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The Arup Campus Blyth Gate Solihull B90 8AE		
Date 27/03/2023 09:44 File London 4 Drainage 2023-...	Designed by Jamie.Temple Checked by	
XP Solutions	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Pipe Sizes STANDARD Manhole Sizes STANDARD

Designed with Level Inverts

« - Indicates pipe capacity < flow

Network Results Table

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Network Design Table for Storm 01-03-23 Planning with landscaping											
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
S2.001	23.020	0.001	23019.7	0.000	0.00	0.0	0.600	T3	-3	Pipe/Conduit	
S2.002	1.752	0.009	194.7	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S2.003	1.751	0.009	194.6	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S2.004	32.004	0.001	32003.5	0.000	0.00	0.0	0.600	T4	-4	Pipe/Conduit	
S2.005	1.981	0.010	198.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S2.006	13.049	0.066	197.7	0.054	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.009	4.985	0.028	178.0	0.036	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S1.010	15.501	0.001	15500.7	0.000	0.00	0.0	0.600	T5	-5	Pipe/Conduit	
S1.011	2.571	0.016	160.7	0.000	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S1.012	5.641	0.031	182.0	0.267	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S1.013	10.502	0.001	10502.0	0.000	0.00	0.0	0.600	T5A	-6	Pipe/Conduit	
S1.014	5.398	0.029	186.1	0.000	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S1.015	2.299	0.014	164.2	0.000	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S1.016	13.499	0.001	13499.3	0.000	0.00	0.0	0.600	T6	-7	Pipe/Conduit	
S1.017	4.779	0.026	183.8	0.000	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S1.018	2.332	0.013	179.4	0.169	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S1.019	18.500	0.001	18500.0	0.000	0.00	0.0	0.600	T7	-8	Pipe/Conduit	
S1.020	4.979	0.027	184.4	0.000	0.00	0.0	0.600	oo	-302	Pipe/Conduit	
S3.000	29.097	0.796	36.6	0.016	5.00	0.0	0.600	o	150	Pipe/Conduit	
S3.001	4.892	0.025	195.7	0.122	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)	
S2.001	45.58	7.36	27.498	0.094	0.0	0.0	0.0	0.18	407.3	12.7	
S2.002	45.50	7.38	27.497	0.094	0.0	0.0	0.0	1.12	79.4	12.7	
S2.003	45.42	7.41	27.488	0.094	0.0	0.0	0.0	1.12	79.4	12.7	
S2.004	36.98	10.96	27.479	0.094	0.0	0.0	0.0	0.15	312.8	12.7	
S2.005	36.93	10.99	27.478	0.094	0.0	0.0	0.0	1.11	78.7	12.7	
S2.006	36.58	11.18	27.468	0.148	0.0	0.0	0.0	1.11	78.8	14.6	
S1.009	36.45	11.26	27.402	0.656	0.0	0.0	0.0	1.18	166.1	64.7	
S1.010	35.10	12.06	27.374	0.656	0.0	0.0	0.0	0.32	1221.5	64.7	
S1.011	35.04	12.09	27.373	0.656	0.0	0.0	0.0	1.24	175.0	64.7	
S1.012	34.91	12.17	27.357	0.922	0.0	0.0	0.0	1.16	164.3	87.2	
S1.013	34.25	12.59	27.326	0.922	0.0	0.0	0.0	0.41	3141.0	87.2	
S1.014	34.13	12.67	27.325	0.922	0.0	0.0	0.0	1.15	162.4	87.2	
S1.015	34.09	12.70	27.296	0.922	0.0	0.0	0.0	1.22	173.1	87.2	
S1.016	33.20	13.31	27.282	0.922	0.0	0.0	0.0	0.37	3780.4	87.2	
S1.017	33.10	13.38	27.281	0.922	0.0	0.0	0.0	1.16	163.5	87.2	
S1.018	33.05	13.42	27.255	1.092	0.0	0.0	0.0	1.17	165.5	97.7	
S1.019	31.72	14.41	27.242	1.092	0.0	0.0	0.0	0.31	2347.7	97.7	
S1.020	31.63	14.48	27.241	1.092	0.0	0.0	0.0	1.15	163.2	97.7	
S3.000	50.00	5.29	28.311	0.016	0.0	0.0	0.0	1.67	29.5	2.1	
S3.001	50.00	5.38	27.515	0.138	0.0	0.0	0.0	0.93	37.0	18.6	
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Network Design Table for Storm 01-03-23 Planning with landscaping

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
S3.002	21.034	0.001	21034.0	0.000	0.00	0.0	0.600	T8	-9	Pipe/Conduit	
S3.003	2.647	0.014	189.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.004	15.256	0.077	198.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.005	14.605	0.073	200.1	0.054	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.006	1.379	0.007	197.0	0.148	0.00	0.0	0.600	o	300	Pipe/Conduit	
S3.007	21.020	0.001	21020.4	0.000	0.00	0.0	0.600	T9	-10	Pipe/Conduit	
S3.008	1.464	0.008	183.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S3.009	1.506	0.008	188.3	0.051	0.00	0.0	0.600	o	300	Pipe/Conduit	
S3.010	32.014	0.001	32013.6	0.013	0.00	0.0	0.600	T11	-12	Pipe/Conduit	
S3.011	5.756	0.029	198.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S3.012	11.222	0.056	200.4	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.021	14.420	0.073	197.5	0.072	0.00	0.0	0.600	o	500	Pipe/Conduit	
S1.022	2.602	0.015	173.5	0.071	0.00	0.0	0.600	ooo	-303	Pipe/Conduit	
S1.023	15.006	0.001	15006.0	0.004	0.00	0.0	0.600	12U	-13	Pipe/Conduit	
S1.024	3.502	0.020	175.1	0.000	0.00	0.0	0.600	ooo	-303	Pipe/Conduit	
S1.025	2.500	0.016	156.2	0.002	0.00	0.0	0.600	ooo	-303	Pipe/Conduit	
S1.026	26.067	0.001	26067.0	0.000	0.00	0.0	0.600	12D	-14	Pipe/Conduit	
S1.027	2.523	0.015	168.2	0.000	0.00	0.0	0.600	ooo	-303	Pipe/Conduit	
S1.028	9.498	0.048	197.9	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
S4.000	6.209	0.080	77.6	0.050	5.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.002	47.74	6.70	27.490	0.138	0.0	0.0	0.0	0.26	700.8	18.6
S3.003	47.58	6.75	27.488	0.138	0.0	0.0	0.0	0.95	37.7	18.6
S3.004	46.65	7.03	27.474	0.138	0.0	0.0	0.0	0.93	36.8	18.6
S3.005	45.79	7.29	27.397	0.192	0.0	0.0	0.0	0.92	36.6	23.8
S3.006	45.73	7.31	27.324	0.340	0.0	0.0	0.0	1.12	78.9	42.0
S3.007	42.46	8.43	27.317	0.340	0.0	0.0	0.0	0.31	1629.7	42.0
S3.008	42.41	8.45	27.316	0.340	0.0	0.0	0.0	1.16	81.9	42.0
S3.009	42.35	8.47	27.308	0.390	0.0	0.0	0.0	1.14	80.8	44.8
S3.010	37.66	10.59	27.300	0.404	0.0	0.0	0.0	0.25	1311.3	44.8
S3.011	37.50	10.68	27.299	0.404	0.0	0.0	0.0	1.11	78.6	44.8
S3.012	37.23	10.83	27.270	0.404	0.0	0.0	0.0	1.28	141.0	44.8
S1.021	31.43	14.64	27.214	1.567	0.0	0.0	0.0	1.54	302.8	133.4
S1.022	31.39	14.68	27.141	1.638	0.0	0.0	0.0	1.19	252.5	139.2
S1.023	30.47	15.44	27.126	1.642	0.0	0.0	0.0	0.33	1171.6	139.2
S1.024	30.41	15.49	27.125	1.642	0.0	0.0	0.0	1.19	251.3	139.2
S1.025	30.37	15.53	27.105	1.643	0.0	0.0	0.0	1.26	266.2	139.2
S1.026	28.55	17.22	27.089	1.643	0.0	0.0	0.0	0.26	1552.4	139.2
S1.027	28.52	17.26	27.088	1.643	0.0	0.0	0.0	1.21	256.5	139.2
S1.028	28.42	17.36	27.073	1.644	0.0	0.0	0.0	1.59	343.9	139.2
S4.000	50.00	5.09	27.225	0.050	0.0	0.0	0.0	1.14	20.2	6.7

