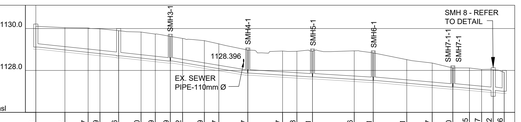
Sewer SMH 1 - SMH 9

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	6.92	12.47	15.29	19.76	25.10	28.49	32.99	35.02	40.19	43.67	50.57	58.87	62.28	66.01	75.96	80.51	88.51
Ground level (m)	1130.12	1130.05	1130.03	1129.99	1129.90	1129.84	1129.84	1129.63	1129.63	1129.42	1129.27	1128.97	1128.93	1128.92	1128.93	1128.94	1128.84	1128.52
Invert Level (m)	1129.12	1128.98	1128.87	1128.81	1128.72	1128.70	1128.69	1128.62	1128.45	1128.45	1128.20	1128.09	1127.87	1127.78	1127.74	1127.69	1127.58	1127.53
Depth (m)	1.00	1.07	1.17	1.18	1.18	1.20	1.24	1.22	1.18	1.22	1.18	1.10	1.15	1.14	1.19	1.23	1.26	1.99
Grade (1:_)		50.00			50.00			31.99				85.72				85.72		60.19
Pipe description		160mm dia./Class34 - SEWER PIPE																
Reference	SMH1				SMH2			SMH3				SMH4				SMH5		SMH6

Peg Distance (m)	88.51	94.57	99.60	103.45	106.37	109.12	111.76											
Ground level (m)	1128.52	1128.35	1128.12	1128.12	1128.05	1128.03	1127.91											
Invert Level (m)	1127.39	1127.29	1127.21	1127.14	1127.10	1127.05	1127.01											
Depth (m)	1.12	1.06	0.91	0.98	0.96	0.98	0.90											
Grade (1:_)	60.19			60.23	60.22													
Pipe description	160mm dia./Class34 - SEWER PIPE																	
Reference	SMH6		SMH7		SMH8	SMH9												

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH1	- SMH2	19.756	19.760
SMH2	- SMH3	12.331	12.333
SMH3	- SMH4	18.484	18.494
SMH4	- SMH5	15.436	15.437
SMH5	- SMH6	14.498	14.499
SMH6	- SMH7	18.991	18.994
SMH7	- SMH8	9.620	9.621
SMH8	- SMH9	2.642	2.642

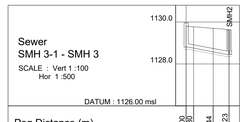
Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH1	-68860.289	3136689.918	1129.115	1129.115	1.000	1.000	
SMH2	-68878.138	3136698.387	1128.720	1128.699	1.180	1.201	
SMH3	-68883.389	3136687.230	1128.452	1128.452	1.178	1.179	
SMH4	-68891.260	3136670.505	1127.874	1127.874	1.100	1.100	
SMH5	-68905.576	3136676.276	1127.694	1127.694	1.231	1.231	
SMH6	-68919.938	3136678.257	1127.525	1127.525	1.314	1.314	
SMH7	-68938.640	3136674.956	1127.209	1127.209	0.913	0.913	
SMH8	-68947.960	3136672.573	1127.050	1127.050	0.985	0.985	
SMH9	-68950.277	3136673.843	1127.006	1127.006	0.900	0.900	

Sewer SMH 3-1 - SMH 3

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	6.44	10.23	
Ground level (m)	1129.80	1129.70	1129.63	
Invert Level (m)	1128.80	1128.58	1128.45	
Depth (m)	1.00	1.12	1.18	
Grade (1:_)	29.03			
Pipe description	160mm dia./Class34 - SEWER PIPE			
Reference	SMH3-1		SMH3	

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH3-1	- SMH3	10.234	10.240

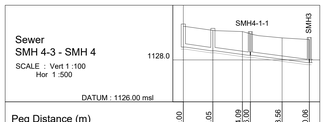
Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH3-1	-68874.129	3136682.872	1128.805	1128.805	1.000	1.000	
SMH3	-68883.389	3136687.230	1128.452	1128.452	1.178	1.178	

Sewer SMH 4-3 - SMH 4

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	7.05	14.09	21.56	30.05
Ground level (m)	1129.61	1129.41	1129.36	1129.05	1128.97
Invert Level (m)	1128.61	1128.44	1128.27	1128.03	1127.87
Depth (m)	1.00	0.97	1.09	1.02	1.10
Grade (1:_)	40.68	40.68	40.68		
Pipe description	160mm dia./Class34 - SEWER PIPE				
Reference	SMH4-3	SMH4-2	SMH4-1	SMH4	

