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Park House Sandpiper Court Chester CH4 9QU	Edge Hill Phase 4	
Date 21/07/2022 File 7843 - FW 6.MDX	Designed by JAR Checked by AJ	
Micro Drainage Network 2020.1.3		

FOUL SEWERAGE DESIGN

Network Design Table for 7843 - FW 6.FWS

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	26.906	0.384	70.1	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.001	24.962	0.322	77.5	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
2.000	12.902	0.429	30.1	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
2.001	9.136	0.840	10.9	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.002	23.671	0.158	149.8	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.003	20.385	0.139	146.2	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
3.000	7.966	0.114	69.9	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
3.001	21.145	1.031	20.5	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.004	13.695	0.091	150.5	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.005	21.267	0.142	149.8	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
4.000	45.414	0.649	70.0	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
4.001	33.000	0.220	150.0	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.006	35.265	0.235	150.1	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.007	6.228	0.492	12.7	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.008	58.305	0.540	108.0	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.009	17.871	0.312	57.3	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.010	28.448	1.200	23.7	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.011	13.793	0.690	20.0	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.012	22.747	0.900	25.3	0.000	0	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	88.800	0.000	0.0	0	0.0	0	0.00	1.05	18.5	0.0
1.001	88.416	0.000	0.0	0	0.0	0	0.00	1.00	17.6	0.0
2.000	89.363	0.000	0.0	0	0.0	0	0.00	1.60	28.3	0.0
2.001	88.934	0.000	0.0	0	0.0	0	0.00	2.67	47.1	0.0
1.002	88.094	0.000	0.0	0	0.0	0	0.00	0.71	12.6	0.0
1.003	87.936	0.000	0.0	0	0.0	0	0.00	0.72	12.8	0.0
3.000	88.942	0.000	0.0	0	0.0	0	0.00	1.05	18.5	0.0
3.001	88.828	0.000	0.0	0	0.0	0	0.00	1.94	34.3	0.0
1.004	87.797	0.000	0.0	0	0.0	0	0.00	0.71	12.6	0.0
1.005	87.706	0.000	0.0	0	0.0	0	0.00	0.71	12.6	0.0
4.000	87.596	0.000	0.0	0	0.0	0	0.00	1.05	18.5	0.0
4.001	86.947	0.000	0.0	0	0.0	0	0.00	0.71	12.6	0.0
1.006	86.727	0.000	0.0	0	0.0	0	0.00	0.71	12.6	0.0
1.007	86.492	0.000	0.0	0	0.0	0	0.00	2.47	43.7	0.0
1.008	86.000	0.000	0.0	0	0.0	0	0.00	0.84	14.9	0.0
1.009	85.460	0.000	0.0	0	0.0	0	0.00	1.16	20.5	0.0
1.010	84.300	0.000	0.0	0	0.0	0	0.00	1.80	31.9	0.0
1.011	83.100	0.000	0.0	0	0.0	0	0.00	1.97	34.7	0.0
1.012	81.600	0.000	0.0	0	0.0	0	0.00	1.75	30.9	0.0

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FOUL SEWERAGE DESIGN

Network Design Table for 7843 - FW 6.FWS

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.013	20.646	0.138	149.6	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.014	17.652	0.118	149.6	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.015	13.556	1.356	10.0	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.016	46.885	2.344	20.0	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.017	30.156	3.388	8.9	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.018	33.040	1.105	29.9	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.019	73.734	3.820	19.3	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.020	18.067	0.638	28.3	0.000	0	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse Flow (l/s)	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.013	80.700	0.000	0.0	0	0.0	0	0.00	0.72	12.6	0.0
1.014	80.562	0.000	0.0	0	0.0	0	0.00	0.72	12.6	0.0
1.015	80.444	0.000	0.0	0	0.0	0	0.00	2.78	49.2	0.0
1.016	77.562	0.000	0.0	0	0.0	0	0.00	1.96	34.7	0.0
1.017	73.595	0.000	0.0	0	0.0	0	0.00	2.95	52.1	0.0
1.018	70.207	0.000	0.0	0	0.0	0	0.00	1.61	28.4	0.0
1.019	69.102	0.000	0.0	0	0.0	0	0.00	2.00	35.3	0.0
1.020	65.282	0.000	0.0	0	0.0	0	0.00	1.65	29.2	0.0

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Park House Sandpiper Court Chester CH4 9QU		Edge Hill Phase 4
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Manhole Schedules for 7843 - FW 6.FWS