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Manhole Schedules for Storm 01-03-23 Planning with landscaping									
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes Invert Level (m)
S17	29.761	2.453	Open Manhole	1200	S3.009	27.308	300	S3.008	27.308
STANK 11 US	29.762	2.462	Junction		S3.010	27.300	-12	S3.009	27.308
STANK 11 DS	29.574	2.275	Junction		S3.011	27.299	300	S3.010	27.299
S18	29.455	2.185	Open Manhole	1350	S3.012	27.270	375	S3.011	27.299
S19	29.217	2.003	Open Manhole	1500	S1.021	27.214	500	S1.020	27.299
								S3.012	27.299
S20	29.117	1.976	Open Manhole	3000	S1.022	27.141	-303	S1.021	27.141
STANK 12A US	29.102	1.976	Junction		S1.023	27.126	-13	S1.022	27.141
STANK 12A DS	29.032	1.907	Junction		S1.024	27.125	-303	S1.023	27.141
S21 A	29.032	1.927	Open Manhole	1500	S1.025	27.105	-303	S1.024	27.141
STANK 12A US	29.006	1.917	Junction		S1.026	27.089	-14	S1.025	27.141
STANK 12A DS	29.006	1.918	Junction		S1.027	27.088	-303	S1.026	27.141
S21	29.003	1.930	Open Manhole	1800	S1.028	27.073	525	S1.027	27.141
SFPC1	28.647	1.422	Open Manhole	1200	S4.000	27.225	150		
S22	28.842	1.697	Open Manhole	1200	S4.001	27.145	150	S4.000	27.145
S23	28.928	1.903	Open Manhole	1500	S1.029	27.025	525	S1.028	27.145
								S4.001	27.145
S24	28.856	1.846	Open Manhole	1500	S1.030	27.010	300	S1.029	27.145
SInt	28.906	1.963	Junction		S1.031	26.943	300	S1.030	26.943
S25	28.946	2.063	Open Manhole	1500	S1.032	26.883	300	S1.031	26.943
S	28.660	1.800	Open Manhole	0		OUTFALL		S1.032	26.883
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)			
S1	511438.913	180249.190	511438.913	180249.190	Required				
STANK 1 US	511442.697	180248.199			No Entry				
STANK 1 DS	511461.342	180244.394	511461.342	180244.394	Required				
S2	511463.044	180243.945	511463.044	180243.945	Required				
S3	511471.527	180241.685	511471.527	180241.685	Required				
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Manhole Schedules for Storm 01-03-23 Planning with landscaping

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S22	511574.487	180134.378	511574.487	180134.378	Required	
S23	511566.484	180135.017	511566.484	180135.017	Required	
S24	511566.353	180132.083	511566.353	180132.083	Required	
SInt	511561.311	180132.246			No Entry	
S25	511556.269	180131.808	511556.269	180131.808	Required	
S	511556.157	180127.413			No Entry	

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PIPELINE SCHEDULES for Storm 01-03-23 Planning with landscaping

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)
S1.000	o	225	S1	29.723	27.639	1.859	Open Manhole	1200
S1.001	T1	-1	STANK 1	US 29.721	27.619	1.262	Junction	
S1.002	o	225	STANK 1	DS 29.707	27.618	1.864	Junction	
S1.003	o	225	S2	29.707	27.609	1.873	Open Manhole	1200
S1.004	o	225	S3	29.697	27.565	1.907	Open Manhole	1200
S1.005	o	300	S4	29.696	27.514	1.882	Open Manhole	1200
S1.006	T2	-2	STANK 2	US 29.695	27.489	1.366	Junction	
S1.007	o	300	STANK 2	DS 29.676	27.488	1.888	Junction	
S1.008	o	300	S5	29.576	27.455	1.821	Open Manhole	1200
S2.000	o	225	S6	29.072	27.587	1.260	Open Manhole	1350
S2.001	T3	-3	STANK 3	US 29.132	27.498	1.214	Junction	
S2.002	o	300	STANK 3	DS 29.132	27.497	1.335	Junction	
S2.003	o	300	S7	29.134	27.488	1.346	Open Manhole	1200
S2.004	T4	-4	STANK 4	US 29.133	27.479	1.234	Junction	
S2.005	o	300	STANK 4	DS 29.091	27.478	1.313	Junction	
S2.006	o	300	S8	29.081	27.468	1.313	Open Manhole	1200
S1.009	oo	-302	S10	29.192	27.402	1.490	Open Manhole	1200
S1.010	T5	-5	STANK 5	US 29.201	27.374	0.987	Junction	
S1.011	oo	-302	STANK 5	DS 29.270	27.373	1.597	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)
S1.000	3.912	195.6	STANK 1	US 29.721	27.619	1.877	Junction	
S1.001	19.028	19028.5	STANK 1	DS 29.707	27.618	1.249	Junction	
S1.002	1.761	195.7	S2	29.707	27.609	1.873	Open Manhole	1200
S1.003	8.778	199.5	S3	29.697	27.565	1.907	Open Manhole	1200
S1.004	10.198	200.0	S4	29.696	27.514	1.957	Open Manhole	1200
S1.005	4.987	199.5	STANK 2	US 29.695	27.489	1.906	Junction	
S1.006	12.000	12000.1	STANK 2	DS 29.676	27.488	1.348	Junction	
S1.007	6.532	198.0	S5	29.576	27.455	1.821	Open Manhole	1200
S1.008	10.582	199.7	S10	29.192	27.402	1.490	Open Manhole	1200
S2.000	13.645	153.3	STANK 3	US 29.132	27.498	1.409	Junction	
S2.001	23.020	23019.7	STANK 3	DS 29.132	27.497	1.215	Junction	
S2.002	1.752	194.7	S7	29.134	27.488	1.346	Open Manhole	1200
S2.003	1.751	194.6	STANK 4	US 29.133	27.479	1.354	Junction	
S2.004	32.004	32003.5	STANK 4	DS 29.091	27.478	1.193	Junction	
S2.005	1.981	198.1	S8	29.081	27.468	1.313	Open Manhole	1200
S2.006	13.049	197.7	S10	29.192	27.402	1.490	Open Manhole	1200
S1.009	4.985	178.0	STANK 5	US 29.201	27.374	1.527	Junction	
S1.010	15.501	15500.7	STANK 5	DS 29.270	27.373	1.057	Junction	
S1.011	2.571	160.7	S11	29.270	27.357	1.613	Open Manhole	1350

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PIPELINE SCHEDULES for Storm 01-03-23 Planning with landscaping