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH4-3	- SMH4-2	7.052	7.054
SMH4-2	- SMH4-1	8.951	8.953
SMH4-1	- SMH4	14.059	14.063

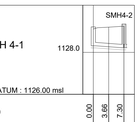
Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH4-3	-68867.111	3136668.077	1128.613	1128.613	1.000	1.000	
SMH4-2	-68870.026	3136661.655	1128.440	1128.440	0.971	0.971	
SMH4-1	-68878.197	3136665.307	1128.220	1128.220	1.031	1.031	
SMH4	-68891.260	3136670.505	1127.874	1127.874	1.100	1.100	

Sewer SMH 4-1-1 - SMH 4-1

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	3.66	7.30	
Ground level (m)	1129.11	1129.20	1129.25	
Invert Level (m)	1128.31	1128.27	1128.22	1128.22
Depth (m)	0.80	0.93	1.03	1.03
Grade (1:_)	78.20			
Pipe description	160mm dia./Class34 - SEWER PIPE			
Reference	SMH4-1-1		SMH4-1	

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH4-1-1	- SMH4-1	7.302	7.303

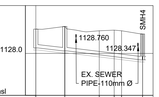
Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH4-1-1	-68880.052	3136658.244	1128.313	1128.313	0.800	0.800	
SMH4-1	-68878.197	3136665.307	1128.220	1128.220	1.030	1.031	

Sewer SMH 5-2 - SMH 5

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	6.92	15.13	20.68	25.46
Ground level (m)	1129.16	1129.28	1129.08	1129.18	1128.93
Invert Level (m)	1128.26	1128.12	1127.93	1127.81	1127.69
Depth (m)	0.90	1.16	1.15	1.37	1.23
Grade (1:_)	50.00		43.31		
Pipe description	160mm dia./Class34 - SEWER PIPE				
Reference	SMH5-2		SMH5-1		SMH5

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH5-2	- SMH5-1	6.917	6.919
SMH5-1	- SMH5	18.545	18.550

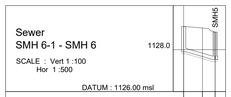
Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH5-2	-68904.013	3136695.774	1128.261	1128.261	0.900	0.900	
SMH5-1	-68897.657	3136693.045	1128.122	1128.122	1.162	1.162	
SMH5	-68905.576	3136676.276	1127.694	1127.694	1.231	1.231	

Sewer SMH 6-1 - SMH 6

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	4.48	7.50	
Ground level (m)	1129.10	1129.03	1128.84	
Invert Level (m)	1127.90	1127.68	1127.53	
Depth (m)	1.20	1.36	1.31	
Grade (1:_)	19.79			
Pipe description	160mm dia./Class34 - SEWER PIPE			
Reference	SMH6-1		SMH6	

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH6-1	- SMH6	7.496	7.506

Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH6-1	-68917.228	3136685.246	1127.904	1127.904	1.200	1.200	
SMH6	-68919.938	3136678.257	1127.525	1127.525	1.314	1.314	

Sewer SMH 7-1 - SMH 7

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl

Peg Distance (m)	0.00	6.57	15.35
Ground level (m)	1128.31	1128.27	1128.12
Invert Level (m)	1127.41	1127.32	1127.21
Depth (m)	0.90	0.94	0.91
Grade (1:_)	77.25		
Pipe description	160mm dia./Class34 - SEWER PIPE		
Reference	SMH7-1-1		SMH7

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH7-1-1	- SMH7	15.351	15.352

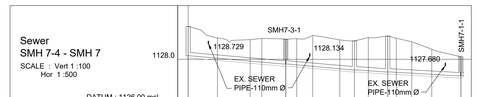
Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH7-1-1	-68926.399	3136665.693	1127.408	1127.408	0.900	0.900	
SMH7	-68938.640	3136674.956	1127.209	1127.209	0.913	0.913	

Sewer SMH 7-4 - SMH 7

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	6.98	14.79	17.57	23.29	29.71	36.18	39.68	42.98	47.62	49.69	53.37	58.13	65.07				
Ground level (m)	1129.57	1129.01	1128.84	1129.00	1128.86	1129.14	1128.93	1128.88	1129.03	1129.11	1129.01	1128.84	1128.48	1128.12				
Invert Level (m)	1128.17	1128.05	1127.92	1127.87	1127.73	1127.66	1127.55	1127.50	1127.45	1127.40	1127.37	1127.33	1127.28	1127.21				
Depth (m)	1.40	0.97	1.02	1.13	1.26	1.48	1.38	1.39	1.58	1.71	1.63	1.50	1.20	0.91				
Grade (1:_)	59.11				59.21			80.00		93.58								
Pipe description	160mm dia./Class34 - SEWER PIPE																	
Reference	SMH7-4			SMH7-3			SMH7-2		SMH7-1			SMH7						

