

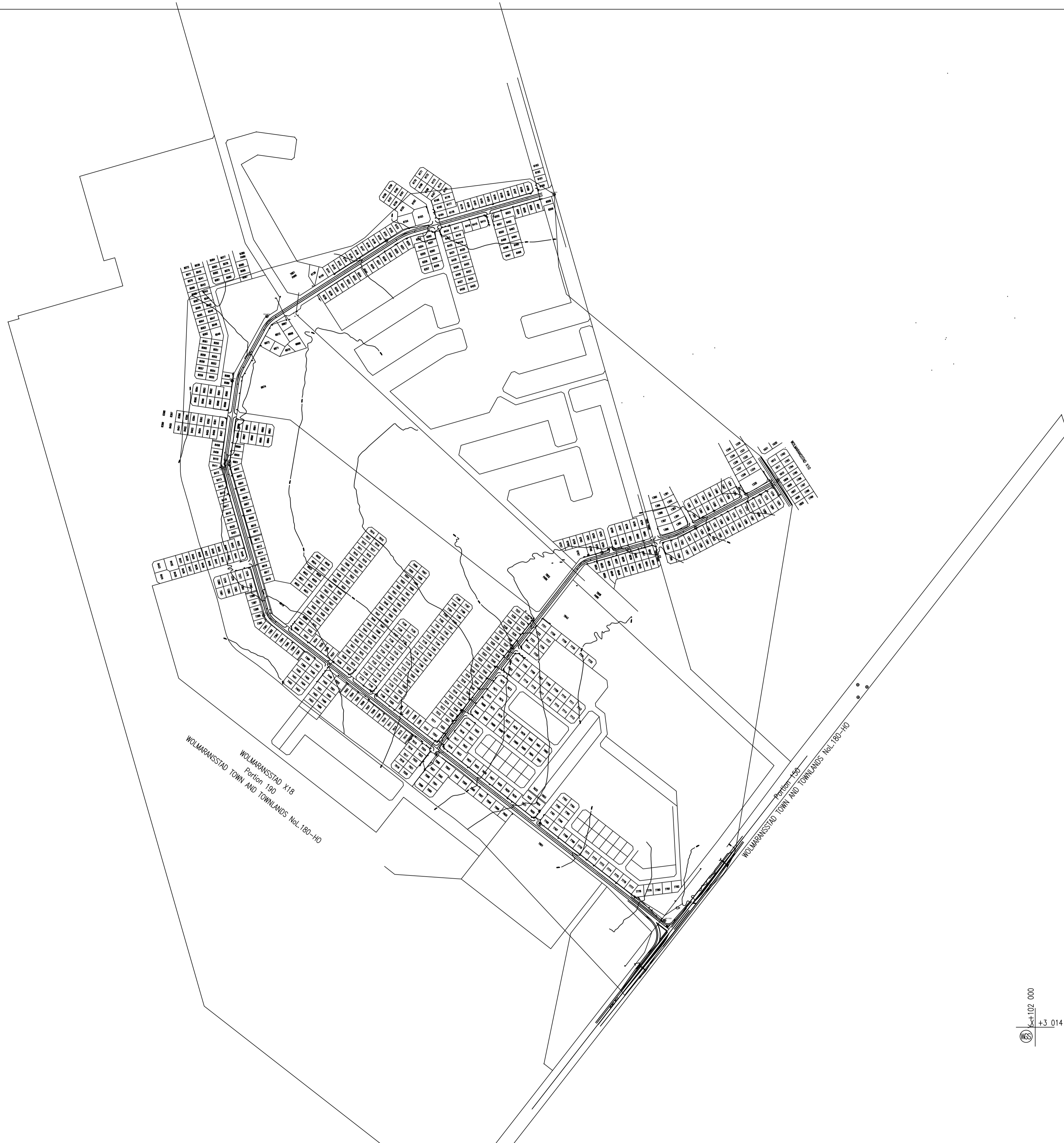
**LEGEND**

**ROADS:**

1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL, (THIRD EDITION).
3. ALL LEVELS TO BE CONFIRMED ON SITE.

**STORMWATER**

1. MINIMUM PIPE DIAMETER TO BE 450mm.
2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
6. BELL MOUTHS TO HAVE FIG8c KERBS



WS  
+3 014 000

**SHEET LAYOUT**

**PROJECT STATUS**

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION DRAWING	ASBUILT DRAWING
PROJECT ENGINEER		DATE	
ARTICLE AND SIGNATURE		SIGNATURE & PIN NUMBER	
INSPECTOR OF WORKS		DATE	
REMARKS		ORIGINAL MARKED	
		A1	
DRAWING NO.		SHEET NO.	
001-W17-01		10F1	

AMENDMENTS		
NR.	DATE	DESCRIPTION

**CONSULTANTS DETAIL:**  
 TEKROD CONSULTING ENGINEERS  
 21 RIVIER STREET  
 VILLA PEREZ  
 UNIT No.8  
 POTCHEFSTROOM  
 2531  
 TEL : 015 023 1118  
 eMAIL: admin@tekrode.co.za  
 WEBSITE: www.Tekrod.co.za