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)
S1.012	oo	-302	S11	29.270	27.357	1.613	Open Manhole	1350
S1.013	T5A	-6	STANK 5A US	29.335	27.326	1.169	Junction	
S1.014	oo	-302	STANK 5A DS	29.358	27.325	1.733	Junction	
S1.015	oo	-302	S11A	29.354	27.296	1.758	Open Manhole	1350
S1.016	T6	-7	STank 6 US	29.354	27.282	1.232	Junction	
S1.017	oo	-302	STank 6 DS	29.332	27.281	1.751	Junction	
S1.018	oo	-302	S12	29.323	27.255	1.768	Open Manhole	1500
S1.019	T7	-8	STANK 7 US	29.318	27.242	1.236	Junction	
S1.020	oo	-302	STANK 7 DS	29.309	27.241	1.768	Junction	
S3.000	o	150	S13	29.736	28.311	1.275	Open Manhole	1350
S3.001	o	225	S14	29.699	27.515	1.959	Open Manhole	1200
S3.002	T8	-9	STANK 8 US	29.906	27.490	1.576	Junction	
S3.003	o	225	STANK 8 DS	29.748	27.488	2.035	Junction	
S3.004	o	225	S14A	29.723	27.474	2.024	Open Manhole	1200
S3.005	o	225	S15	29.726	27.397	2.104	Open Manhole	1200
S3.006	o	300	S16	29.880	27.324	2.256	Open Manhole	1200
S3.007	T9	-10	STANK 9 US	29.875	27.317	1.508	Junction	
S3.008	o	300	STANK 9 DS	29.762	27.316	2.146	Junction	
S3.009	o	300	S17	29.761	27.308	2.153	Open Manhole	1200
S3.010	T11	-12	STANK 11 US	29.762	27.300	1.412	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)
S1.012	5.641	182.0	STANK 5A US	29.335	27.326	1.709	Junction	
S1.013	10.502	10502.0	STANK 5A DS	29.358	27.325	1.193	Junction	
S1.014	5.398	186.1	S11A	29.354	27.296	1.758	Open Manhole	1350
S1.015	2.299	164.2	STank 6 US	29.354	27.282	1.772	Junction	
S1.016	13.499	13499.3	STank 6 DS	29.332	27.281	1.211	Junction	
S1.017	4.779	183.8	S12	29.323	27.255	1.768	Open Manhole	1500
S1.018	2.332	179.4	STANK 7 US	29.318	27.242	1.776	Junction	
S1.019	18.500	18500.0	STANK 7 DS	29.309	27.241	1.228	Junction	
S1.020	4.979	184.4	S19	29.217	27.214	1.703	Open Manhole	1500
S3.000	29.097	36.6	S14	29.699	27.515	2.034	Open Manhole	1200
S3.001	4.892	195.7	STANK 8 US	29.906	27.490	2.191	Junction	
S3.002	21.034	21034.0	STANK 8 DS	29.748	27.489	1.419	Junction	
S3.003	2.647	189.1	S14A	29.723	27.474	2.024	Open Manhole	1200
S3.004	15.256	198.1	S15	29.726	27.397	2.104	Open Manhole	1200
S3.005	14.605	200.1	S16	29.880	27.324	2.331	Open Manhole	1200
S3.006	1.379	197.0	STANK 9 US	29.875	27.317	2.258	Junction	
S3.007	21.020	21020.4	STANK 9 DS	29.762	27.316	1.396	Junction	
S3.008	1.464	183.0	S17	29.761	27.308	2.153	Open Manhole	1200
S3.009	1.506	188.3	STANK 11 US	29.762	27.300	2.162	Junction	
S3.010	32.014	32013.6	STANK 11 DS	29.574	27.299	1.225	Junction	

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The Arup Campus Blyth Gate Solihull B90 8AE		
Date 27/03/2023 09:44 File London 4 Drainage 2023-...	Designed by Jamie.Temple Checked by	
XP Solutions Network 2020.1.3		

Network 2020.1.3

PIPELINE SCHEDULES for Storm 01-03-23 Planning with landscaping

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)
S3.011	o	300	STANK 11 DS	29.574	27.299	1.975	Junction	
S3.012	o	375	S18	29.455	27.270	1.810	Open Manhole	1350
S1.021	o	500	S19	29.217	27.214	1.503	Open Manhole	1500
S1.022	ooo	-303	S20	29.117	27.141	1.676	Open Manhole	3000
S1.023	12U	-13	STANK 12A US	29.102	27.126	1.136	Junction	
S1.024	ooo	-303	STANK 12A DS	29.032	27.125	1.607	Junction	
S1.025	ooo	-303	S21 A	29.032	27.105	1.627	Open Manhole	1500
S1.026	12D	-14	STANK 12A US	29.006	27.089	1.077	Junction	
S1.027	ooo	-303	STANK 12A DS	29.006	27.088	1.618	Junction	
S1.028	o	525	S21	29.003	27.073	1.405	Open Manhole	1800
S4.000	o	150	SFPC1	28.647	27.225	1.272	Open Manhole	1200
S4.001	o	150	S22	28.842	27.145	1.547	Open Manhole	1200
S1.029	o	525	S23	28.928	27.025	1.378	Open Manhole	1500
S1.030	o	300	S24	28.856	27.010	1.546	Open Manhole	1500
S1.031	o	300	SInt	28.906	26.943	1.663	Junction	
S1.032	o	300	S25	28.946	26.883	1.763	Open Manhole	1500

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)
S3.011	5.756	198.5	S18	29.455	27.270	1.885	Open Manhole	1350
S3.012	11.222	200.4	S19	29.217	27.214	1.628	Open Manhole	1500
S1.021	14.420	197.5	S20	29.117	27.141	1.476	Open Manhole	3000
S1.022	2.602	173.5	STANK 12A US	29.102	27.126	1.676	Junction	
S1.023	15.006	15006.0	STANK 12A DS	29.032	27.125	1.067	Junction	
S1.024	3.502	175.1	S21 A	29.032	27.105	1.627	Open Manhole	1500
S1.025	2.500	156.2	STANK 12A US	29.006	27.089	1.617	Junction	
S1.026	26.067	26067.0	STANK 12A DS	29.006	27.088	1.078	Junction	
S1.027	2.523	168.2	S21	29.003	27.073	1.630	Open Manhole	1800
S1.028	9.498	197.9	S23	28.928	27.025	1.378	Open Manhole	1500
S4.000	6.209	77.6	S22	28.842	27.145	1.547	Open Manhole	1200
S4.001	8.028	76.5	S23	28.928	27.040	1.738	Open Manhole	1500
S1.029	2.937	195.8	S24	28.856	27.010	1.321	Open Manhole	1500
S1.030	5.045	186.8	SInt	28.906	26.983	1.623	Junction	
S1.031	5.061	84.3	S25	28.946	26.883	1.763	Open Manhole	1500
S1.032	4.397	191.2	S	28.660	26.860	1.500	Open Manhole	0