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)
1	90.608	1.808	Open Manhole	1350	1.000	88.800	150				
2	90.595	2.179	Open Manhole	1350	1.001	88.416	150	1.000	88.416	150	
3	91.163	1.800	Open Manhole	1350	2.000	89.363	150				
4	90.735	1.801	Open Manhole	1350	2.001	88.934	150	2.000	88.934	150	
5	90.584	2.490	Open Manhole	1350	1.002	88.094	150	1.001	88.094	150	
								2.001	88.094	150	
6	90.505	2.569	Open Manhole	1350	1.003	87.936	150	1.002	87.936	150	
7	90.742	1.800	Open Manhole	1350	3.000	88.942	150				
8	90.644	1.816	Open Manhole	1350	3.001	88.828	150	3.000	88.828	150	
9	90.553	2.756	Open Manhole	1350	1.004	87.797	150	1.003	87.797	150	
								3.001	87.797	150	
10	89.993	2.287	Open Manhole	1350	1.005	87.706	150	1.004	87.706	150	
11	89.396	1.800	Open Manhole	1350	4.000	87.596	150				
12	89.351	2.404	Open Manhole	1350	4.001	86.947	150	4.000	86.947	150	
13	88.969	2.242	Open Manhole	1350	1.006	86.727	150	1.005	87.564	150	837
								4.001	86.727	150	
14	88.286	1.794	Open Manhole	1350	1.007	86.492	150	1.006	86.492	150	
15	88.324	2.324	Open Manhole	1350	1.008	86.000	150	1.007	86.000	150	
16	86.865	1.405	Open Manhole	1350	1.009	85.460	150	1.008	85.460	150	
17	86.100	1.800	Open Manhole	1350	1.010	84.300	150	1.009	85.148	150	848
18	84.900	1.800	Open Manhole	1350	1.011	83.100	150	1.010	83.100	150	
19	83.400	1.800	Open Manhole	1350	1.012	81.600	150	1.011	82.410	150	810
20	82.500	1.800	Open Manhole	1350	1.013	80.700	150	1.012	80.700	150	
21	82.647	2.085	Open Manhole	1350	1.014	80.562	150	1.013	80.562	150	
22	82.400	1.956	Open Manhole	1350	1.015	80.444	150	1.014	80.444	150	
23	80.375	2.813	Open Manhole	1350	1.016	77.562	150	1.015	79.088	150	1526
24	77.418	3.823	Open Manhole	1350	1.017	73.595	150	1.016	75.218	150	1623
25	72.015	1.808	Open Manhole	1350	1.018	70.207	150	1.017	70.207	150	
26	70.903	1.801	Open Manhole	1350	1.019	69.102	150	1.018	69.102	150	
27	67.094	1.812	Open Manhole	1350	1.020	65.282	150	1.019	65.282	150	
28	0.000		Open Manhole	0		OUTFALL		1.020	64.644	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
1	297270.075	515804.767	297270.075	515804.767	Required	
2	297295.911	515812.280	297295.911	515812.280	Required	
3	297317.671	515835.924	297317.671	515835.924	Required	

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Manhole Schedules for 7843 - FW 6.FWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
4	297320.367	515823.307	297320.367	515823.307	Required	
5	297320.801	515814.181	297320.801	515814.181	Required	
6	297342.669	515805.120	297342.669	515805.120	Required	
7	297382.328	515807.634	297382.328	515807.634	Required	
8	297376.852	515801.849	297376.852	515801.849	Required	
9	297358.191	515791.906	297358.191	515791.906	Required	
10	297365.788	515780.511	297365.788	515780.511	Required	
11	297298.333	515739.687	297298.333	515739.687	Required	
12	297342.065	515751.931	297342.065	515751.931	Required	
13	297373.843	515760.829	297373.843	515760.829	Required	
14	297391.051	515730.048	297391.051	515730.048	Required	
15	297391.046	515723.819	297391.046	515723.819	Required	
16	297344.876	515688.213	297344.876	515688.213	Required	
17	297345.378	515670.350	297345.378	515670.350	Required	
18	297373.817	515671.047	297373.817	515671.047	Required	
19	297386.835	515666.488	297386.835	515666.488	Required	
20	297403.667	515651.188	297403.667	515651.188	Required	
21	297418.292	515665.760	297418.292	515665.760	Required	

Manhole Schedules for 7843 - FW 6.FWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
22	297431.868	515677.041	297431.868	515677.041	Required	
23	297443.037	515684.724	297443.037	515684.724	Required	
24	297471.152	515722.244	297471.152	515722.244	Required	
25	297498.461	515735.034	297498.461	515735.034	Required	
26	297515.745	515763.192	297515.745	515763.192	Required	
27	297583.042	515793.323	297583.042	515793.323	Required	
28	297592.855	515808.493			No Entry	

