
Surface Water Manhole Schedules & Longsections Booklet

Dunshaughlin East SHD

Doc No. WS-04-A

Prepared by:



December 2018

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 1

Doc No. WS-04

Prepared by:



December 2018

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Manhole Schedule - Storm 1
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R22.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

Manhole Schedules for Storm 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
SS-40	104.094	1.343	Open Manhole	1200	S1.000	102.751	225				
SS-42	103.367	1.425	Open Manhole	1200	S2.000	101.942	225				
SS-41	103.650	1.834	Open Manhole	1200	S1.001	101.816	225	S1.000	101.998	225	182
								S2.000	101.816	225	
SS-44	102.260	1.425	Open Manhole	1200	S3.000	100.835	225				
SS-43	102.672	2.197	Open Manhole	1200	S1.002	100.475	300	S1.001	100.550	225	149
								S3.000	100.699	225	
SS-46	101.741	1.425	Open Manhole	1200	S4.000	100.316	225				
SS-45	102.142	2.326	Open Manhole	1350	S1.003	99.816	375	S1.002	99.891	300	209
								S4.000	100.174	225	
SS-47	101.696	2.318	Open Manhole	1350	S1.004	99.379	375	S1.003	99.379	375	
SS-49	100.726	1.588	Open Manhole	0		OUTFALL		S1.004	99.138	375	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 1
Dunshaughlin East SHD
Dunshaughlin, Co. Meath

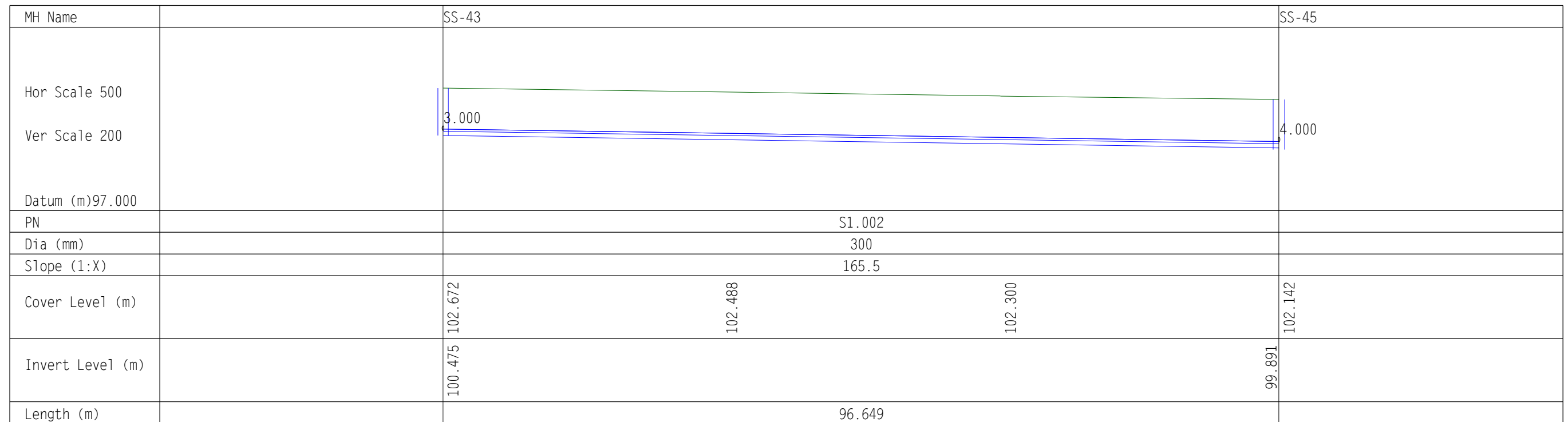
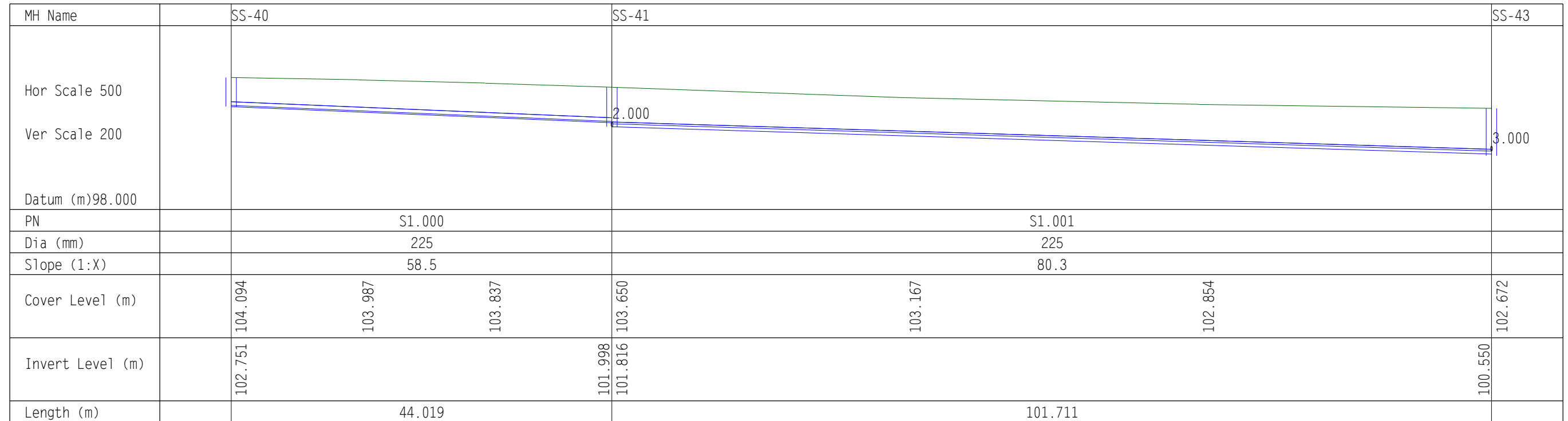


Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2



Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 1
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-45		SS-47
Hor Scale 500				
Ver Scale 200				
Datum (m)	97.000			
PN			S1.003	
Dia (mm)			375	
Slope (1:X)			190.4	
Cover Level (m)		102.142	101.959	101.805
Invert Level (m)		99.816		99.379
Length (m)		83.200		

MH Name		SS-47		SS-49
Hor Scale 500				
Ver Scale 200				
Datum (m)	96.000			
PN			S1.004	
Dia (mm)			375	
Slope (1:X)			296.4	
Cover Level (m)		101.696	101.361	101.017
Invert Level (m)		99.379		99.138
Length (m)		71.423		

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 1
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-42		SS-41
Hor Scale 500				
Ver Scale 200				
Datum (m)98.000				
PN		S2.000		
Dia (mm)		225		
Slope (1:X)		225.0		
Cover Level (m)		103.367	103.463	103.596
Invert Level (m)		101.942		101.816
Length (m)		28.396		

MH Name		SS-44		SS-43
Hor Scale 500				
Ver Scale 200				
Datum (m)97.000				
PN		S3.000		
Dia (mm)		225		
Slope (1:X)		225.5		
Cover Level (m)		102.260	102.394	102.551
Invert Level (m)		100.835		100.699
Length (m)		30.665		

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 1
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-46		SS-45
Hor Scale 500				
Ver Scale 200				
Datum (m)97.000				
PN		S4.000		
Dia (mm)		225		
Slope (1:X)		225.0		
Cover Level (m)		101.741	101.863	101.988
Invert Level (m)		100.316		100.174
Length (m)		31.845		

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 2

Doc No. WS-04

Prepared by:



December 2018

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Manhole Schedule - Storm 2
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R22.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

Manhole Schedules for Storm 2

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
SS-50	103.947	1.640	Open Manhole	1200	S1.000	102.307	225				
SS-51	103.756	1.569	Open Manhole	1200	S1.001	102.187	225	S1.000	102.187	225	
SS-53	103.322	1.822	Open Manhole	1200	S2.000	101.500	225				
SS-52	102.911	1.670	Open Manhole	1200	S1.002	101.241	225	S1.001	101.241	225	
								S2.000	101.378	225	137
SS-56	101.659	1.446	Open Manhole	1200	S3.000	100.213	225				
SS-55	102.190	1.451	Open Manhole	1200	S4.000	100.739	225				
SS-54	101.766	1.827	Open Manhole	1200	S1.003	99.939	300	S1.002	100.014	225	
								S3.000	100.130	225	116
								S4.000	100.598	225	584
SS-58	101.707	1.943	Open Manhole	1200	S5.000	99.764	225				
SS-57	101.622	2.303	Open Manhole	1350	S1.004	99.319	375	S1.003	99.394	300	
								S5.000	99.652	225	183
SS-60	101.730	1.512	Open Manhole	1200	S6.000	100.218	225				
SS-59	101.364	2.230	Open Manhole	1350	S1.005	99.134	375	S1.004	99.134	375	
								S6.000	100.081	225	797
SS-62	101.235	1.630	Open Manhole	1200	S7.000	99.605	225				
SS-61	101.068	2.023	Open Manhole	1350	S1.006	99.045	375	S1.005	99.045	375	
								S7.000	99.495	225	300
SS-63	100.726	2.172	Open Manhole	1500	S1.007	98.554	525	S1.006	98.704	375	
SS-65	100.732	2.200	Open Manhole	0		OUTFALL		S1.007	98.532	525	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 2
Dunshaughlin East SHD
Dunshaughlin, Co. Meath