Ove Arup & Partners International Ltd						Page 14																																																																																																																																																																																																																																																																																																																																																																												
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<u>Area Summary for Storm 01-03-23 Planning with landscaping</u> <table border="1"> <thead> <tr> <th>Pipe Number</th> <th>PIMP Type</th> <th>PIMP Name</th> <th>PIMP (%)</th> <th>Gross Area (ha)</th> <th>Imp. Area (ha)</th> <th>Pipe Total (ha)</th> </tr> </thead> <tbody> <tr><td>1.000</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.024</td><td>0.024</td><td>0.024</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.064</td><td>0.064</td><td>0.088</td></tr> <tr><td>1.001</td><td>Classification</td><td>Roof</td><td>100</td><td>0.064</td><td>0.064</td><td>0.064</td></tr> <tr><td>1.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.003</td><td>Classification</td><td>Roof</td><td>100</td><td>0.038</td><td>0.038</td><td>0.038</td></tr> <tr><td></td><td>Classification</td><td>ROAD</td><td>100</td><td>0.016</td><td>0.016</td><td>0.054</td></tr> <tr><td>1.004</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.076</td><td>0.076</td><td>0.076</td></tr> <tr><td>1.005</td><td>Classification</td><td>Roof</td><td>100</td><td>0.038</td><td>0.038</td><td>0.038</td></tr> <tr><td></td><td>Classification</td><td>ROAD</td><td>100</td><td>0.030</td><td>0.030</td><td>0.068</td></tr> <tr><td>1.006</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.007</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.008</td><td>Classification</td><td>Roof</td><td>100</td><td>0.036</td><td>0.036</td><td>0.036</td></tr> <tr><td></td><td>Classification</td><td>ROAD</td><td>100</td><td>0.013</td><td>0.013</td><td>0.049</td></tr> <tr><td></td><td>Classification</td><td>ROAD</td><td>100</td><td>0.073</td><td>0.073</td><td>0.122</td></tr> <tr><td>2.000</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.085</td><td>0.085</td><td>0.085</td></tr> <tr><td></td><td>Classification</td><td>ROAD</td><td>100</td><td>0.009</td><td>0.009</td><td>0.094</td></tr> <tr><td>2.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>2.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>2.003</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>2.004</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>2.005</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>2.006</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.054</td><td>0.054</td><td>0.054</td></tr> <tr><td>1.009</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.036</td><td>0.036</td><td>0.036</td></tr> <tr><td>1.010</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.011</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.012</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.069</td><td>0.069</td><td>0.069</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.135</td><td>0.135</td><td>0.203</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.063</td><td>0.063</td><td>0.267</td></tr> <tr><td>1.013</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.014</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.015</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.016</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.017</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.018</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.042</td><td>0.042</td><td>0.042</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.063</td><td>0.063</td><td>0.105</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.065</td><td>0.065</td><td>0.169</td></tr> <tr><td>1.019</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>1.020</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>3.000</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.016</td><td>0.016</td><td>0.016</td></tr> <tr><td>3.001</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.021</td><td>0.021</td><td>0.021</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.100</td><td>0.100</td><td>0.122</td></tr> <tr><td>3.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>3.003</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>3.004</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>3.005</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.011</td><td>0.011</td><td>0.011</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.043</td><td>0.043</td><td>0.054</td></tr> <tr><td>3.006</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.079</td><td>0.079</td><td>0.079</td></tr> <tr><td></td><td>Classification</td><td>Roof</td><td>100</td><td>0.069</td><td>0.069</td><td>0.148</td></tr> <tr><td>3.007</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>3.008</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>3.009</td><td>Classification</td><td>ROAD</td><td>100</td><td>0.051</td><td>0.051</td><td>0.051</td></tr> </tbody> </table>							Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)	1.000	Classification	ROAD	100	0.024	0.024	0.024		Classification	Roof	100	0.064	0.064	0.088	1.001	Classification	Roof	100	0.064	0.064	0.064	1.002	-	-	100	0.000	0.000	0.000	1.003	Classification	Roof	100	0.038	0.038	0.038		Classification	ROAD	100	0.016	0.016	0.054	1.004	Classification	ROAD	100	0.076	0.076	0.076	1.005	Classification	Roof	100	0.038	0.038	0.038		Classification	ROAD	100	0.030	0.030	0.068	1.006	-	-	100	0.000	0.000	0.000	1.007	-	-	100	0.000	0.000	0.000	1.008	Classification	Roof	100	0.036	0.036	0.036		Classification	ROAD	100	0.013	0.013	0.049		Classification	ROAD	100	0.073	0.073	0.122	2.000	Classification	ROAD	100	0.085	0.085	0.085		Classification	ROAD	100	0.009	0.009	0.094	2.001	-	-	100	0.000	0.000	0.000	2.002	-	-	100	0.000	0.000	0.000	2.003	-	-	100	0.000	0.000	0.000	2.004	-	-	100	0.000	0.000	0.000	2.005	-	-	100	0.000	0.000	0.000	2.006	Classification	ROAD	100	0.054	0.054	0.054	1.009	Classification	ROAD	100	0.036	0.036	0.036	1.010	-	-	100	0.000	0.000	0.000	1.011	-	-	100	0.000	0.000	0.000	1.012	Classification	ROAD	100	0.069	0.069	0.069		Classification	Roof	100	0.135	0.135	0.203		Classification	Roof	100	0.063	0.063	0.267	1.013	-	-	100	0.000	0.000	0.000	1.014	-	-	100	0.000	0.000	0.000	1.015	-	-	100	0.000	0.000	0.000	1.016	-	-	100	0.000	0.000	0.000	1.017	-	-	100	0.000	0.000	0.000	1.018	Classification	ROAD	100	0.042	0.042	0.042		Classification	Roof	100	0.063	0.063	0.105		Classification	Roof	100	0.065	0.065	0.169	1.019	-	-	100	0.000	0.000	0.000	1.020	-	-	100	0.000	0.000	0.000	3.000	Classification	ROAD	100	0.016	0.016	0.016	3.001	Classification	ROAD	100	0.021	0.021	0.021		Classification	Roof	100	0.100	0.100	0.122	3.002	-	-	100	0.000	0.000	0.000	3.003	-	-	100	0.000	0.000	0.000	3.004	-	-	100	0.000	0.000	0.000	3.005	Classification	ROAD	100	0.011	0.011	0.011		Classification	Roof	100	0.043	0.043	0.054	3.006	Classification	ROAD	100	0.079	0.079	0.079		Classification	Roof	100	0.069	0.069	0.148	3.007	-	-	100	0.000	0.000	0.000	3.008	-	-	100	0.000	0.000	0.000	3.009	Classification	ROAD	100	0.051	0.051	0.051
Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)																																																																																																																																																																																																																																																																																																																																																																												
1.000	Classification	ROAD	100	0.024	0.024	0.024																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.064	0.064	0.088																																																																																																																																																																																																																																																																																																																																																																												
1.001	Classification	Roof	100	0.064	0.064	0.064																																																																																																																																																																																																																																																																																																																																																																												
1.002	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.003	Classification	Roof	100	0.038	0.038	0.038																																																																																																																																																																																																																																																																																																																																																																												
	Classification	ROAD	100	0.016	0.016	0.054																																																																																																																																																																																																																																																																																																																																																																												
1.004	Classification	ROAD	100	0.076	0.076	0.076																																																																																																																																																																																																																																																																																																																																																																												
1.005	Classification	Roof	100	0.038	0.038	0.038																																																																																																																																																																																																																																																																																																																																																																												
	Classification	ROAD	100	0.030	0.030	0.068																																																																																																																																																																																																																																																																																																																																																																												
1.006	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.007	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.008	Classification	Roof	100	0.036	0.036	0.036																																																																																																																																																																																																																																																																																																																																																																												
	Classification	ROAD	100	0.013	0.013	0.049																																																																																																																																																																																																																																																																																																																																																																												
	Classification	ROAD	100	0.073	0.073	0.122																																																																																																																																																																																																																																																																																																																																																																												
2.000	Classification	ROAD	100	0.085	0.085	0.085																																																																																																																																																																																																																																																																																																																																																																												
	Classification	ROAD	100	0.009	0.009	0.094																																																																																																																																																																																																																																																																																																																																																																												
2.001	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
2.002	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
2.003	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
2.004	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
2.005	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
2.006	Classification	ROAD	100	0.054	0.054	0.054																																																																																																																																																																																																																																																																																																																																																																												
1.009	Classification	ROAD	100	0.036	0.036	0.036																																																																																																																																																																																																																																																																																																																																																																												
1.010	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.011	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.012	Classification	ROAD	100	0.069	0.069	0.069																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.135	0.135	0.203																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.063	0.063	0.267																																																																																																																																																																																																																																																																																																																																																																												
1.013	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.014	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.015	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.016	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.017	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.018	Classification	ROAD	100	0.042	0.042	0.042																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.063	0.063	0.105																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.065	0.065	0.169																																																																																																																																																																																																																																																																																																																																																																												
1.019	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
1.020	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
3.000	Classification	ROAD	100	0.016	0.016	0.016																																																																																																																																																																																																																																																																																																																																																																												
3.001	Classification	ROAD	100	0.021	0.021	0.021																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.100	0.100	0.122																																																																																																																																																																																																																																																																																																																																																																												
3.002	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
3.003	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
3.004	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
3.005	Classification	ROAD	100	0.011	0.011	0.011																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.043	0.043	0.054																																																																																																																																																																																																																																																																																																																																																																												
3.006	Classification	ROAD	100	0.079	0.079	0.079																																																																																																																																																																																																																																																																																																																																																																												
	Classification	Roof	100	0.069	0.069	0.148																																																																																																																																																																																																																																																																																																																																																																												
3.007	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
3.008	-	-	100	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																												
3.009	Classification	ROAD	100	0.051	0.051	0.051																																																																																																																																																																																																																																																																																																																																																																												
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Area Summary for Storm 01-03-23 Planning with landscaping

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
3.010	Classification	Landscaping	30	0.044	0.013	0.013
3.011	-	-	100	0.000	0.000	0.000
3.012	-	-	100	0.000	0.000	0.000
1.021	Classification	ROAD	100	0.032	0.032	0.032
	Classification	ROAD	100	0.039	0.039	0.072
1.022	Classification	ROAD	100	0.070	0.070	0.070
	Classification	Landscaping	30	0.004	0.001	0.071
1.023	Classification	Landscaping	30	0.013	0.004	0.004
1.024	-	-	100	0.000	0.000	0.000
1.025	Classification	Landscaping	30	0.005	0.002	0.002
1.026	-	-	100	0.000	0.000	0.000
1.027	-	-	100	0.000	0.000	0.000
1.028	Classification	Landscaping	30	0.002	0.000	0.000
4.000	Classification	ROAD	100	0.047	0.047	0.047
	Classification	Landscaping	30	0.007	0.002	0.050
4.001	Classification	ROAD	100	0.029	0.029	0.029
1.029	Classification	Roof	100	0.348	0.348	0.348
1.030	-	-	100	0.000	0.000	0.000
1.031	-	-	100	0.000	0.000	0.000
1.032	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				2.123	2.071	2.071

Free Flowing Outfall Details for Storm 01-03-23 Planning with landscaping

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
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S1.032	S	28.660	26.860	26.860	0	0
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Simulation Criteria for Storm 01-03-23 Planning with landscaping

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Region	England and Wales
Return Period (years)	1	M5-60 (mm)	20.000

