARGED*	
13.000	RE12.1		2.7	FLOOD RISK	
13.001	S12		2.3	SURCHARGED	
11.002	S10		8.0	SURCHARGED	
14.000	S24		1.4	FLOOD RISK	
14.001	S23 CP		2.5	FLOOD RISK	
15.000	S22 CP		1.2	SURCHARGED	
14.002	JUNCTION S22 CP		1.1	SURCHARGED*	
14.003	ATT4 (UPSTREAM)		1.0	SURCHARGED*	
14.004	ATT4 (DOWNSTREAM)	110	3.3	SURCHARGED*	
14.005	S21 CP		4.2	SURCHARGED	
16.000	RE25.3		1.2	FLOOD RISK	
17.000	S25.2		1.5	FLOOD RISK	
16.001	JUNCTION S25.2		6.3	SURCHARGED*	
18.000	S25.1		1.3	FLOOD RISK	
16.002	JUNCTION S25.1		8.0	SURCHARGED*	
16.003	S25		4.9	FLOOD RISK	
14.006	S20 OP		5.1	FLOOD RISK	
19.000	RE18.1		2.1	FLOOD RISK	
19.001	S18		3.0	FLOOD RISK	
20.000	RE17.1		3.4	SURCHARGED*	
19.002	S17 CP		6.1	FLOOD RISK	
19.003	ATT3 (UPSTREAM)		1.2	SURCHARGED*	

Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
21.000	S19 CP		1.8	FLOOD RISK	

Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
19.004	ATT3 (DOWNSTREAM)	360 Summer	100	+40%	2/15 Summer				8.751	0.651	0.000	0.27	
14.007	S16 CP	60 Winter	100	+40%	2/15 Summer				9.797	1.707	0.000	0.65	
22.000	RE15.1	60 Winter	100	+40%	100/30 Winter				9.838	0.068	0.000	0.48	
22.001	S15	60 Winter	100	+40%	100/15 Winter				9.808	0.558	0.000	0.41	
22.002	RE14.1	60 Winter	100	+40%	100/15 Winter				9.805	0.585	0.000	0.26	
22.003	S14	60 Winter	100	+40%	100/15 Summer				9.796	0.746	0.000	0.20	
14.008	JUNCTION S14	15 Summer	2	+0%					8.030	0.000	0.000	0.50	
23.000	RE13.1	60 Winter	100	+40%	100/15 Winter				9.779	0.659	0.000	0.00	
14.009	S13 OP	60 Winter	100	+40%	2/15 Summer				9.778	1.758	0.000	0.75	
11.003	S9 CP	30 Winter	100	+40%	2/15 Winter				9.188	1.183	0.000	0.54	
11.004	S8 OP	30 Winter	100	+40%	2/15 Summer				9.144	1.304	0.000	1.45	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
19.004	ATT3 (DOWNSTREAM)	109	3.0	SURCHARGED*	
14.007	S16 CP		9.6	FLOOD RISK	
22.000	RE15.1		4.4	SURCHARGED	
22.001	S15		4.4	FLOOD RISK	
22.002	RE14.1		4.4	FLOOD RISK	
22.003	S14		12.6	FLOOD RISK	
14.008	JUNCTION S14		5.4	SURCHARGED*	
23.000	RE13.1		0.0	FLOOD RISK	

Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
14.009	S13 OP		11.5	FLOOD RISK	
11.003	S9 CP		17.8	SURCHARGED	
11.004	S8 OP		18.1	SURCHARGED	