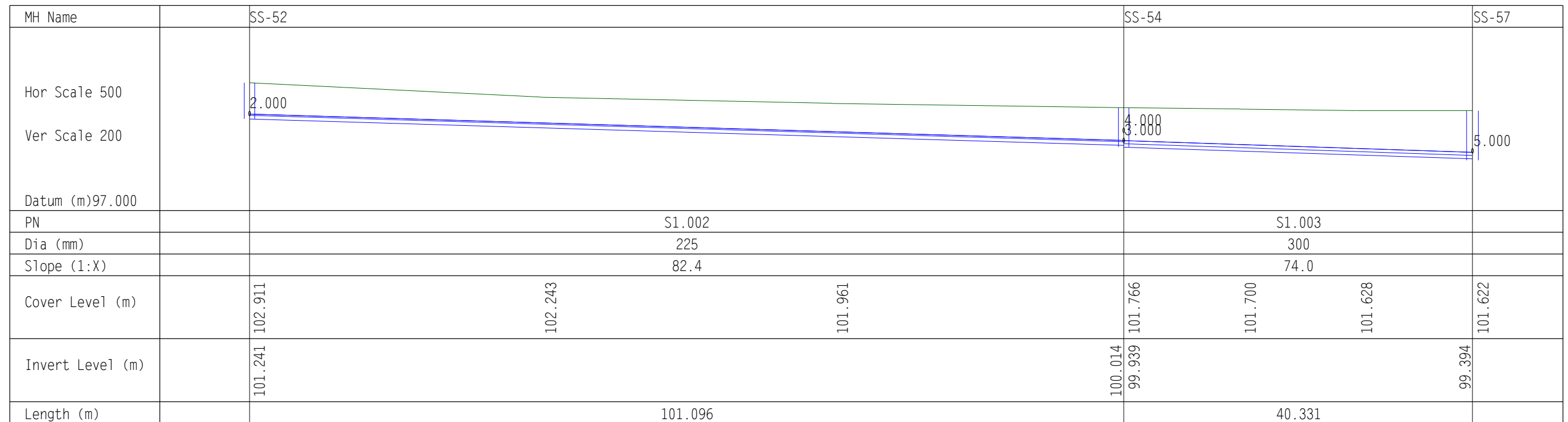
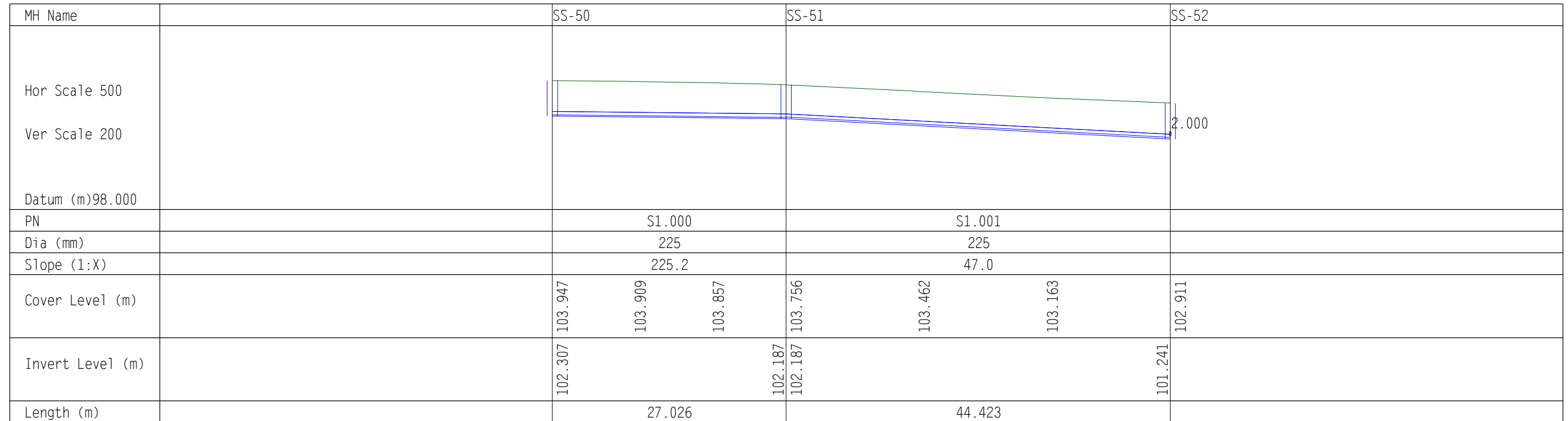


Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2



Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 2
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-57	SS-59	SS-61	SS-63	SS-65
Hor Scale 500					
Ver Scale 200					
Datum (m)	96.000				
PN	S1.004		S1.005		S1.006
Dia (mm)	375		375		525
Slope (1:X)	311.2		304.4		160.2
Cover Level (m)	101.622	101.450	101.343	101.364	101.187
Invert Level (m)	99.319	99.134	99.045	98.704	98.532
Length (m)	57.576		27.094		54.618

MH Name	SS-53	SS-52
Hor Scale 500		
Ver Scale 200		
Datum (m)	98.000	
PN	S2.000	
Dia (mm)	225	
Slope (1:X)	225.0	
Cover Level (m)	103.322	103.216
Invert Level (m)	101.500	101.378
Length (m)	27.532	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 2
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-56	SS-54
Hor Scale 500			
Ver Scale 200			
Datum (m)	97.000		
PN		S3.000	
Dia (mm)		225	
Slope (1:X)		225.0	
Cover Level (m)		101.659 101.697 101.736	101.766
Invert Level (m)		100.213	100.130
Length (m)		18.674	

MH Name		SS-55	SS-54
Hor Scale 500			
Ver Scale 200			
Datum (m)	97.000		
PN		S4.000	
Dia (mm)		225	
Slope (1:X)		224.6	
Cover Level (m)		102.190 102.036 101.882	101.766
Invert Level (m)		100.739	100.598
Length (m)		31.607	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 2
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-58	SS-57
Hor Scale 500			
Ver Scale 200			
Datum (m)96.000			
PN		S5.000	
Dia (mm)		225	
Slope (1:X)		225.0	
Cover Level (m)		101.707	101.622
Invert Level (m)		99.764	99.652
Length (m)		25.156	

MH Name		SS-60	SS-59
Hor Scale 500			
Ver Scale 200			
Datum (m)96.000			
PN		S6.000	
Dia (mm)		225	
Slope (1:X)		225.0	
Cover Level (m)		101.730	101.364
Invert Level (m)		100.218	100.081
Length (m)		30.873	

Unit 1, St. Therese's Place
 Flowerhill, Navan
 Co. Meath

Long Section - Storm Network 2
 Dunshaughlin East SHD
 Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-62	SS-61
Hor Scale 500			
Ver Scale 200			
Datum (m)96.000			
PN		S7.000	
Dia (mm)		225	
Slope (1:X)		225.0	
Cover Level (m)		101.235	101.185
Invert Level (m)		99.605	99.495
Length (m)		24.841	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 3

Doc No. WS-04

Prepared by:



December 2018

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Manhole Schedule - Storm 3
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R22.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

Manhole Schedules for Storm 3

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
SS-70	103.403	1.403	Open Manhole	1200	S1.000	102.000	225				
SS-71	103.771	1.439	Open Manhole	1200	S2.000	102.332	225				
SS-73	103.568	1.425	Open Manhole	1200	S3.000	102.143	225				
SS-72	103.289	1.500	Open Manhole	1200	S1.001	101.789	225	S1.000	101.789	225	
								S2.000	101.960	225	171
								S3.000	101.953	225	164
SS-75	102.590	1.425	Open Manhole	1200	S4.000	101.165	225				
SS-74	102.205	1.729	Open Manhole	1200	S1.002	100.476	300	S1.001	100.551	225	
								S4.000	100.984	225	433
SS-78	101.570	1.425	Open Manhole	1200	S5.000	100.145	225				
SS-77	101.600	1.517	Open Manhole	1200	S6.000	100.083	225				
SS-76	101.719	2.283	Open Manhole	1200	S1.003	99.436	300	S1.002	99.436	300	
								S5.000	99.997	225	486
								S6.000	99.875	225	364
SS-80	101.723	1.956	Open Manhole	1200	S7.000	99.767	225				
SS-79	101.487	2.499	Open Manhole	1350	S1.004	98.988	375	S1.003	99.063	300	
								S7.000	99.563	225	425
SS-82	101.127	1.513	Open Manhole	1200	S8.000	99.614	225				
SS-81	101.318	2.532	Open Manhole	1350	S1.005	98.786	375	S1.004	98.786	375	
								S8.000	99.433	225	497
SS-84	101.230	1.488	Open Manhole	1200	S9.000	99.742	225				
SS-83	100.912	2.548	Open Manhole	1350	S1.006	98.364	450	S1.005	98.439	375	
								S9.000	99.338	225	749
SS-85	100.693	2.409	Open Manhole	1350	S1.007	98.284	450	S1.006	98.284	450	
SS-86	100.500	2.311	Open Manhole	1350	S1.008	98.189	450	S1.007	98.189	450	
SS-88	99.754	1.730	Open Manhole	0		OUTFALL		S1.008	98.024	450	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 3
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-70	SS-72	SS-74
Hor Scale 500			
Ver Scale 200			
Datum (m)98.000			
PN	S1.000	S1.001	
Dia (mm)	225	225	
Slope (1:X)	91.9	61.0	
Cover Level (m)	103.403 103.356 103.332	103.289 102.914	102.537 102.205
Invert Level (m)	102.000	101.789 101.789	100.551
Length (m)	19.381	75.494	

MH Name	SS-74	SS-76	SS-79	SS-81
Hor Scale 500				
Ver Scale 200				
Datum (m)96.000				
PN	S1.002	S1.003	S1.004	
Dia (mm)	300	300	375	
Slope (1:X)	67.1	105.1	158.5	
Cover Level (m)	102.205 102.050	101.887 101.719	101.639 101.555	101.487 101.401 101.332
Invert Level (m)	100.476	99.436 99.436	99.063 98.988	98.786
Length (m)	69.807	39.207	32.024	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 3
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-81	SS-83	SS-85	SS-86
Hor Scale 500				
Ver Scale 200				
Datum (m)	96.000			
PN	S1.005		S1.006	
Dia (mm)	375		450	
Slope (1:X)	150.1		400.5	
Cover Level (m)	101.318	101.146	101.029	100.500
Invert Level (m)	98.786	98.439	98.284	98.189
Length (m)	52.097		38.049	

MH Name	SS-86	SS-88
Hor Scale 500		
Ver Scale 200		
Datum (m)	95.000	
PN	S1.008	
Dia (mm)	450	
Slope (1:X)	400.4	
Cover Level (m)	100.500	99.958
Invert Level (m)	98.189	98.024
Length (m)	66.069	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 3
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-71	SS-72
Hor Scale 500			
Ver Scale 200			
Datum (m)99.000			
PN		S2.000	
Dia (mm)		225	
Slope (1:X)		66.1	
Cover Level (m)		103.771 103.610 103.449	103.289
Invert Level (m)		102.332	101.960
Length (m)		24.578	

MH Name		SS-73	SS-72
Hor Scale 500			
Ver Scale 200			
Datum (m)98.000			
PN		S3.000	
Dia (mm)		225	
Slope (1:X)		225.0	
Cover Level (m)		103.568 103.460 103.352	103.289
Invert Level (m)		102.143	101.953
Length (m)		42.840	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 3
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-75		SS-74	
Hor Scale 500					
Ver Scale 200					
Datum (m)97.000					
PN					S4.000
Dia (mm)		225			
Slope (1:X)		225.0			
Cover Level (m)		102.590	102.461	102.332	102.205
Invert Level (m)		101.165			100.984
Length (m)			40.806		

MH Name		SS-78		SS-76	
Hor Scale 500					
Ver Scale 200					
Datum (m)96.000					
PN					S5.000
Dia (mm)		225			
Slope (1:X)		225.0			
Cover Level (m)		101.570	101.636	101.701	101.719
Invert Level (m)		100.145			99.997
Length (m)			33.250		

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 3
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-77		SS-76
Hor Scale 500				
Ver Scale 200				
Datum (m)	96.000			
PN		S6.000		
Dia (mm)		225		
Slope (1:X)		149.4		
Cover Level (m)		101.600	101.639	101.678
Invert Level (m)		100.083		99.875
Length (m)		31.066		

MH Name		SS-80		SS-79
Hor Scale 500				
Ver Scale 200				
Datum (m)	96.000			
PN		S7.000		
Dia (mm)		225		
Slope (1:X)		149.3		
Cover Level (m)		101.723	101.645	101.566
Invert Level (m)		99.767		99.563
Length (m)		30.467		

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 3
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-82	SS-81
Hor Scale 500			
Ver Scale 200			
Datum (m)96.000			
PN		S8.000	
Dia (mm)		225	
Slope (1:X)		150.0	
Cover Level (m)		101.127 101.182 101.305	101.318
Invert Level (m)		99.614	99.433
Length (m)		27.193	

MH Name		SS-84	SS-83
Hor Scale 500			
Ver Scale 200			
Datum (m)96.000			
PN		S9.000	
Dia (mm)		225	
Slope (1:X)		74.9	
Cover Level (m)		101.230 101.124 101.020	100.912
Invert Level (m)		99.742	99.338
Length (m)		30.268	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 4