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Synthetic Rainfall Details Ratio R 0.400Cv (Winter) 0.840 Profile Type Summer Storm Duration (mins) 30 Cv (Summer) 0.750		
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<u>Online Controls for Storm 01-03-23 Planning with landscaping</u> <u>Complex Manhole: S24, DS/PN: S1.030, Volume (m³): 3.6</u> <u>Hydro-Brake® Optimum</u> <table><tr><td>Unit Reference</td><td>MD-SHE-0120-7500-1500-7500</td></tr><tr><td>Design Head (m)</td><td>1.500</td></tr><tr><td>Design Flow (l/s)</td><td>7.5</td></tr><tr><td>Flush-Flo™</td><td>Calculated</td></tr><tr><td>Objective</td><td>Minimise upstream storage</td></tr><tr><td>Application</td><td>Surface</td></tr><tr><td>Sump Available</td><td>Yes</td></tr><tr><td>Diameter (mm)</td><td>120</td></tr><tr><td>Invert Level (m)</td><td>27.010</td></tr><tr><td>Minimum Outlet Pipe Diameter (mm)</td><td>150</td></tr><tr><td>Suggested Manhole Diameter (mm)</td><td>1200</td></tr></table> <table><tr><th>Control Points</th><th>Head (m)</th><th>Flow (l/s)</th></tr><tr><td>Design Point (Calculated)</td><td>1.500</td><td>7.5</td></tr><tr><td>Flush-Flo™</td><td>0.445</td><td>7.5</td></tr><tr><td>Kick-Flo®</td><td>0.926</td><td>6.0</td></tr><tr><td>Mean Flow over Head Range</td><td>-</td><td>6.6</td></tr></table> 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 <table><tr><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th></tr><tr><td>0.100</td><td>4.3</td><td>1.200</td><td>6.8</td><td>3.000</td><td>10.4</td><td>7.000</td><td>15.6</td></tr><tr><td>0.200</td><td>6.7</td><td>1.400</td><td>7.3</td><td>3.500</td><td>11.2</td><td>7.500</td><td>16.1</td></tr><tr><td>0.300</td><td>7.3</td><td>1.600</td><td>7.7</td><td>4.000</td><td>11.9</td><td>8.000</td><td>16.6</td></tr><tr><td>0.400</td><td>7.5</td><td>1.800</td><td>8.2</td><td>4.500</td><td>12.6</td><td>8.500</td><td>17.1</td></tr><tr><td>0.500</td><td>7.5</td><td>2.000</td><td>8.6</td><td>5.000</td><td>13.2</td><td>9.000</td><td>17.5</td></tr><tr><td>0.600</td><td>7.4</td><td>2.200</td><td>9.0</td><td>5.500</td><td>13.9</td><td>9.500</td><td>18.0</td></tr><tr><td>0.800</td><td>6.8</td><td>2.400</td><td>9.3</td><td>6.000</td><td>14.4</td><td></td><td></td></tr><tr><td>1.000</td><td>6.2</td><td>2.600</td><td>9.7</td><td>6.500</td><td>15.0</td><td></td><td></td></tr></table> <u>Orifice</u> Diameter (m) 0.080 Discharge Coefficient 0.600 Invert Level (m) 27.880			Unit Reference	MD-SHE-0120-7500-1500-7500	Design Head (m)	1.500	Design Flow (l/s)	7.5	Flush-Flo™	Calculated	Objective	Minimise upstream storage	Application	Surface	Sump Available	Yes	Diameter (mm)	120	Invert Level (m)	27.010	Minimum Outlet Pipe Diameter (mm)	150	Suggested Manhole Diameter (mm)	1200	Control Points	Head (m)	Flow (l/s)	Design Point (Calculated)	1.500	7.5	Flush-Flo™	0.445	7.5	Kick-Flo®	0.926	6.0	Mean Flow over Head Range	-	6.6	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	0.100	4.3	1.200	6.8	3.000	10.4	7.000	15.6	0.200	6.7	1.400	7.3	3.500	11.2	7.500	16.1	0.300	7.3	1.600	7.7	4.000	11.9	8.000	16.6	0.400	7.5	1.800	8.2	4.500	12.6	8.500	17.1	0.500	7.5	2.000	8.6	5.000	13.2	9.000	17.5	0.600	7.4	2.200	9.0	5.500	13.9	9.500	18.0	0.800	6.8	2.400	9.3	6.000	14.4			1.000	6.2	2.600	9.7	6.500	15.0		
Unit Reference	MD-SHE-0120-7500-1500-7500																																																																																																														
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Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)																																																																																																								
0.100	4.3	1.200	6.8	3.000	10.4	7.000	15.6																																																																																																								
0.200	6.7	1.400	7.3	3.500	11.2	7.500	16.1																																																																																																								
0.300	7.3	1.600	7.7	4.000	11.9	8.000	16.6																																																																																																								
0.400	7.5	1.800	8.2	4.500	12.6	8.500	17.1																																																																																																								
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0.600	7.4	2.200	9.0	5.500	13.9	9.500	18.0																																																																																																								
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Storage Structures for Storm 01-03-23 Planning with landscaping

Tank or Pond Manhole: S16, DS/PN: S3.006

Invert Level (m) 27.326

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	221.1	1.050	221.1	1.051	0.0

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm 01-03-23 Planning with landscaping

			Water	Surcharged	Flooded	Half Drain			Pipe	
	US/MH		Level	Depth	Volume	Flow /	Overflow	Time	Flow	
PN	Name		(m)	(m)	(m³)	Cap.	(l/s)	(mins)	(l/s)	Status
S1.000		S1	27.767	-0.097	0.000	0.61			15.5	OK
S1.001	STANK 1	US	27.759	-0.700	0.000	0.01			22.6	OK*
S1.002	STANK 1	DS	27.759	-0.084	0.000	0.56			16.8	OK*
S1.003		S2	27.756	-0.078	0.000	0.68			20.4	OK
S1.004		S3	27.735	-0.055	0.000	0.89			27.1	OK
S1.005		S4	27.693	-0.121	0.000	0.66			34.3	OK
S1.006	STANK 2	US	27.668	-0.661	0.000	0.01			34.1	OK*
S1.007	STANK 2	DS	27.664	-0.124	0.000	0.57			35.0	OK*
S1.008		S5	27.648	-0.107	0.000	0.74			45.2	OK
S2.000		S6	27.694	-0.118	0.000	0.46			16.6	OK
S2.001	STANK 3	US	27.568	-0.350	0.000	0.01			14.7	OK*
S2.002	STANK 3	DS	27.568	-0.229	0.000	0.13			7.7	OK*
S2.003		S7	27.567	-0.221	0.000	0.08			4.1	OK
S2.004	STANK 4	US	27.567	-0.332	0.000	0.00			4.1	OK*
S2.005	STANK 4	DS	27.567	-0.211	0.000	0.03			1.7	OK*
S2.006		S8	27.567	-0.201	0.000	0.08			5.4	OK
S1.009		S10	27.566	-0.136	0.000	0.46			50.6	OK

PN	US/MH Name	Level Exceeded
S1.000		S1
S1.001	STANK 1 US	
S1.002	STANK 1 DS	
S1.003		S2
S1.004		S3
S1.005		S4
S1.006	STANK 2 US	
S1.007	STANK 2 DS	
S1.008		S5
S2.000		S6
S2.001	STANK 3 US	
S2.002	STANK 3 DS	
S2.003		S7
S2.004	STANK 4 US	
S2.005	STANK 4 DS	
S2.006		S8
S1.009		S10

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm 01-03-23 Planning with landscaping