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PIPELINE SCHEDULES for 7843 - FW 6.FWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	150	1	90.608	88.800	1.658	Open Manhole	1350
1.001	o	150	2	90.595	88.416	2.029	Open Manhole	1350
2.000	o	150	3	91.163	89.363	1.650	Open Manhole	1350
2.001	o	150	4	90.735	88.934	1.651	Open Manhole	1350
1.002	o	150	5	90.584	88.094	2.340	Open Manhole	1350
1.003	o	150	6	90.505	87.936	2.419	Open Manhole	1350
3.000	o	150	7	90.742	88.942	1.650	Open Manhole	1350
3.001	o	150	8	90.644	88.828	1.666	Open Manhole	1350
1.004	o	150	9	90.553	87.797	2.606	Open Manhole	1350
1.005	o	150	10	89.993	87.706	2.137	Open Manhole	1350
4.000	o	150	11	89.396	87.596	1.650	Open Manhole	1350
4.001	o	150	12	89.351	86.947	2.254	Open Manhole	1350
1.006	o	150	13	88.969	86.727	2.092	Open Manhole	1350
1.007	o	150	14	88.286	86.492	1.644	Open Manhole	1350
1.008	o	150	15	88.324	86.000	2.174	Open Manhole	1350
1.009	o	150	16	86.865	85.460	1.255	Open Manhole	1350
1.010	o	150	17	86.100	84.300	1.650	Open Manhole	1350
1.011	o	150	18	84.900	83.100	1.650	Open Manhole	1350
1.012	o	150	19	83.400	81.600	1.650	Open Manhole	1350

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	26.906	70.1	2	90.595	88.416	2.029	Open Manhole	1350
1.001	24.962	77.5	5	90.584	88.094	2.340	Open Manhole	1350
2.000	12.902	30.1	4	90.735	88.934	1.651	Open Manhole	1350
2.001	9.136	10.9	5	90.584	88.094	2.340	Open Manhole	1350
1.002	23.671	149.8	6	90.505	87.936	2.419	Open Manhole	1350
1.003	20.385	146.2	9	90.553	87.797	2.606	Open Manhole	1350
3.000	7.966	69.9	8	90.644	88.828	1.666	Open Manhole	1350
3.001	21.145	20.5	9	90.553	87.797	2.606	Open Manhole	1350
1.004	13.695	150.5	10	89.993	87.706	2.137	Open Manhole	1350
1.005	21.267	149.8	13	88.969	87.564	1.255	Open Manhole	1350
4.000	45.414	70.0	12	89.351	86.947	2.254	Open Manhole	1350
4.001	33.000	150.0	13	88.969	86.727	2.092	Open Manhole	1350
1.006	35.265	150.1	14	88.286	86.492	1.644	Open Manhole	1350
1.007	6.228	12.7	15	88.324	86.000	2.174	Open Manhole	1350
1.008	58.305	108.0	16	86.865	85.460	1.255	Open Manhole	1350
1.009	17.871	57.3	17	86.100	85.148	0.802	Open Manhole	1350
1.010	28.448	23.7	18	84.900	83.100	1.650	Open Manhole	1350
1.011	13.793	20.0	19	83.400	82.410	0.840	Open Manhole	1350
1.012	22.747	25.3	20	82.500	80.700	1.650	Open Manhole	1350

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PIPELINE SCHEDULES for 7843 - FW 6.FWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.013	o	150	20	82.500	80.700	1.650	Open Manhole	1350
1.014	o	150	21	82.647	80.562	1.935	Open Manhole	1350
1.015	o	150	22	82.400	80.444	1.806	Open Manhole	1350
1.016	o	150	23	80.375	77.562	2.663	Open Manhole	1350
1.017	o	150	24	77.418	73.595	3.673	Open Manhole	1350
1.018	o	150	25	72.015	70.207	1.658	Open Manhole	1350
1.019	o	150	26	70.903	69.102	1.651	Open Manhole	1350
1.020	o	150	27	67.094	65.282	1.662	Open Manhole	1350

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.013	20.646	149.6	21	82.647	80.562	1.935	Open Manhole	1350
1.014	17.652	149.6	22	82.400	80.444	1.806	Open Manhole	1350
1.015	13.556	10.0	23	80.375	79.088	1.137	Open Manhole	1350
1.016	46.885	20.0	24	77.418	75.218	2.050	Open Manhole	1350
1.017	30.156	8.9	25	72.015	70.207	1.658	Open Manhole	1350
1.018	33.040	29.9	26	70.903	69.102	1.651	Open Manhole	1350
1.019	73.734	19.3	27	67.094	65.282	1.662	Open Manhole	1350
1.020	18.067	28.3	28	0.000	64.644		Open Manhole	0

Free Flowing Outfall Details for 7843 - FW 6.FWS

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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1.020	28	0.000	64.644	66.598	0	0
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Simulation Criteria for 7843 - FW 6.FWS

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	0	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	0.000	Storm Duration (mins)	30
Ratio R	0.000		