Doc No. WS-04

Prepared by:



December 2018

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Manhole Schedule - Storm 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R22.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

Manhole Schedules for Storm 4

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SS-90	103.608	1.557	Open Manhole	1200	S1.000	102.051	225				
SS-91	103.574	1.425	Open Manhole	1200	S2.000	102.149	225				
SS-93	103.509	1.440	Open Manhole	1200	S3.000	102.069	225				
SS-92	103.366	2.110	Open Manhole	1200	S1.001	101.256	225	S1.000	101.478	225	222
								S2.000	101.256	225	
								S3.000	101.772	225	516
SS-95	102.591	1.425	Open Manhole	1200	S4.000	101.166	225				
SS-96	102.300	1.600	Open Manhole	1200	S5.000	100.700	225				
SS-94	102.173	1.874	Open Manhole	1200	S1.002	100.299	300	S1.001	100.374	225	
								S4.000	100.449	225	75
								S5.000	100.460	225	86
SS-97	102.012	1.799	Open Manhole	1200	S1.003	100.213	300	S1.002	100.213	300	
SS-100	101.472	1.425	Open Manhole	1200	S6.000	100.047	225				
SS-99	101.475	1.562	Open Manhole	1200	S7.000	99.913	225				
SS-98	101.259	2.112	Open Manhole	1350	S1.004	99.147	375	S1.003	99.222	300	
								S6.000	99.891	225	594
								S7.000	99.372	225	75
SS-102	101.005	1.468	Open Manhole	1200	S8.000	99.537	225				
SS-103	100.394	1.425	Open Manhole	1200	S9.000	98.969	225				
SS-101	100.737	2.242	Open Manhole	1350	S1.005	98.495	450	S1.004	98.570	375	
								S8.000	99.259	225	539
								S9.000	98.893	225	173
SS-105	100.151	1.425	Open Manhole	1200	S10.000	98.726	225				
SS-104	100.281	2.345	Open Manhole	1500	S1.006	97.936	600	S1.005	98.086	450	
								S10.000	98.619	225	308
SS-108	99.650	0.900	Open Manhole	1200	S11.000	98.750	225				
SS-106	99.754	1.895	Open Manhole	1500	S1.007	97.859	600	S1.006	97.859	600	
								S11.000	98.693	225	459
SS-109	99.784	1.957	Open Manhole	0		OUTFALL		S1.007	97.827	600	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-90	SS-92	SS-94	SS-97
Hor Scale 500				
Ver Scale 200				
Datum (m)	98.000			
PN	S1.000		S1.001	
Dia (mm)	225		225	
Slope (1:X)	40.2		84.6	
Cover Level (m)	103.608 103.554 103.473	103.366 102.966 102.563	102.173 102.106 102.060	102.012
Invert Level (m)	102.051	101.478 101.256	100.374 100.299	100.213
Length (m)	23.018		74.611	

MH Name	SS-97	SS-98	SS-101
Hor Scale 500			
Ver Scale 200			
Datum (m)	96.000		
PN	S1.003		S1.004
Dia (mm)	300		375
Slope (1:X)	61.4		126.1
Cover Level (m)	102.012 101.686	101.414 101.259 101.092	100.922 100.737
Invert Level (m)	100.213	99.222 99.147	98.570
Length (m)	60.822		72.744

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath

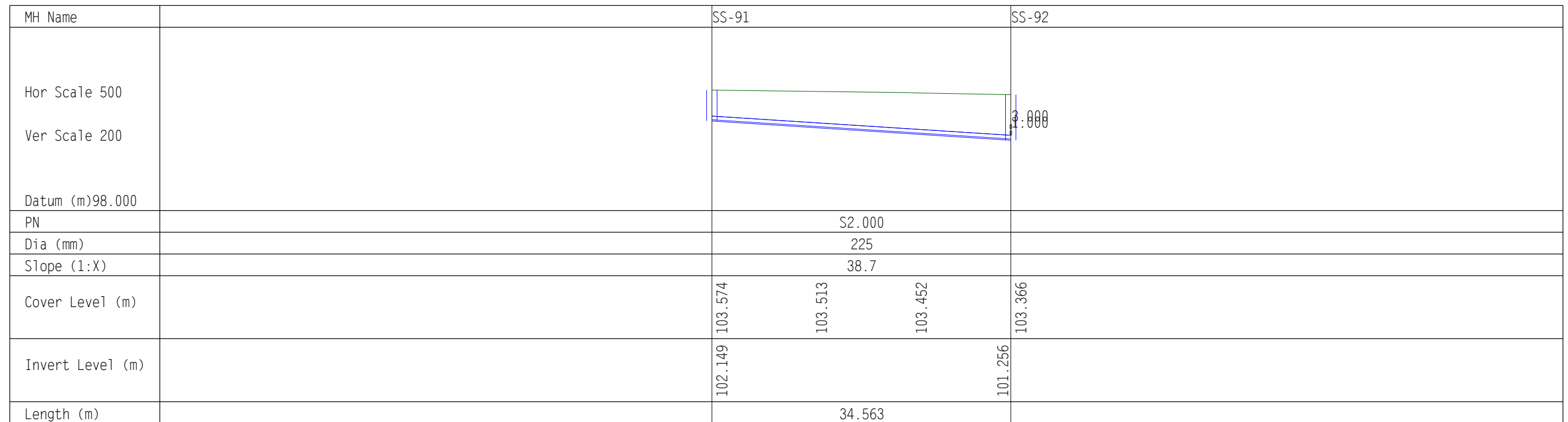
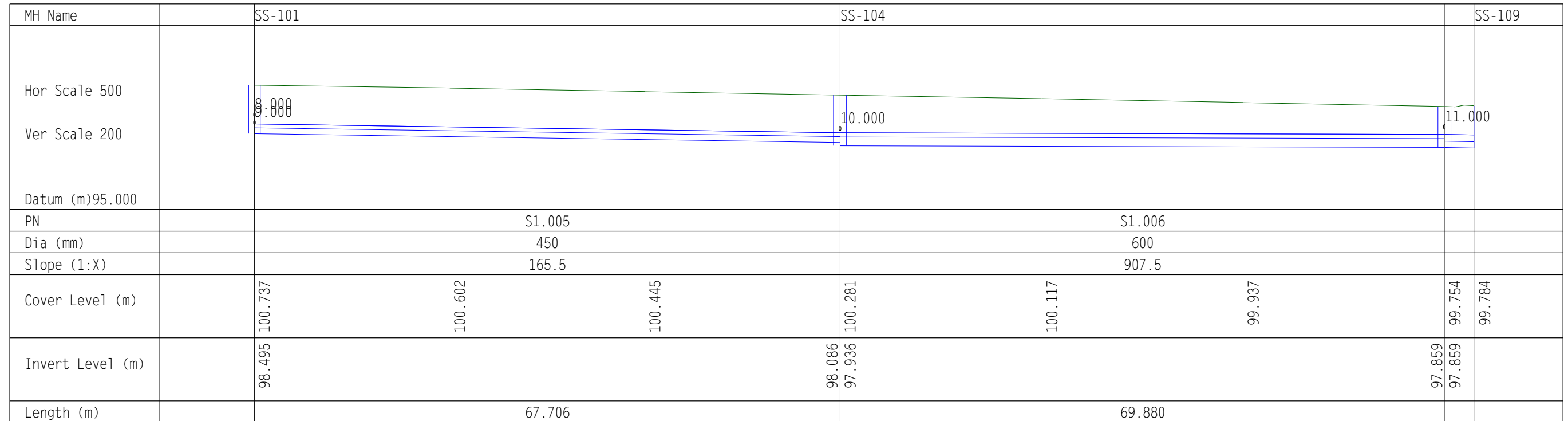


Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2



Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-93	SS-92
Hor Scale 500			
Ver Scale 200			
Datum (m)98.000			
PN		S3.000	
Dia (mm)		225	
Slope (1:X)		84.0	
Cover Level (m)		103.509 103.465 103.422	103.366
Invert Level (m)		102.069	101.772
Length (m)		24.961	

MH Name		SS-95	SS-94
Hor Scale 500			
Ver Scale 200			
Datum (m)97.000			
PN		S4.000	
Dia (mm)		225	
Slope (1:X)		51.0	
Cover Level (m)		102.591 102.464 102.338	102.173
Invert Level (m)		101.166	100.449
Length (m)		36.535	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-96	SS-94
Hor Scale 500			
Ver Scale 200			
Datum (m)97.000			
PN		S5.000	
Dia (mm)		225	
Slope (1:X)		58.3	
Cover Level (m)		102.300	102.173
Invert Level (m)		100.700	100.460
Length (m)		13.999	

MH Name		SS-100	SS-98
Hor Scale 500			
Ver Scale 200			
Datum (m)96.000			
PN		S6.000	
Dia (mm)		225	
Slope (1:X)		141.2	
Cover Level (m)		101.472	101.259
Invert Level (m)		100.047	99.891
Length (m)		22.025	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-99		SS-98	
Hor Scale 500					
Ver Scale 200					
Datum (m)	96.000				
PN	S7.000				
Dia (mm)	225				
Slope (1:X)	77.4				
Cover Level (m)		101.475	101.397	101.318	101.259
Invert Level (m)		99.913			99.372
Length (m)		41.852			

MH Name		SS-102		SS-101	
Hor Scale 500					
Ver Scale 200					
Datum (m)	96.000				
PN	S8.000				
Dia (mm)	225				
Slope (1:X)	155.7				
Cover Level (m)		101.005	100.916	100.826	100.737
Invert Level (m)		99.537			99.259
Length (m)		43.275			

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-103	SS-101
Hor Scale 500			
Ver Scale 200			
Datum (m)	95.000		
PN		S9.000	
Dia (mm)		225	
Slope (1:X)		121.0	
Cover Level (m)		100.394 100.502 100.691	100.737
Invert Level (m)		98.969 98.893	
Length (m)		9.194	

MH Name		SS-105	SS-104
Hor Scale 500			
Ver Scale 200			
Datum (m)	95.000		
PN		S10.000	
Dia (mm)		225	
Slope (1:X)		135.2	
Cover Level (m)		100.151 100.199 100.295	100.281
Invert Level (m)		98.726 98.619	
Length (m)		14.468	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 4
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-108	SS-106
Hor Scale 500			
Ver Scale 200			
Datum (m)95.000			
PN		S11.000	
Dia (mm)		225	
Slope (1:X)		225.0	
Cover Level (m)		99.650 99.672 99.769	99.754
Invert Level (m)		98.750	98.693
Length (m)		12.805	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 5

Doc No. WS-04

Prepared by:



December 2018

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Manhole Schedule - Storm 5
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R22.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

Manhole Schedules for Storm 5

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SS-115	104.005	1.425	Open Manhole	1200	S1.000	102.580	225				
SS-116	103.587	1.739	Open Manhole	1200	S1.001	101.848	225	S1.000	101.848	225	
SS-117	102.147	1.425	Open Manhole	1200	S1.002	100.722	225	S1.001	100.722	225	
SS-119	101.452	1.535	Open Manhole	1200	S2.000	99.917	225				
SS-118	101.190	1.622	Open Manhole	1200	S1.003	99.568	300	S1.002	99.643	225	
								S2.000	99.827	225	184
SS-120	100.820	1.610	Open Manhole	1200	S1.004	99.210	300	S1.003	99.210	300	
SS-121	100.322	1.593	Open Manhole	1200	S1.005	98.729	300	S1.004	98.729	300	
SS-122	99.809	1.632	Open Manhole	1200	S1.006	98.177	300	S1.005	98.177	300	
SS-123	99.800	1.776	Open Manhole	0		OUTFALL		S1.006	98.024	300	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 5
Dunshaughlin East SHD
Dunshaughlin, Co. Meath