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S1.010	STANK 5 US	240 Summer	1	+0%			
S1.011	STANK 5 DS	240 Summer	1	+0%	30/15 Summer		
S1.012	S11	240 Summer	1	+0%	30/15 Summer		
S1.013	STANK 5A US	240 Summer	1	+0%			
S1.014	STANK 5A DS	240 Summer	1	+0%	30/15 Summer		
S1.015	S11A	240 Winter	1	+0%	30/15 Summer		
S1.016	STank 6 US	240 Winter	1	+0%			
S1.017	STank 6 DS	240 Winter	1	+0%	30/15 Summer		
S1.018	S12	360 Winter	1	+0%	1/360 Winter		
S1.019	STANK 7 US	360 Winter	1	+0%			
S1.020	STANK 7 DS	360 Winter	1	+0%	1/180 Summer		
S3.000	S13	15 Summer	1	+0%	100/15 Summer		
S3.001	S14	15 Summer	1	+0%	30/15 Summer		
S3.002	STANK 8 US	15 Summer	1	+0%			
S3.003	STANK 8 DS	15 Summer	1	+0%	30/15 Summer		
S3.004	S14A	15 Summer	1	+0%	30/15 Summer		
S3.005	S15	360 Winter	1	+0%	30/15 Summer		
S3.006	S16	360 Winter	1	+0%	30/60 Summer		
S3.007	STANK 9 US	360 Winter	1	+0%			
S3.008	STANK 9 DS	360 Winter	1	+0%	30/60 Summer		
S3.009	S17	360 Winter	1	+0%	30/60 Summer		
S3.010	STANK 11 US	360 Winter	1	+0%			
S3.011	STANK 11 DS	360 Winter	1	+0%	30/30 Summer		
S3.012	S18	360 Winter	1	+0%	30/60 Summer		
S1.021	S19	360 Winter	1	+0%	30/120 Summer		
S1.022	S20	360 Winter	1	+0%	1/30 Summer		
S1.023	STANK 12A US	360 Winter	1	+0%			
S1.024	STANK 12A DS	360 Winter	1	+0%	1/30 Summer		
S1.025	S21 A	360 Winter	1	+0%	1/15 Summer		
S1.026	STANK 12A US	360 Winter	1	+0%			
S1.027	STANK 12A DS	360 Winter	1	+0%	1/15 Summer		
S1.028	S21	360 Winter	1	+0%	30/30 Summer		
S4.000	SFPC1	360 Winter	1	+0%	1/15 Summer	100/15 Summer	
S4.001	S22	360 Winter	1	+0%	1/15 Summer		
S1.029	S23	360 Winter	1	+0%	30/15 Summer		
S1.030	S24	360 Winter	1	+0%	1/15 Summer		
S1.031	SInt	2880 Summer	1	+0%			
S1.032	S25	15 Summer	1	+0%			

PN	US/MH Name	Overflow Act.	Water	Surcharged	Flooded			Half Drain	Pipe
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)
S1.010	STANK 5 US		27.564	-0.650	0.000	0.01			28.2
S1.011	STANK 5 DS		27.564	-0.109	0.000	0.21			26.0
S1.012	S11		27.564	-0.093	0.000	0.35			39.6
S1.013	STANK 5A US		27.562	-0.604	0.000	0.00			39.0

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<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm 01-03-23 Planning with landscaping</u>									
PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
S1.014	STANK 5A DS		27.561	-0.064	0.000	0.25			31.3
S1.015	S11A		27.559	-0.037	0.000	0.23			24.8
S1.016	STank 6 US		27.558	-0.564	0.000	0.00			24.7
S1.017	STank 6 DS		27.558	-0.023	0.000	0.15			18.0
S1.018	S12		27.555	0.000	0.000	0.16			16.9
S1.019	STANK 7 US		27.555	-0.527	0.000	0.00			16.8
S1.020	STANK 7 DS		27.555	0.014	0.000	0.10			12.2
S3.000	S13		28.343	-0.118	0.000	0.10			2.8
S3.001	S14		27.667	-0.073	0.000	0.78			20.9
S3.002	STANK 8 US		27.607	-0.723	0.000	0.01			20.6
S3.003	STANK 8 DS		27.607	-0.106	0.000	0.54			16.2
S3.004	S14A		27.587	-0.112	0.000	0.50			16.3
S3.005	S15		27.556	-0.066	0.000	0.15			4.9
S3.006	S16		27.555	-0.069	0.000	0.08			4.3
S3.007	STANK 9 US		27.555	-0.812	0.000	0.00			4.2
S3.008	STANK 9 DS		27.555	-0.061	0.000	0.06			3.5
S3.009	S17		27.555	-0.053	0.000	0.08			4.5
S3.010	STANK 11 US		27.555	-0.795	0.000	0.00			4.8
S3.011	STANK 11 DS		27.555	-0.044	0.000	0.06			3.5
S3.012	S18		27.554	-0.091	0.000	0.03			3.4
S1.021	S19		27.554	-0.160	0.000	0.07			16.2
S1.022	S20		27.552	0.111	0.000	0.11			16.6
S1.023	STANK 12A US		27.552	-0.414	0.000	0.00			16.5
S1.024	STANK 12A DS		27.552	0.127	0.000	0.07			12.8
S1.025	S21 A		27.551	0.146	0.000	0.08			12.6
S1.026	STANK 12A US		27.551	-0.378	0.000	0.00			12.4
S1.027	STANK 12A DS		27.550	0.162	0.000	0.07			13.0
S1.028	S21		27.552	-0.046	0.000	0.05			10.4
S4.000	SFPC1		27.547	0.172	0.000	0.07			1.2
S4.001	S22		27.547	0.252	0.000	0.11			1.9
S1.029	S23		27.547	-0.003	0.000	0.05			8.9
S1.030	S24		27.542	0.232	0.000	0.14			7.5
S1.031	SInt		27.012	-0.231	0.000	0.12			7.5
S1.032	S25		26.959	-0.224	0.000	0.15			7.5
PN	US/MH Name			Status	Level Exceeded				
S1.010	STANK 5 US			OK*					
S1.011	STANK 5 DS			OK*					
S1.012	S11			OK					
S1.013	STANK 5A US			OK*					
S1.014	STANK 5A DS			OK*					
S1.015	S11A			OK					
S1.016	STank 6 US			OK*					
S1.017	STank 6 DS			OK*					
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<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm 01-03-23 Planning with landscaping</u>			
PN	US/MH Name	Status	Level Exceeded
S1.018	S12	SURCHARGED	
S1.019	STANK 7 US	OK*	
S1.020	STANK 7 DS	SURCHARGED*	
S3.000	S13	OK	
S3.001	S14	OK	
S3.002	STANK 8 US	OK*	
S3.003	STANK 8 DS	OK*	
S3.004	S14A	OK	
S3.005	S15	OK	
S3.006	S16	OK	
S3.007	STANK 9 US	OK*	
S3.008	STANK 9 DS	OK*	
S3.009	S17	OK	
S3.010	STANK 11 US	OK*	
S3.011	STANK 11 DS	OK*	
S3.012	S18	OK	
S1.021	S19	OK	
S1.022	S20	SURCHARGED	
S1.023	STANK 12A US	OK*	
S1.024	STANK 12A DS	SURCHARGED*	
S1.025	S21 A	SURCHARGED	
S1.026	STANK 12A US	OK*	
S1.027	STANK 12A DS	SURCHARGED*	
S1.028	S21	OK	
S4.000	SFPC1	SURCHARGED	11
S4.001	S22	SURCHARGED	
S1.029	S23	OK	
S1.030	S24	SURCHARGED	
S1.031	SInt	OK*	
S1.032	S25	OK	
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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm 01-03-23 Planning with landscaping

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S1.010	STANK 5 US	720 Winter	30	+0%			
S1.011	STANK 5 DS	720 Winter	30	+0%	30/15 Summer		
S1.012	S11	720 Winter	30	+0%	30/15 Summer		
S1.013	STANK 5A US	720 Winter	30	+0%			
S1.014	STANK 5A DS	720 Winter	30	+0%	30/15 Summer		
S1.015	S11A	720 Winter	30	+0%	30/15 Summer		
S1.016	STank 6 US	720 Winter	30	+0%			
S1.017	STank 6 DS	720 Winter	30	+0%	30/15 Summer		
S1.018	S12	720 Winter	30	+0%	1/360 Winter		
S1.019	STANK 7 US	720 Winter	30	+0%			
S1.020	STANK 7 DS	720 Winter	30	+0%	1/180 Summer		
S3.000	S13	15 Summer	30	+0%	100/15 Summer		
S3.001	S14	15 Summer	30	+0%	30/15 Summer		
S3.002	STANK 8 US	720 Winter	30	+0%			
S3.003	STANK 8 DS	720 Winter	30	+0%	30/15 Summer		
S3.004	S14A	720 Winter	30	+0%	30/15 Summer		
S3.005	S15	720 Winter	30	+0%	30/15 Summer		
S3.006	S16	720 Winter	30	+0%	30/60 Summer		
S3.007	STANK 9 US	720 Winter	30	+0%			
S3.008	STANK 9 DS	720 Winter	30	+0%	30/60 Summer		
S3.009	S17	720 Winter	30	+0%	30/60 Summer		
S3.010	STANK 11 US	720 Winter	30	+0%			
S3.011	STANK 11 DS	720 Winter	30	+0%	30/30 Summer		
S3.012	S18	720 Winter	30	+0%	30/60 Summer		
S1.021	S19	720 Winter	30	+0%	30/120 Summer		
S1.022	S20	720 Winter	30	+0%	1/30 Summer		
S1.023	STANK 12A US	720 Winter	30	+0%			
S1.024	STANK 12A DS	720 Winter	30	+0%	1/30 Summer		
S1.025	S21 A	720 Winter	30	+0%	1/15 Summer		
S1.026	STANK 12A US	720 Winter	30	+0%			
S1.027	STANK 12A DS	720 Winter	30	+0%	1/15 Summer		
S1.028	S21	720 Winter	30	+0%	30/30 Summer		
S4.000	SFPC1	15 Summer	30	+0%	1/15 Summer	100/15 Summer	
S4.001	S22	15 Summer	30	+0%	1/15 Summer		
S1.029	S23	600 Winter	30	+0%	30/15 Summer		
S1.030	S24	600 Winter	30	+0%	1/15 Summer		
S1.031	SInt	30 Summer	30	+0%			
S1.032	S25	720 Winter	30	+0%			