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH7-4	- SMH7-3	23.291	23.294
SMH7-3	- SMH7-2	16.393	16.395
SMH7-2	- SMH7-1	7.939	7.940
SMH7-1	- SMH7	17.445	17.446

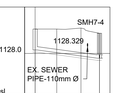
Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH7-4	-68910.580	3136717.425	1128.166	1128.166	1.400	1.400	
SMH7-3	-68932.333	3136709.101	1127.772	1127.772	1.187	1.187	
SMH7-2	-68939.143	3136694.190	1127.495	1127.495	1.386	1.386	
SMH7-1	-68931.860	3136691.029	1127.396	1127.396	1.715	1.715	
SMH7	-68938.640	3136674.956	1127.209	1127.209	0.913	0.913	

Sewer SMH 7-3-1 - SMH 7-3

SCALE : Vert 1 :100
Hor 1 :500

DATUM : 1126.00 msl



Peg Distance (m)	0.00	5.16	10.94	15.37
Ground level (m)	1129.16	1129.16	1129.21	1128.96
Invert Level (m)	1128.16	1128.03	1127.88	1127.77
Depth (m)	1.00	1.13	1.33	1.19
Grade (1:_)	39.18			
Pipe description	160mm dia./Class34 - SEWER PIPE			
Reference	SMH7-3-1			SMH7-3

Pipe lengths (m)			
Reference		Horiz.	Slope
SMH7-3-1	- SMH7-3	15.365	15.370

Pipe design data.

Reference	Y	X	IL in / out	DEPTH in / out	Mhtype		
SMH7-3-1	-68918.317	3136702.805	1128.164	1128.164	1.000	1.000	
SMH7-3	-68932.333	3136709.101	1127.772	1127.772	1.187	1.187	

NOTES

GENERAL

1. ALL SETTING OUT TO BE UNDERTAKEN BY A REGISTERED PROFESSIONAL LAND SURVEYOR.
2. PROVE ALL SERVICES PRIOR TO CONSTRUCTION.
3. ALL WORK AREAS TO BE REINSTATED (PREMIX, CONCRETE, ETC.)
4. MUNICIPALITY TO EXECUTE ALL CONNECTIONS INTO MUNICIPAL LINES.
5. ALL LEVELS AND DIMENSIONS TO BE VERIFIED ON SITE.
6. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE STRUCTURAL ENGINEERING DRAWINGS.
7. ALL WORK IS TO BE EXECUTED IN ACCORDANCE WITH SANS 1200.

SEWER

1. ALL SEWER PIPES ARE 160 / 200 NOMINAL DIAMETER CLASS 34 HEAVY DUTY UPVC PIPES.
2. ALL SEWER PIPES TO BE LAID ON CLASS B BEDDING.
3. ALL SEWER PIPES TO COMPLY WITH SANS 1601 STANDARDS.
4. CONCRETE ENCASED WITH 150mm 30MPA CONCRETE ALL ROUND TO:
   - SEWER PIPES IN PARKING AREAS/ROAD CROSSING TO BE
   - WHERE COVER OVER PIPES IS LESS THAN 500mm ON ALL LINES

REVISION SCHEDULE

NO.	DATE	DESCRIPTION	REV. BY
T1	07-10-24	FOR TENDER	KG

DEPARTMENT OF HEALTH

INFRASTRUCTURE DEVELOPMENT

CHIEF ENGINEER : MR E. CHIRO : CIVIL / STRUCTURAL

SIGNATURE ..... DATE .....

PROJECT MANAGER : MR T. DLAMINI

SIGNATURE ..... DATE .....

CLIENT DEPARTMENT SIGNATURES:

FACILITY STAMP:

FACILITY MANAGER: .....

INFRASTRUCTURE MANAGER: .....

GENERAL MANAGER: .....

CHECKED BY CONSULTANT:

NAME:

SIGNATURE ..... DATE .....

CONSULTANT:

MAP AFRICA

SUITE GR01A GROUND FLOOR
BUSINESS PARTNERS CENTRE
23 JAN HOFMEYR ROAD
WESTVILLE
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public works
Department:
Public Works
PROVINCE OF KWAZULU-NATAL

MIDLANDS REGION

PROJECT:

WIMS 066058: DRIEFONTEIN CLINIC - UPGRADE SEWER TREATMENT PLANT

DRAWING DESCRIPTION:

BULK SEWER LONG - SECTIONS

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
1:200	07-10-2024	KG	PN

CONSULTANT DRAWING NUMBER: 484/901

REVISION: T1

DOPW DRAWING NUMBER: WIMS NO/066058/CIV/901

STAMPED BY PLANS APPROVAL COMMITTEE:

FOR TENDER