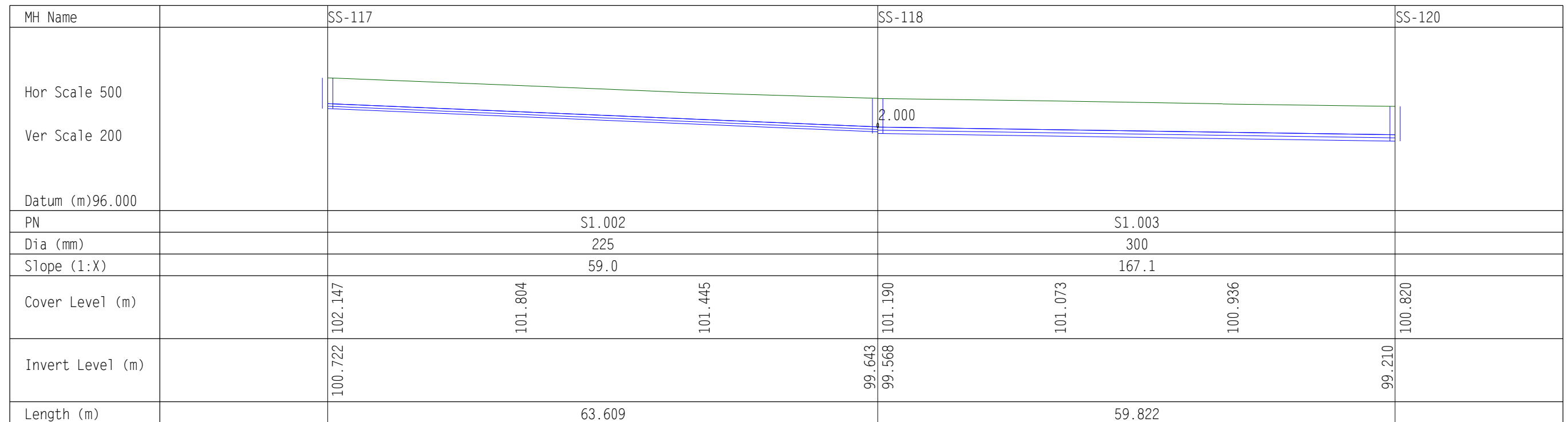
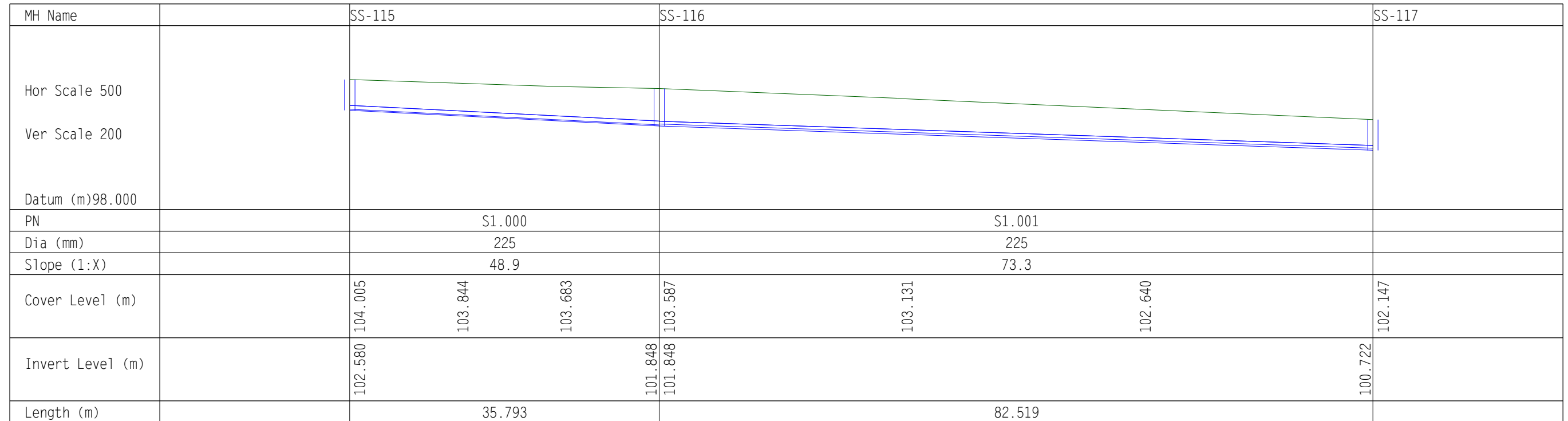


Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2



Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 5
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-120			SS-121
Hor Scale 500				
Ver Scale 200				
Datum (m)96.000				
PN	S1.004			
Dia (mm)	300			
Slope (1:X)	157.9			
Cover Level (m)	100.820	100.653	100.505	100.322
Invert Level (m)	99.210			98.729
Length (m)	75.937			

MH Name	SS-121	SS-122		SS-123
Hor Scale 500				
Ver Scale 200				
Datum (m)95.000				
PN	S1.005		S1.006	
Dia (mm)	300		300	
Slope (1:X)	139.7		137.0	
Cover Level (m)	100.322	100.151	99.979	99.800
Invert Level (m)	98.729		98.177	98.024
Length (m)	77.125		20.968	

Unit 1, St. Therese's Place
 Flowerhill, Navan
 Co. Meath

Long Section - Storm Network 5
 Dunshaughlin East SHD
 Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-119	SS-118
Hor Scale 500			
Ver Scale 200			
Datum (m)	96.000		
PN		S2.000	
Dia (mm)		225	
Slope (1:X)		225.0	
Cover Level (m)		101.452	101.190
Invert Level (m)		99.917	99.827
Length (m)		20.326	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 6

Doc No. WS-04

Prepared by:



December 2018

Manhole Schedules for Storm 6

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SS-125	101.003	2.085	Open Manhole	1200	S1.000	98.918	225				
SS-127	100.640	1.425	Open Manhole	1200	S2.000	99.215	225				
SS-126	101.134	2.973	Open Manhole	1200	S1.001	98.161	300	S1.000	98.236	225	586
								S2.000	98.822	225	
SS-128	100.406	2.616	Open Manhole	1350	S1.002	97.790	375	S1.001	97.865	300	
SS-134	99.793	2.304	Open Manhole	1350	S1.003	97.489	375	S1.002	97.489	375	
SS-130	100.061	1.425	Open Manhole	1200	S3.000	98.636	225				
SS-129	100.144	1.713	Open Manhole	1200	S3.001	98.432	300	S3.000	98.507	225	
SS-131	99.431	1.500	Open Manhole	1200	S3.002	97.931	300	S3.001	97.931	300	
SS-132	98.856	1.500	Open Manhole	1200	S3.003	97.356	300	S3.002	97.356	300	
SS-133	98.289	1.725	Open Manhole	1500	S1.004	96.564	525	S1.003	96.789	375	75
								S3.003	96.789	300	
SS-136	98.773	1.425	Open Manhole	1200	S4.000	97.348	225				
SS-135	99.000	2.498	Open Manhole	1500	S1.005	96.502	525	S1.004	96.502	525	504
								S4.000	97.306	225	
SS-200	104.271	1.425	Open Manhole	1200	S5.000	102.846	225				
SS-201	102.768	1.751	Open Manhole	1200	S5.001	101.017	225	S5.000	101.017	225	
SS-202	101.796	1.425	Open Manhole	1200	S5.002	100.371	225	S5.001	100.371	225	
SS-203	100.572	1.425	Open Manhole	1200	S5.003	99.147	225	S5.002	99.147	225	
SS-204	100.217	1.425	Open Manhole	1200	S5.004	98.792	225	S5.003	98.792	225	
SS-205	100.257	1.504	Open Manhole	1200	S5.005	98.752	225	S5.004	98.752	225	
SS-206	99.929	1.500	Open Manhole	1200	S5.006	98.429	300	S5.005	98.504	225	
SS-207	100.050	1.699	Open Manhole	1200	S5.007	98.351	300	S5.006	98.351	300	
SS-208	100.000	1.716	Open Manhole	1200	S5.008	98.284	300	S5.007	98.284	300	
SS-214	99.600	1.340	Open Manhole	1200	S6.000	98.260	225				
SS-209	99.600	1.510	Open Manhole	1200	S5.009	98.090	300	S5.008	98.100	300	10
								S6.000	98.165	225	
SS-210	99.418	1.575	Open Manhole	1350	S5.010	97.843	375	S5.009	97.918	300	
SS-211	98.998	1.575	Open Manhole	1350	S5.011	97.423	375	S5.010	97.423	375	
SS-212	98.225	1.575	Open Manhole	1350	S5.012	96.650	375	S5.011	96.650	375	
SS-213	98.073	1.729	Open Manhole	1500	S5.013	96.343	575	S5.012	96.543	375	
SS-138	98.500	2.218	Open Manhole	1500	S1.006	96.282	575	S1.005	96.463	525	131
								S5.013	96.282	575	
SS-137	98.000	1.740	Open Manhole	0		OUTFALL		S1.006	96.260	575	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 6
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-125		SS-126				SS-128
Hor Scale 500								
Ver Scale 200								
Datum (m)	95.000							
PN		S1.000				S1.001		
Dia (mm)		225				300		
Slope (1:X)		42.9				241.9		
Cover Level (m)		101.003	101.057	101.112	101.134	100.719	100.579	100.406
Invert Level (m)		98.918			98.236 98.161			97.865
Length (m)		29.277				71.490		

MH Name		SS-128						SS-134
Hor Scale 500								
Ver Scale 200								
Datum (m)	95.000							
PN		S1.002						
Dia (mm)		375						
Slope (1:X)		321.0						
Cover Level (m)		100.406		100.205		100.003		99.793
Invert Level (m)		97.790						97.489
Length (m)		96.665						

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 6
Dunshaughlin East SHD
Dunshaughlin, Co. Meath