PN	US/MH Name	Overflow Act.	Water	Surcharged	Flooded			Half Drain	Pipe
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)
S1.010	STANK 5 US		27.880	-0.334	0.000	0.00			13.5
S1.011	STANK 5 DS		27.880	0.207	0.000	0.10			11.9
S1.012	S11		27.880	0.223	0.000	0.17			19.4
S1.013	STANK 5A US		27.879	-0.287	0.000	0.00			19.3

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 01-03-23 Planning with landscaping									
PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
S1.014	STANK 5A DS		27.879	0.254	0.000	0.13			15.8
S1.015	S11A		27.879	0.283	0.000	0.15			15.8
S1.016	STank 6 US		27.878	-0.244	0.000	0.00			15.7
S1.017	STank 6 DS		27.878	0.297	0.000	0.08			10.1
S1.018	S12		27.878	0.323	0.000	0.14			15.0
S1.019	STANK 7 US		27.877	-0.205	0.000	0.00			15.0
S1.020	STANK 7 DS		27.877	0.336	0.000	0.08			10.4
S3.000	S13		28.361	-0.100	0.000	0.24			6.8
S3.001	S14		27.930	0.190	0.000	2.46			66.0
S3.002	STANK 8 US		27.880	-0.450	0.000	0.00			4.4
S3.003	STANK 8 DS		27.880	0.167	0.000	0.12			3.7
S3.004	S14A		27.880	0.181	0.000	0.11			3.6
S3.005	S15		27.879	0.257	0.000	0.16			5.1
S3.006	S16		27.878	0.254	0.000	0.05			2.8
S3.007	STANK 9 US		27.878	-0.489	0.000	0.00			2.8
S3.008	STANK 9 DS		27.878	0.262	0.000	0.04			2.5
S3.009	S17		27.878	0.270	0.000	0.05			3.1
S3.010	STANK 11 US		27.877	-0.473	0.000	0.00			3.2
S3.011	STANK 11 DS		27.877	0.278	0.000	0.04			2.6
S3.012	S18		27.877	0.232	0.000	0.02			2.5
S1.021	S19		27.877	0.163	0.000	0.05			10.4
S1.022	S20		27.875	0.434	0.000	0.07			10.7
S1.023	STANK 12A US		27.875	-0.091	0.000	0.00			10.7
S1.024	STANK 12A DS		27.874	0.449	0.000	0.05			9.0
S1.025	S21 A		27.874	0.469	0.000	0.06			8.9
S1.026	STANK 12A US		27.874	-0.055	0.000	0.00			8.8
S1.027	STANK 12A DS		27.870	0.482	0.000	0.05			9.5
S1.028	S21		27.875	0.277	0.000	0.04			9.0
S4.000	SFPC1		28.132	0.757	0.000	1.28			21.7
S4.001	S22		28.027	0.732	0.000	1.87			33.1
S1.029	S23		27.879	0.329	0.000	0.05			9.2
S1.030	S24		27.879	0.569	0.000	0.14			7.5
S1.031	SInt		27.012	-0.231	0.000	0.12			7.5
S1.032	S25		26.959	-0.224	0.000	0.15			7.5
PN	US/MH Name			Status	Level Exceeded				
S1.010	STANK 5 US			OK*					
S1.011	STANK 5 DS			SURCHARGED*					
S1.012	S11			SURCHARGED					
S1.013	STANK 5A US			OK*					
S1.014	STANK 5A DS			SURCHARGED*					
S1.015	S11A			SURCHARGED					
S1.016	STank 6 US			OK*					
S1.017	STank 6 DS			SURCHARGED*					
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<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm 01-03-23 Planning with landscaping</u>			
PN	US/MH Name	Status	Level Exceeded
S1.018	S12	SURCHARGED	
S1.019	STANK 7 US	OK*	
S1.020	STANK 7 DS	SURCHARGED*	
S3.000	S13	OK	
S3.001	S14	SURCHARGED	
S3.002	STANK 8 US	OK*	
S3.003	STANK 8 DS	SURCHARGED*	
S3.004	S14A	SURCHARGED	
S3.005	S15	SURCHARGED	
S3.006	S16	SURCHARGED	
S3.007	STANK 9 US	OK*	
S3.008	STANK 9 DS	SURCHARGED*	
S3.009	S17	SURCHARGED	
S3.010	STANK 11 US	OK*	
S3.011	STANK 11 DS	SURCHARGED*	
S3.012	S18	SURCHARGED	
S1.021	S19	SURCHARGED	
S1.022	S20	SURCHARGED	
S1.023	STANK 12A US	OK*	
S1.024	STANK 12A DS	SURCHARGED*	
S1.025	S21 A	SURCHARGED	
S1.026	STANK 12A US	OK*	
S1.027	STANK 12A DS	SURCHARGED*	
S1.028	S21	SURCHARGED	
S4.000	SFPC1	SURCHARGED	11
S4.001	S22	SURCHARGED	
S1.029	S23	SURCHARGED	
S1.030	S24	SURCHARGED	
S1.031	SInt	OK*	
S1.032	S25	OK	
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100 year Return Period Summary of Critical Results by Maximum Level (Rank
1) for Storm 01-03-23 Planning with landscaping

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S1.000		S1 28.791	0.927	0.000	0.27		6.9	SURCHARGED
S1.001	STANK 1 US	28.459	0.000	0.000	0.00		5.0	SURCHARGED*
S1.002	STANK 1 DS	28.458	0.615	0.000	0.12		3.6	SURCHARGED*
S1.003	S2	28.790	0.956	0.000	0.30		9.0	SURCHARGED
S1.004	S3	28.787	0.997	0.000	0.46		14.1	SURCHARGED
S1.005	S4	28.782	0.968	0.000	0.36		18.6	SURCHARGED
S1.006	STANK 2 US	28.329	0.000	0.000	0.00		8.5	SURCHARGED*
S1.007	STANK 2 DS	28.328	0.540	0.000	0.13		8.0	SURCHARGED*
S1.008	S5	28.779	1.024	0.000	0.35		21.4	SURCHARGED
S2.000	S6	28.779	0.967	0.000	0.21		7.6	FLOOD RISK
S2.001	STANK 3 US	27.918	0.000	0.000	0.00		1.0	SURCHARGED*
S2.002	STANK 3 DS	27.917	0.120	0.000	0.01		0.8	SURCHARGED*
S2.003	S7	28.777	0.989	0.000	0.11		6.0	SURCHARGED
S2.004	STANK 4 US	27.899	0.000	0.000	0.00		0.7	SURCHARGED*
S2.005	STANK 4 DS	27.898	0.120	0.000	0.02		1.2	SURCHARGED*
S2.006	S8	28.776	1.008	0.000	0.15		9.4	SURCHARGED
S1.009	S10	28.774	1.072	0.000	0.21		23.0	SURCHARGED

PN	US/MH Name	Level Exceeded
S1.000		S1
S1.001	STANK 1 US	
S1.002	STANK 1 DS	
S1.003		S2
S1.004		S3
S1.005		S4
S1.006	STANK 2 US	
S1.007	STANK 2 DS	
S1.008		S5
S2.000		S6
S2.001	STANK 3 US	
S2.002	STANK 3 DS	
S2.003		S7
S2.004	STANK 4 US	
S2.005	STANK 4 DS	
S2.006		S8
S1.009		S10

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 01-03-23 Planning with landscaping

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S1.010	STANK 5 US	2880 Summer	100	+40%			
S1.011	STANK 5 DS	2880 Summer	100	+40%	30/15 Summer		
S1.012	S11	480 Winter	100	+40%	30/15 Summer		
S1.013	STANK 5A US	4320 Summer	100	+40%			
S1.014	STANK 5A DS	4320 Summer	100	+40%	30/15 Summer		
S1.015	S11A	480 Winter	100	+40%	30/15 Summer		
S1.016	STANK 6 US	4320 Summer	100	+40%			
S1.017	STANK 6 DS	4320 Summer	100	+40%	30/15 Summer		
S1.018	S12	480 Winter	100	+40%	1/360 Winter		
S1.019	STANK 7 US	4320 Summer	100	+40%			
S1.020	STANK 7 DS	2880 Summer	100	+40%	1/180 Summer		
S3.000	S13	480 Winter	100	+40%	100/15 Summer		
S3.001	S14	480 Winter	100	+40%	30/15 Summer		
S3.002	STANK 8 US	2160 Summer	100	+40%			
S3.003	STANK 8 DS	2160 Summer	100	+40%	30/15 Summer		
S3.004	S14A	480 Winter	100	+40%	30/15 Summer		
S3.005	S15	480 Winter	100	+40%	30/15 Summer		
S3.006	S16	480 Winter	100	+40%	30/60 Summer		
S3.007	STANK 9 US	360 Winter	100	+40%			
S3.008	STANK 9 DS	360 Winter	100	+40%	30/60 Summer		
S3.009	S17	480 Winter	100	+40%	30/60 Summer		
S3.010	STANK 11 US	2160 Summer	100	+40%			
S3.011	STANK 11 DS	2160 Summer	100	+40%	30/30 Summer		
S3.012	S18	480 Winter	100	+40%	30/60 Summer		
S1.021	S19	480 Winter	100	+40%	30/120 Summer		
S1.022	S20	480 Winter	100	+40%	1/30 Summer		
S1.023	STANK 12A US	8640 Summer	100	+40%			
S1.024	STANK 12A DS	10080 Summer	100	+40%	1/30 Summer		
S1.025	S21 A	480 Winter	100	+40%	1/15 Summer		
S1.026	STANK 12A US	10080 Summer	100	+40%			
S1.027	STANK 12A DS	10080 Summer	100	+40%	1/15 Summer		
S1.028	S21	480 Winter	100	+40%	30/30 Summer		
S4.000	SFPC1	600 Winter	100	+40%	1/15 Summer	100/15 Summer	
S4.001	S22	480 Winter	100	+40%	1/15 Summer		
S1.029	S23	480 Winter	100	+40%	30/15 Summer		
S1.030	S24	480 Winter	100	+40%	1/15 Summer		
S1.031	SInt	480 Winter	100	+40%			
S1.032	S25	480 Winter	100	+40%			

PN	US/MH Name	Overflow Act.	Water Surcharged			Flooded		Half Drain Time (mins)	Pipe Flow (l/s)
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)		
S1.010	STANK 5 US		28.214	0.000	0.000	0.00			10.2
S1.011	STANK 5 DS		28.213	0.540	0.000	0.09			11.2
S1.012	S11		28.772	1.115	0.000	0.33			37.2
S1.013	STANK 5A US		28.166	0.000	0.000	0.00			10.4

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<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 01-03-23 Planning with landscaping</u>									
PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
S1.014	STANK 5A DS		28.165	0.540	0.000	0.10			12.9
S1.015	S11A		28.767	1.171	0.000	0.22			23.7
S1.016	STank 6 US		28.122	0.000	0.000	0.00			12.6
S1.017	STank 6 DS		28.121	0.540	0.000	0.14			17.5
S1.018	S12		28.764	1.209	0.000	0.25			26.8
S1.019	STANK 7 US		28.082	0.000	0.000	0.00			18.1
S1.020	STANK 7 DS		28.081	0.540	0.000	0.14			17.7
S3.000	S13		28.779	0.318	0.000	0.05			1.3
S3.001	S14		28.778	1.038	0.000	0.41			11.0
S3.002	STANK 8 US		28.330	0.000	0.000	0.00			5.1
S3.003	STANK 8 DS		28.329	0.616	0.000	0.08			2.5
S3.004	S14A		28.776	1.077	0.000	0.18			5.8
S3.005	S15		28.772	1.150	0.000	0.29			9.4
S3.006	S16		28.767	1.143	0.000	0.23			13.1
S3.007	STANK 9 US		28.367	0.000	0.000	0.00			12.5
S3.008	STANK 9 DS		28.366	0.750	0.000	0.21			12.7
S3.009	S17		28.766	1.158	0.000	0.22			12.1
S3.010	STANK 11 US		28.350	0.000	0.000	0.00			7.1
S3.011	STANK 11 DS		28.349	0.750	0.000	0.20			12.4
S3.012	S18		28.763	1.118	0.000	0.15			15.6
S1.021	S19		28.761	1.047	0.000	0.10			22.7
S1.022	S20		28.755	1.314	0.000	0.14			22.5
S1.023	STANK 12A US		27.966	0.000	0.000	0.00			8.6
S1.024	STANK 12A DS		27.965	0.540	0.000	0.05			8.3
S1.025	S21 A		28.742	1.337	0.000	0.13			20.9
S1.026	STANK 12A US		27.929	0.000	0.000	0.00			7.5
S1.027	STANK 12A DS		27.928	0.540	0.000	0.08			14.2
S1.028	S21		28.740	1.142	0.000	0.09			20.9
S4.000	SFPC1		28.675	1.300	27.813	0.78			13.2
S4.001	S22		28.697	1.402	0.000	0.71			12.6
S1.029	S23		28.736	1.186	0.000	0.11			19.6
S1.030	S24		28.734	1.424	0.000	0.36			19.6
S1.031	SInt		27.059	-0.184	0.000	0.32			19.6
S1.032	S25		27.011	-0.172	0.000	0.38			19.6
PN	US/MH Name	Status	Level Exceeded						
S1.010	STANK 5 US	SURCHARGED*							
S1.011	STANK 5 DS	SURCHARGED*							
S1.012	S11	SURCHARGED							
S1.013	STANK 5A US	SURCHARGED*							
S1.014	STANK 5A DS	SURCHARGED*							
S1.015	S11A	SURCHARGED							
S1.016	STank 6 US	SURCHARGED*							
S1.017	STank 6 DS	SURCHARGED*							
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XP Solutions		Network 2020.1.3	
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 01-03-23 Planning with landscaping</u>			
PN	US/MH Name	Status	Level Exceeded
S1.018	S12	SURCHARGED	
S1.019	STANK 7 US	SURCHARGED*	
S1.020	STANK 7 DS	SURCHARGED*	
S3.000	S13	SURCHARGED	
S3.001	S14	SURCHARGED	
S3.002	STANK 8 US	SURCHARGED*	
S3.003	STANK 8 DS	SURCHARGED*	
S3.004	S14A	SURCHARGED	
S3.005	S15	SURCHARGED	
S3.006	S16	SURCHARGED	
S3.007	STANK 9 US	SURCHARGED*	
S3.008	STANK 9 DS	SURCHARGED*	
S3.009	S17	SURCHARGED	
S3.010	STANK 11 US	SURCHARGED*	
S3.011	STANK 11 DS	SURCHARGED*	
S3.012	S18	SURCHARGED	
S1.021	S19	SURCHARGED	
S1.022	S20	SURCHARGED	
S1.023	STANK 12A US	SURCHARGED*	
S1.024	STANK 12A DS	SURCHARGED*	
S1.025	S21 A	FLOOD RISK	
S1.026	STANK 12A US	SURCHARGED*	
S1.027	STANK 12A DS	SURCHARGED*	
S1.028	S21	FLOOD RISK	
S4.000	SFPC1	FLOOD	11
S4.001	S22	FLOOD RISK	
S1.029	S23	FLOOD RISK	
S1.030	S24	FLOOD RISK	
S1.031	SInt	OK*	
S1.032	S25	OK	
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