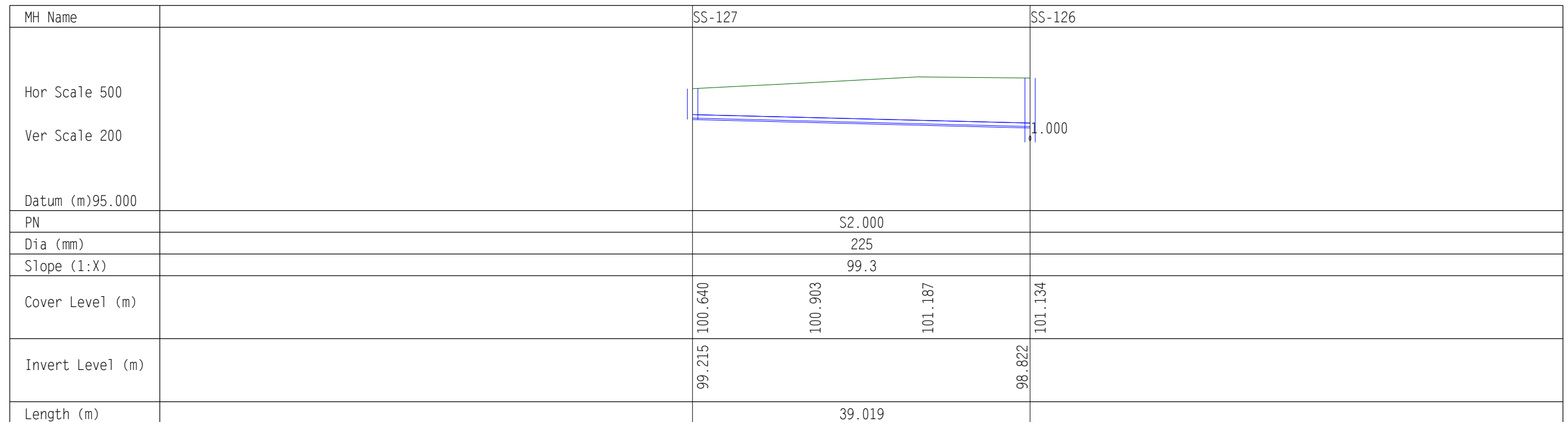
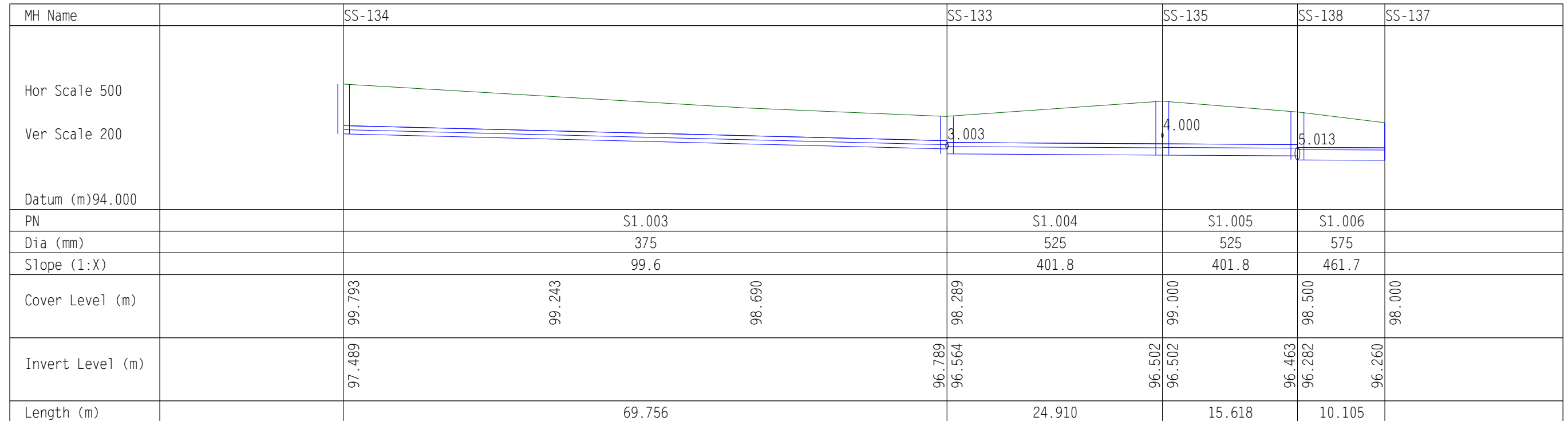
Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien



XP Solutions

Network 2017.1.2



Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 6
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-130	SS-129	SS-131	SS-132
Hor Scale 500					
Ver Scale 200					
Datum (m)	95.000				
PN		S3.000	S3.001	S3.002	
Dia (mm)		225	300	300	
Slope (1:X)		148.5	101.8	79.3	
Cover Level (m)		100.061 100.086 100.121	100.144 99.937 99.681	99.431 99.274 99.065	98.856
Invert Level (m)		98.636	98.507 98.432	97.931 97.931	97.356
Length (m)		19.128	50.968	45.613	

MH Name		SS-132	SS-133
Hor Scale 500			
Ver Scale 200			
Datum (m)	93.000		
PN		S3.003	
Dia (mm)		300	
Slope (1:X)		90.9	
Cover Level (m)		98.856 98.627 98.398	98.289
Invert Level (m)		97.356	96.789
Length (m)		51.474	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 6
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-136	SS-135
Hor Scale 500			
Ver Scale 200			
Datum (m)	94.000		
PN		S4.000	
Dia (mm)		225	
Slope (1:X)		168.2	
Cover Level (m)		98.773 98.753 98.684	99.000
Invert Level (m)		97.348 97.306	
Length (m)		6.932	

MH Name		SS-200	SS-201	SS-202
Hor Scale 500				
Ver Scale 200				
Datum (m)	98.000			
PN		S5.000	S5.001	
Dia (mm)		225	225	
Slope (1:X)		41.0	67.9	
Cover Level (m)		104.271 103.914 103.378	102.768 102.374 102.137	101.796
Invert Level (m)		102.846 101.017 101.017	101.017 101.017	100.371
Length (m)		75.007	43.887	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 6
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-202	SS-203	SS-204	SS-205	SS-206	SS-207	SS-208	SS-209	SS-210	
Hor Scale 500										
Ver Scale 200										
Datum (m)	96.000									
PN	S5.002		S5.003		S5.004		S5.005		S5.006	
Dia (mm)	225		225		225		300		300	
Slope (1:X)	35.8		51.1		167.4		74.8		241.9	
Cover Level (m)	101.796	100.572	100.447	100.329	100.217	100.165	100.274	100.257	100.146	100.042
Invert Level (m)	100.371	99.147	99.147	98.792	98.792	98.752	98.752	98.504	98.429	98.351
Length (m)	43.852		18.129		6.593		18.588		18.734	

MH Name	SS-210	SS-211	SS-212
Hor Scale 500			
Ver Scale 200			
Datum (m)	94.000		
PN	S5.010		S5.011
Dia (mm)	375		375
Slope (1:X)	117.3		116.0
Cover Level (m)	99.418	99.278	99.138
Invert Level (m)	97.843	97.423	97.423
Length (m)	49.264		89.687

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 6
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-212	SS-213	SS-138
Hor Scale 500			
Ver Scale 200			
Datum (m)93.000			
PN	S5.012	S5.013	
Dia (mm)	375	575	
Slope (1:X)	167.0	265.8	
Cover Level (m)	98.225 98.174 98.123	98.073	98.500
Invert Level (m)	96.650	96.543 96.343	96.282
Length (m)	17.835	16.211	

MH Name	SS-214	SS-209
Hor Scale 500		
Ver Scale 200		
Datum (m)95.000		
PN	S6.000	
Dia (mm)	225	
Slope (1:X)	225.0	
Cover Level (m)	99.600	99.600
Invert Level (m)	98.260	98.165
Length (m)	21.451	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 7

Doc No. WS-04

Prepared by:



December 2018

Manhole Schedules for Storm 7

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out		Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	
SS-145	99.550	1.350	Open Manhole	1200	S1.000	98.200	225			
SS-146	99.509	1.456	Open Manhole	1200	S1.001	98.053	225	S1.000	98.053	225
SS-147	99.213	1.643	Open Manhole	1200	S1.002	97.570	225	S1.001	97.570	225
SS-148	99.165	1.461	Open Manhole	1200	S2.000	97.704	225			
SS-149	99.048	1.750	Open Manhole	1200	S1.003	97.298	300	S1.002	97.373	225
								S2.000	97.490	225
SS-150	98.916	1.746	Open Manhole	1200	S1.004	97.170	300	S1.003	97.170	300
SS-151	98.785	1.786	Open Manhole	1200	S1.005	96.999	300	S1.004	96.999	300
SS-158	98.749	1.425	Open Manhole	1200	S3.000	97.324	225			
SS-152	98.675	1.447	Open Manhole	1200	S3.001	97.228	225	S3.000	97.228	225
SS-153	98.624	1.812	Open Manhole	1350	S1.006	96.812	375	S1.005	96.887	300
								S3.001	97.168	225
SS-154	98.935	2.359	Open Manhole	1350	S1.007	96.576	375	S1.006	96.576	375
SS-140	99.527	1.527	Open Manhole	1200	S4.000	98.000	225			
SS-143	99.201	1.518	Open Manhole	1200	S5.000	97.683	225			
SS-144	99.190	1.587	Open Manhole	1200	S5.001	97.603	225	S5.000	97.603	225
SS-141	99.126	2.074	Open Manhole	1200	S4.001	97.052	300	S4.000	97.283	225
								S5.001	97.127	225
SS-142	98.731	1.989	Open Manhole	1200	S4.002	96.742	300	S4.001	96.742	300
SS-155	98.404	2.085	Open Manhole	1350	S1.008	96.319	450	S1.007	96.399	375
								S4.002	96.469	300
SS-156	98.000	1.711	Open Manhole	1350	S1.009	96.289	450	S1.008	96.289	450
SS-157	98.000	1.741	Open Manhole	0		OUTFALL		S1.009	96.259	450

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 7
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-145			SS-146			SS-147			SS-149			SS-150			SS-151
Hor Scale 500																
Ver Scale 200																
Datum (m)	94.000															
PN	S1.000			S1.001			S1.002			S1.003			S1.004			
Dia (mm)	225			225			225			300			300			
Slope (1:X)	149.0			95.9			168.3			168.0			142.8			
Cover Level (m)	99.550	99.419	99.533	99.509	99.390	99.304	99.213	99.180	99.105	99.048	98.988	98.940	98.916	98.867	98.820	98.785
Invert Level (m)	98.200			98.053	98.053		97.570	97.570		97.373	97.298		97.170	97.170		96.999
Length (m)	21.902			46.297			33.161			21.508			24.411			

MH Name	SS-151			SS-153			SS-154			SS-155	SS-156	S157			
Hor Scale 500															
Ver Scale 200															
Datum (m)	93.000														
PN	S1.005			S1.006			S1.007			S1.008	S1.009				
Dia (mm)	300			375			375			450	450				
Slope (1:X)	242.6			241.8			219.6			292.7	310.3				
Cover Level (m)	98.785	98.726	98.669	98.624	98.745	98.840	98.935	98.935	98.404	98.000	98.000				
Invert Level (m)	96.999			96.887	96.812		96.576	96.576		96.399	96.319	96.289	96.289	96.259	
Length (m)	27.170			57.066			38.878			8.782	9.310				

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 7
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-148		SS-149
Hor Scale 500				
Ver Scale 200				
Datum (m)94.000				
PN		S2.000		
Dia (mm)		225		
Slope (1:X)		110.1		
Cover Level (m)		99.165	99.116	99.066
Invert Level (m)		97.704		97.490
Length (m)		23.568		

MH Name		SS-158	SS-152	SS-153
Hor Scale 500				
Ver Scale 200				
Datum (m)94.000				
PN		S3.000		S3.001
Dia (mm)		225		225
Slope (1:X)		150.5		149.1
Cover Level (m)		98.749	98.726	98.703
Invert Level (m)		97.324	97.228	97.168
Length (m)		14.447	8.946	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 7
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-140		SS-141		SS-142
Hor Scale 500						
Ver Scale 200						
Datum (m)	94.000					
PN		S4.000		S4.001		
Dia (mm)		225		300		
Slope (1:X)		115.1		167.6		
Cover Level (m)		99.527	99.393	99.259	99.126	98.995
Invert Level (m)		98.000		97.283	97.052	96.742
Length (m)		82.503			51.951	

MH Name		SS-142		SS-155
Hor Scale 500				
Ver Scale 200				
Datum (m)	93.000			
PN		S4.002		
Dia (mm)		300		
Slope (1:X)		134.3		
Cover Level (m)		98.731	98.622	98.513
Invert Level (m)		96.742		96.469
Length (m)		36.670		

Unit 1, St. Therese's Place
 Flowerhill, Navan
 Co. Meath

Long Section - Storm Network 7
 Dunshaughlin East SHD
 Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-143	SS-144	SS-141
Hor Scale 500				
Ver Scale 200				4.000
Datum (m)94.000				
PN		S5.000	S5.001	
Dia (mm)		225	225	
Slope (1:X)		150.4	100.3	
Cover Level (m)		99.201 99.197 99.193	99.190 99.163 99.136	99.126
Invert Level (m)		97.683	97.603 97.603	97.127
Length (m)		12.031	47.766	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD


Storm Network 8

Doc No. WS-04

Prepared by:



December 2018

JO'Reilly Consulting Engineers Ltd		Page 1
Unit 1, St. Therese's Place Flowerhill, Navan Co. Meath	Manhole Schedule - Storm 8 Dunshaughlin East SHD Dunshaughlin, Co. Meath	
Date 13/12/2018 File Dunshaughlin SHD R22.mdx	Designed by JOR Engineering Checked by D O'Brien	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Storm 8

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
SS-160	101.254	2.254	Open Manhole	1200	S1.000	99.000	225				
SS-161	100.612	1.949	Open Manhole	1200	S1.001	98.663	225	S1.000	98.663	225	
SS-162	100.137	1.807	Open Manhole	1200	S1.002	98.330	225	S1.001	98.330	225	
SS-163	99.894	1.425	Open Manhole	1200	S2.000	98.469	225				
SS-164	99.835	1.417	Open Manhole	1200	S2.001	98.417	225	S2.000	98.417	225	
SS-165	99.972	1.421	Open Manhole	1200	S3.000	98.551	225				
SS-166	99.817	1.453	Open Manhole	1200	S2.002	98.364	225	S2.001	98.364	225	
								S3.000	98.380	225	16
SS-167	99.570	0.975	Open Manhole	1200	S4.000	98.595	225				
SS-168	99.711	1.421	Open Manhole	1200	S2.003	98.290	225	S2.002	98.290	225	
								S4.000	98.483	225	193
SS-169	99.621	1.389	Open Manhole	1200	S2.004	98.231	300	S2.003	98.231	225	
SS-170	99.547	1.402	Open Manhole	1200	S1.003	98.144	300	S1.002	98.154	225	
								S2.004	98.144	300	
SS-171	99.663	1.624	Open Manhole	0		OUTFALL		S1.003	98.039	300	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 8
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-160			SS-161			SS-162
Hor Scale 500							
Ver Scale 200							
Datum (m)	96.000						
PN	S1.000			S1.001			
Dia (mm)	225			225			
Slope (1:X)	225.1			167.9			
Cover Level (m)	101.254	101.041	100.828	100.612	100.478	100.319	100.137
Invert Level (m)	99.000			98.663	98.663		98.330
Length (m)	75.843			55.899			

MH Name	SS-162			SS-170	SS-171	
Hor Scale 500						
Ver Scale 200						
Datum (m)	95.000					
PN	S1.002			S1.003		
Dia (mm)	225			300		
Slope (1:X)	167.9			110.3		
Cover Level (m)	100.137	100.081	99.822	99.547	99.528	99.519
Invert Level (m)	98.330			98.154	98.144	98.039
Length (m)	29.551			11.582		

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 8
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

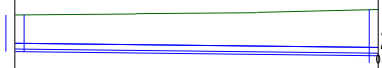
Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-163	SS-164	SS-166	SS-168	SS-169	SS-170
Hor Scale 500						
Ver Scale 200						
Datum (m)95.000						
PN	S2.000	S2.001	S2.002	S2.003	S2.004	
Dia (mm)	225	225	225	225	300	
Slope (1:X)	225.0	153.7	243.2	216.4	225.9	
Cover Level (m)	99.894 99.864 99.834	99.835 99.809 99.763	99.817 99.751 99.764	99.711 99.757 99.673	99.621 99.599 99.564	99.547
Invert Level (m)	98.469	98.417 98.417	98.364 98.364	98.290 98.290	98.231 98.231	98.144
Length (m)	11.603	8.148	17.995	12.770	19.652	

MH Name	SS-165	SS-166
Hor Scale 500		
Ver Scale 200		
Datum (m)95.000		
PN	S3.000	
Dia (mm)	225	
Slope (1:X)	143.2	
Cover Level (m)	99.972 99.907 99.839	99.817
Invert Level (m)	98.551 98.380	
Length (m)	24.495	

MH Name	SS-167	SS-168
Hor Scale 500		
Ver Scale 200		
Datum (m)95.000		
PN	S4.000	
Dia (mm)	225	
Slope (1:X)	214.7	
Cover Level (m)	99.570	99.711
Invert Level (m)	98.595	98.483
Length (m)	24.043	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD

Storm Network 9

Doc No. WS-04

Prepared by:



December 2018

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Manhole Schedule - Storm 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R22.mdx


Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

Manhole Schedules for Storm 9

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SS-1	104.168	1.350	Open Manhole	1200	S1.000	102.818	225				
SS-2	103.957	1.750	Open Manhole	1200	S1.001	102.207	225	S1.000	102.207	225	
SS-3	103.069	1.350	Open Manhole	1200	S1.002	101.719	225	S1.001	101.719	225	
SS-4	101.754	1.355	Open Manhole	1200	S1.003	100.399	300	S1.002	100.474	225	
SS-5	101.396	1.488	Open Manhole	1200	S1.004	99.908	300	S1.003	99.908	300	
SS-7	103.957	1.607	Open Manhole	1200	S2.000	102.350	225				
SS-9	104.021	1.449	Open Manhole	1200	S3.000	102.572	225				
SS-8	104.293	2.161	Open Manhole	1200	S2.001	102.132	225	S2.000	102.132	225	
								S3.000	102.456	225	324
SS-11	104.185	1.425	Open Manhole	1200	S4.000	102.760	225				
SS-10	104.077	2.233	Open Manhole	1200	S2.002	101.844	300	S2.001	101.919	225	
								S4.000	102.255	225	336
SS-13	102.672	1.468	Open Manhole	1200	S5.000	101.204	225				
SS-12	102.851	1.942	Open Manhole	1200	S2.003	100.909	300	S2.002	101.408	300	499
								S5.000	100.984	225	
SS-23	103.611	1.475	Open Manhole	1200	S6.000	102.136	225				
SS-25	103.428	1.425	Open Manhole	1200	S7.000	102.003	225				
SS-24	103.224	1.515	Open Manhole	1200	S6.001	101.709	225	S6.000	101.709	225	
								S7.000	101.903	225	194
SS-30	103.805	1.444	Open Manhole	1200	S8.000	102.361	225				
SS-31	103.021	1.515	Open Manhole	1200	S8.001	101.506	300	S8.000	101.581	225	
SS-33	104.522	1.562	Open Manhole	1200	S9.000	102.960	225				
SS-34	103.695	1.974	Open Manhole	1200	S9.001	101.721	225	S9.000	101.721	225	
SS-35	102.264	1.425	Open Manhole	1200	S9.002	100.839	225	S9.001	100.839	225	
SS-32	103.000	2.303	Open Manhole	1200	S8.002	100.697	300	S8.001	101.232	300	535
								S9.002	100.772	225	
SS-26	102.120	1.677	Open Manhole	1350	S6.002	100.443	375	S6.001	100.770	225	177
								S8.002	100.518	300	
SS-27	102.150	1.928	Open Manhole	1350	S6.003	100.222	375	S6.002	100.222	375	
SS-15	103.906	1.453	Open Manhole	1200	S10.000	102.453	225				
SS-16	103.494	1.277	Open Manhole	1200	S10.001	102.217	225	S10.000	102.217	225	
SS-18	103.569	1.425	Open Manhole	1200	S11.000	102.144	225				
SS-17	103.447	1.681	Open Manhole	1200	S10.002	101.766	300	S10.001	102.010	225	169
								S11.000	101.841	225	
SS-20	103.300	1.425	Open Manhole	1200	S12.000	101.875	225				
SS-19	103.244	1.691	Open Manhole	1350	S10.003	101.553	375	S10.002	101.628	300	
								S12.000	101.719	225	16
SS-22	102.712	1.425	Open Manhole	1200	S13.000	101.287	225				

JO'Reilly Consulting Engineers Ltd		Page 2
Unit 1, St. Therese's Place Flowerhill, Navan Co. Meath	Manhole Schedule - Storm 9 Dunshaughlin East SHD Dunshaughlin, Co. Meath	
Date 13/12/2018 File Dunshaughlin SHD R22.mdx	Designed by JOR Engineering Checked by D O'Brien	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Storm 9

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 In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SS-21	102.829	1.811	Open Manhole	1350	S10.004	101.018	375	S10.003	101.422	375	404
								S13.000	101.168	225	
SS-28	101.577	1.795	Open Manhole	1500	S6.004	99.782	525	S6.003	99.932	375	
								S10.004	99.954	375	22
SS-29	102.100	2.356	Open Manhole	1500	S6.005	99.744	525	S6.004	99.744	525	
SS-14	102.000	2.470	Open Manhole	1500	S2.004	99.530	600	S2.003	100.575	300	745
								S6.005	99.605	525	
SS-6	101.710	2.209	Open Manhole	1500	S1.005	99.501	600	S1.004	99.801	300	
								S2.004	99.503	600	2
SS-Outfall	100.994	1.560	Open Manhole	0		OUTFALL		S1.005	99.434	600	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-1			SS-2			SS-3
Hor Scale 500							
Ver Scale 200							
Datum (m)99.000							
PN	S1.000			S1.001			
Dia (mm)	225			225			
Slope (1:X)	99.2			121.3			
Cover Level (m)	104.168	104.179	104.109	103.957	103.740	103.444	103.069
Invert Level (m)	102.818			102.207	102.207		101.719
Length (m)	60.619			59.199			

MH Name	SS-3			SS-4			SS-5	SS-Outfall
Hor Scale 500								
Ver Scale 200								
Datum (m)97.000								
PN	S1.002			S1.003			S1.004	
Dia (mm)	225			300			300	
Slope (1:X)	44.5			132.1			124.1	
Cover Level (m)	103.069	102.655	102.218	101.754	101.541	101.383	101.396	101.516
Invert Level (m)	101.719			100.474	100.399		99.908	99.801
Length (m)	55.420			64.841			13.274	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-7			SS-8			SS-10			SS-12
Hor Scale 500										
Ver Scale 200										
Datum (m)	98.000									
PN	S2.000			S2.001			S2.002			
Dia (mm)	225			225			300			
Slope (1:X)	142.6			174.7			126.3			
Cover Level (m)	103.957	104.122	104.234	104.293	104.296	104.225	104.077	103.724	103.288	102.851
Invert Level (m)	102.350			102.132	102.132		101.919	101.844		101.408
Length (m)	31.085			37.216			55.072			

MH Name	SS-12			SS-14	SS-6	
Hor Scale 500						
Ver Scale 200						
Datum (m)	97.000					
PN	S2.003			S2.004		
Dia (mm)	300			600		
Slope (1:X)	103.2			497.5		
Cover Level (m)	102.851	102.582	102.312	102.000	101.931	101.820
Invert Level (m)	100.909			100.575	99.530	99.503
Length (m)	34.471			13.433		

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-9	SS-8
Hor Scale 500		
Ver Scale 200	2.000	
Datum (m)99.000		
PN	S3.000	
Dia (mm)	225	
Slope (1:X)	222.0	
Cover Level (m)	104.021 104.117 104.216	104.293
Invert Level (m)	102.572	102.456
Length (m)	25.755	

MH Name	SS-11	SS-10
Hor Scale 500		
Ver Scale 200	2.001	
Datum (m)99.000		
PN	S4.000	
Dia (mm)	225	
Slope (1:X)	108.6	
Cover Level (m)	104.185 104.472 104.301	104.077
Invert Level (m)	102.760	102.255
Length (m)	54.845	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-13	SS-12
Hor Scale 500			
Ver Scale 200			
Datum (m)98.000			
PN		S5.000	
Dia (mm)		225	
Slope (1:X)		151.3	
Cover Level (m)		102.672	102.851
Invert Level (m)		101.204	100.984
Length (m)		33.276	

MH Name		SS-23	SS-24	SS-26
Hor Scale 500				
Ver Scale 200				
Datum (m)98.000				
PN		S6.000	S6.001	
Dia (mm)		225	225	
Slope (1:X)		86.8	84.2	
Cover Level (m)		103.611	103.224	102.120
Invert Level (m)		102.136	101.709	100.770
Length (m)		37.067	79.103	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath

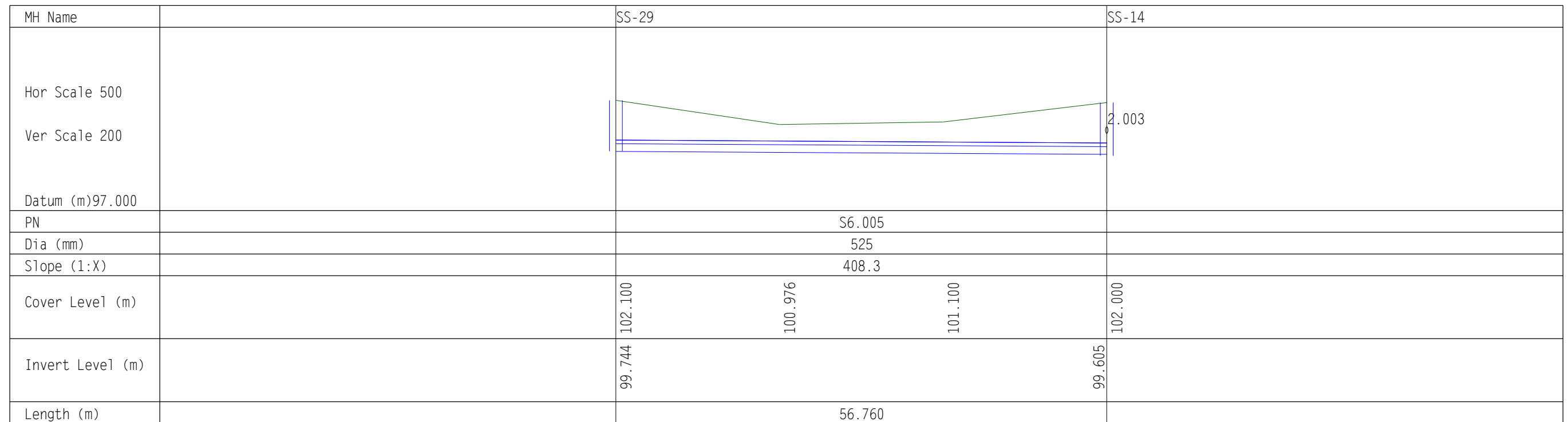
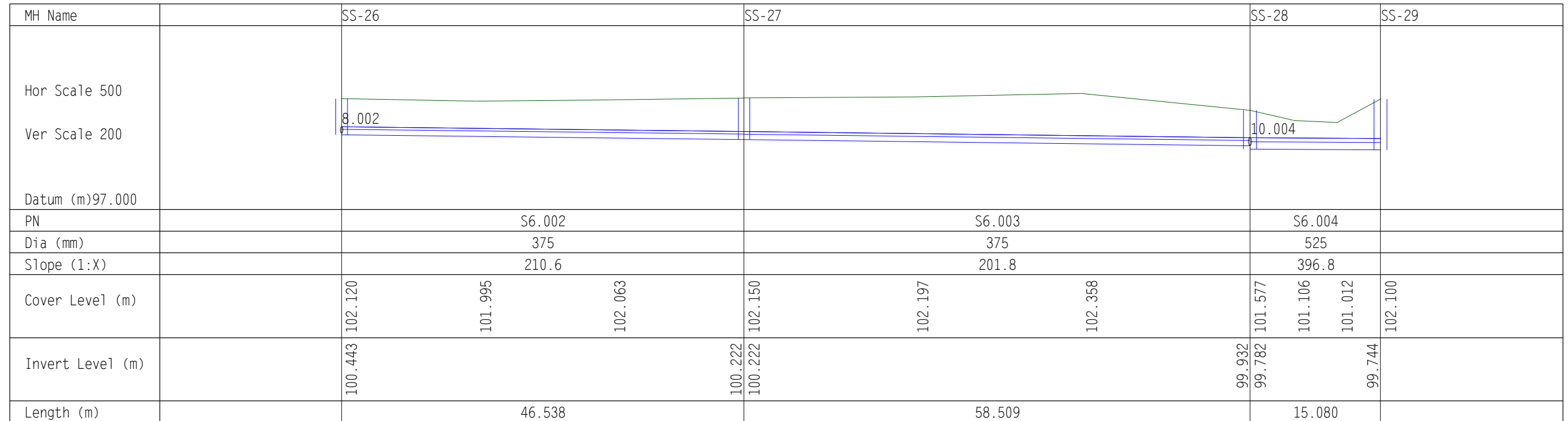


Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2



Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-25	SS-24
Hor Scale 500			
Ver Scale 200			
Datum (m)98.000			
PN		S7.000	
Dia (mm)		225	
Slope (1:X)		209.9	
Cover Level (m)		103.428 103.354 103.280	103.224
Invert Level (m)		102.003	101.903
Length (m)		20.892	

MH Name		SS-30	SS-31	SS-32
Hor Scale 500				
Ver Scale 200				
Datum (m)98.000				
PN		S8.000		S8.001
Dia (mm)		225		300
Slope (1:X)		63.4		242.6
Cover Level (m)		103.805 103.544 103.282	103.021 102.651 102.269	103.000
Invert Level (m)		102.361	101.581 101.506	101.232
Length (m)		49.437	66.486	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-32		SS-26
Hor Scale 500				
Ver Scale 200				
Datum (m)	97.000			
PN		S8.002		
Dia (mm)		300		
Slope (1:X)		236.2		
Cover Level (m)		103.000	101.318	101.444
Invert Level (m)		100.697		100.518
Length (m)		42.282		

MH Name		SS-33		SS-34		SS-35		SS-32
Hor Scale 500								
Ver Scale 200								
Datum (m)	98.000							
PN		S9.000		S9.001		S9.002		
Dia (mm)		225		225		225		
Slope (1:X)		58.5		65.4		167.2		
Cover Level (m)		104.522	104.418	104.137	103.695	103.240	102.752	102.264
Invert Level (m)		102.960			101.721	101.721		100.839
Length (m)		72.490			57.676			11.204

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath

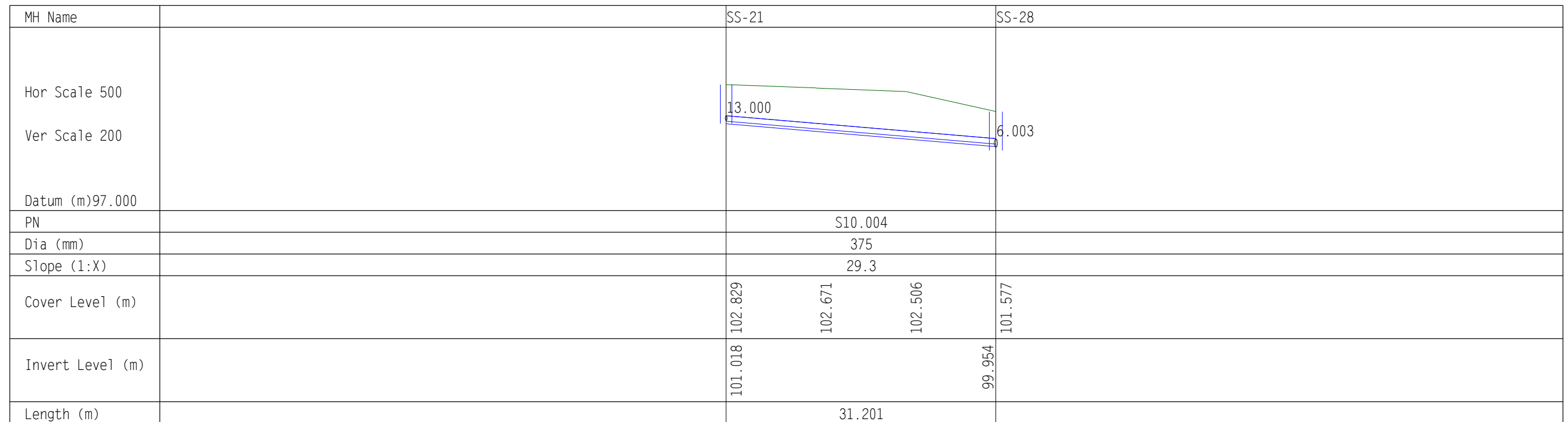
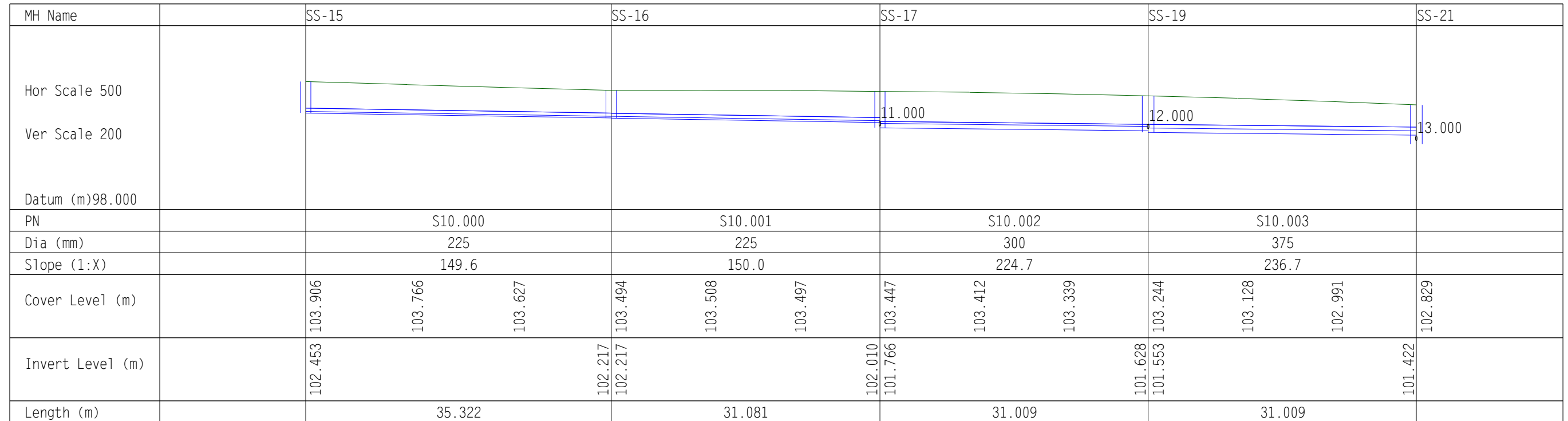


Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2



Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-18		SS-17
Hor Scale 500				
Ver Scale 200				
Datum (m)	98.000			
PN	S11.000			
Dia (mm)	225			
Slope (1:X)	224.8			
Cover Level (m)	103.569	103.711	103.599	103.447
Invert Level (m)	102.144			101.841
Length (m)	68.120			

MH Name		SS-20		SS-19
Hor Scale 500				
Ver Scale 200				
Datum (m)	98.000			
PN	S12.000			
Dia (mm)	225			
Slope (1:X)	225.3			
Cover Level (m)		103.300		103.244
Invert Level (m)		101.875		101.719
Length (m)	35.150			

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network 9
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-22	SS-21
Hor Scale 500		
Ver Scale 200		
Datum (m)98.000		
PN	S13.000	
Dia (mm)	225	
Slope (1:X)	224.4	
Cover Level (m)	102.712 102.756 102.800	102.829
Invert Level (m)	101.287	101.168
Length (m)	26.708	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD


Storm Network 10

Doc No. WS-04

Prepared by:



December 2018

JO'Reilly Consulting Engineers Ltd		Page 1
Unit 1, St. Therese's Place Flowerhill, Navan Co. Meath	Manhole Schedule - Storm 10 Dunshaughlin East SHD Dunshaughlin, Co. Meath	
Date 13/12/2018 File Dunshaughlin SHD R22.mdx	Designed by JOR Engineering Checked by D O'Brien	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Storm 10

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out		Pipes In		Backdrop (mm)	
					PN	Invert Level (m)	Diameter (mm)	PN		Invert Level (m)
SS-176	99.111	1.502	Open Manhole	1200	S1.000	97.609	225			
SS-177	99.424	2.102	Open Manhole	1200	S1.001	97.322	300	S1.000	97.397	225
SS-178	99.627	2.546	Open Manhole	1200	S1.002	97.081	300	S1.001	97.081	300
SS-179	99.404	2.364	Open Manhole	1200	S1.003	97.040	300	S1.002	97.040	300
SS-180	99.404	2.457	Open Manhole	0		OUTFALL		S1.003	96.947	300

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Storm Network10
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-176	SS-177	SS-178	SS-179	SS-180
Hor Scale 500					
Ver Scale 200					
Datum (m)	94.000				
PN	S1.000		S1.001		S1.002
Dia (mm)	225		300		300
Slope (1:X)	224.5		223.2		376.3
Cover Level (m)	99.111	99.188	99.266	99.424	99.435
Invert Level (m)	97.609	97.397	97.322	97.081	97.081
Length (m)	47.597		53.802		13.060

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD


Attenuation System 1

Doc No. WS-04

Prepared by:



December 2018

JO'Reilly Consulting Engineers Ltd		Page 1
Unit 1, St. Therese's Place Flowerhill, Navan Co. Meath	MH Schedule - Attenuation 1 Dunshaughlin East SHD Dunshaughlin, Co. Meath	
Date 13/12/2018 File Dunshaughlin SHD R23.mdx	Designed by JOR Engineering Checked by D O'Brien	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Attenuation System 1

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 In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SS-197	102.000	2.950	Open Manhole	1500	S1.000	99.050	600				
S198	102.000	2.989	Open Manhole	1500	S1.001	99.011	600	S1.000	99.011	600	
SS-Outfall 1	101.429	2.502	Open Manhole	0		OUTFALL		S1.001	98.927	600	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Attenuation 1
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-197	S198	SS-Outfall 1
Hor Scale 500				
Ver Scale 200				
Datum (m)96.000				
PN		S1.000	S1.001	
Dia (mm)		600	600	
Slope (1:X)		223.8	224.6	
Cover Level (m)		102.000 100.551 100.579	102.000 100.880 101.103	101.429
Invert Level (m)		99.050 99.011	99.011	98.927
Length (m)		8.728	18.867	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD


Attenuation System 2

Doc No. WS-04

Prepared by:



December 2018

JO'Reilly Consulting Engineers Ltd		Page 1
Unit 1, St. Therese's Place Flowerhill, Navan Co. Meath	MH Schedule - Attenuation 2 Dunshaughlin East SHD Dunshaughlin, Co. Meath	
Date 13/12/2018 File Dunshaughlin SHD R23.mdx	Designed by JOR Engineering Checked by D O'Brien	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Attenuation System 2

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 In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SS-190	99.850	2.250	Open Manhole	1350	S1.000	97.600	375				
SS-191	98.700	1.225	Open Manhole	1350	S1.001	97.475	375	S1.000	97.475	375	
SS-192	97.900	0.875	Open Manhole	1350	S1.002	97.025	375	S1.001	97.025	375	
SS-OUTFALL 2	97.828	0.860	Open Manhole	0		OUTFALL		S1.002	96.968	375	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Attenuation 2
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-190		SS-191
Hor Scale 600				
Ver Scale 200				
Datum (m)94.000				
PN			S1.000	
Dia (mm)			375	
Slope (1:X)			375.4	
Cover Level (m)		99.850	99.419	99.752
Invert Level (m)		97.600		97.475
Length (m)			46.931	

MH Name		SS-191		SS-192
Hor Scale 600				
Ver Scale 200				
Datum (m)94.000				
PN			S1.001	
Dia (mm)			375	
Slope (1:X)			374.6	
Cover Level (m)		98.700		97.900
Invert Level (m)		97.475		97.025
Length (m)			168.566	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - Attenuation 2
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-192	SS-OUTFALL 2
Hor Scale 600			
Ver Scale 200			
Datum (m)93.000			
PN		S1.002	
Dia (mm)		375	
Slope (1:X)		374.3	
Cover Level (m)		97.900 97.916 97.778	97.828
Invert Level (m)		97.025	96.968
Length (m)		21.334	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD


Attenuation System 3

Doc No. WS-04

Prepared by:



December 2018

JO'Reilly Consulting Engineers Ltd		Page 1
Unit 1, St. Therese's Place Flowerhill, Navan Co. Meath	MH Schedule - Attenuation 3 Dunshaughlin East SHD Dunshaughlin, Co. Meath	
Date 13/12/2018 File Dunshaughlin SHD R23.mdx	Designed by JOR Engineering Checked by D O'Brien	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Attenuation System 3

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 In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SS-195	98.000	1.900	Open Manhole	1500	S1.000	96.100	525				
SS-196	97.900	1.849	Open Manhole	1500	S1.001	96.051	525	S1.000	96.051	525	
SS-Outfall 2	97.823	1.824	Open Manhole	0		OUTFALL		S1.001	95.999	525	

Unit 1, St. Therese's Place
 Flowerhill, Navan
 Co. Meath

Long Section - Attenuation 3
 Dunshaughlin East SHD
 Dunshaughlin, Co. Meath



Date 13/12/2018

Designed by JOR Engineering

File Dunshaughlin SHD R23.mdx

Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-195	SS-196	SS-Outfall 2
Hor Scale 600				
Ver Scale 200				
Datum (m)93.000				
PN		S1.000	S1.001	
Dia (mm)		525	525	
Slope (1:X)		249.7	346.7	
Cover Level (m)		98.000	97.900 97.865 97.750	97.823
Invert Level (m)		96.100	96.051 96.051	95.999
Length (m)		12.236	18.030	

Surface Water Manhole Schedules & Longsections

Dunshaughlin East SHD


Business Park 600mm Culvert

Doc No. WS-04

Prepared by:



December 2018

JO'Reilly Consulting Engineers Ltd		Page 1
Unit 1, St. Therese's Place Flowerhill, Navan Co. Meath	MH Schedule - 600mm Culvert Dunshaughlin East SHD Dunshaughlin, Co. Meath	
Date 13/12/2018 File Dunshaughlin SHD R23.mdx	Designed by JOR Engineering Checked by D O'Brien	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Business Flow 600mm Culvert

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out		PN	Pipes In		Backdrop (mm)
						Invert Level (m)	Diameter (mm)		Invert Level (m)	Diameter (mm)	
SS-220	101.578	2.226	Open Manhole	1500	S1.000	99.352	600				
SS-221	101.714	2.539	Open Manhole	1500	S1.001	99.175	600	S1.000	99.175	600	
SS-222	100.658	2.011	Open Manhole	1500	S1.002	98.647	600	S1.001	98.647	600	
SS-223	99.700	1.642	Open Manhole	1500	S1.003	98.058	600	S1.002	98.058	600	
SS-225	98.000	0.902	Open Manhole	1500	S1.004	97.098	600	S1.003	97.098	600	
SS-Outfall No. 2	97.824	1.271	Open Manhole	0		OUTFALL		S1.004	96.553	600	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - 600mm Culvert
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name	SS-220	SS-221	SS-222
Hor Scale 600			
Ver Scale 200			
Datum (m)96.000			
PN	S1.000	S1.001	
Dia (mm)	600	600	
Slope (1:X)	149.8	179.1	
Cover Level (m)	101.578 101.559 101.695	101.714 101.203	100.918 100.658
Invert Level (m)	99.352	99.175 99.175	98.647
Length (m)	26.517	94.577	

MH Name	SS-222	SS-223
Hor Scale 600		
Ver Scale 200		
Datum (m)95.000		
PN	S1.002	
Dia (mm)	600	
Slope (1:X)	299.8	
Cover Level (m)	100.658 100.183	99.472 99.700
Invert Level (m)	98.647	98.058
Length (m)	176.595	

Unit 1, St. Therese's Place
Flowerhill, Navan
Co. Meath

Long Section - 600mm Culvert
Dunshaughlin East SHD
Dunshaughlin, Co. Meath



Date 13/12/2018
File Dunshaughlin SHD R23.mdx

Designed by JOR Engineering
Checked by D O'Brien

XP Solutions

Network 2017.1.2

MH Name		SS-223		SS-225
Hor Scale 600				
Ver Scale 200				
Datum (m)	94.000			
PN			S1.003	
Dia (mm)			600	
Slope (1:X)			174.0	
Cover Level (m)		99.700		98.000
Invert Level (m)		98.058		97.098
Length (m)			167.026	

MH Name		SS-225	SS-Outfall No. 2
Hor Scale 600			
Ver Scale 200			
Datum (m)	93.000		
PN		S1.004	
Dia (mm)		600	
Slope (1:X)		45.7	
Cover Level (m)		98.000	97.824
Invert Level (m)		97.098	96.553
Length (m)		24.881	