**CLIENT DETAIL:**  
 MAQUASSI HILLS LOCAL MUNICIPALITY  
 13 KRUGER STREET  
 PRIVATE BAG X 3  
 WOLMARANSSTAD  
 2630  
 TEL : 018 065 0010  
 FAX : 018 596 1555



**DESIGNED**  
 TEKROD CONSULTING ENGINEERS  
**DRAWING CHECKED BY**  
 TEKROD CONSULTING ENGINEERS  
**DRAWN**  
 TEKROD CONSULTING ENGINEERS  
**CIVIL DRAUGHTING SERVICES**  
 TEKROD CONSULTING ENGINEERS

**LOCATION OF PROJECT**  
 NORTH WEST: WOLMARANSSTAD  
**DESCRIPTION OF PROJECT**  
 UPGRADING OF GRAVEL ROAD TO BLOCK PAVING  
 BETWEEN MAITEMOGELO TAXI ROUTE AND N12  
 ROADS LAYOUT PLAN  
 CONTRACT NO. TBC  
 PROJECT NO. 001 - R  
 SCALE 1:1000  
 DATE JUNE - 2026

**LEGEND**

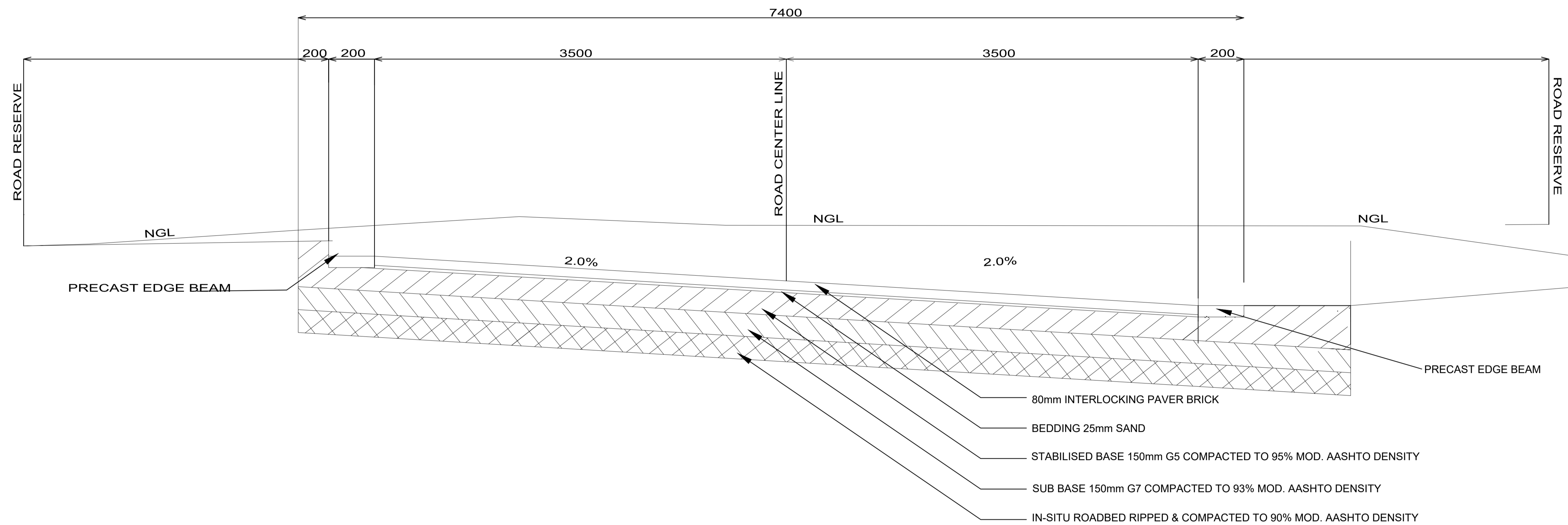
**ROADS:**

1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
3. ALL LEVELS TO BE CONFIRMED ON SITE.

**STORMWATER**

1. MINIMUM PIPE DIAMETER TO BE 450mm.
2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
6. BELL MOUTHS TO HAVE FIG& KERBS

# TYPICAL CROSS SECTION



**SHEET LAYOUT**

**PROJECT STATUS**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION DRAWING	ASBUILT DRAWING
INITIALS AND SIGNATURE		SIGNATURE & PIN NUMBER	
INSPECTOR OF WORKS		DATE	
REMARKS		DATE	
		ORIGINAL PROJECT SIZE: <b>A1</b>	
DRAWING NO. <b>010-W17-01</b>		SHEET NO. <b>60F9</b>	

AMENDMENTS		
NR.	DATE	DESCRIPTION

CONSULTANTS DETAIL:  
 TEKROD CONSULTING ENGINEERS  
 21 RIVIER STREET  
 VILLA PEREZ  
 UNIT No.8  
 POTCHEFSTROOM  
 2531  
 TEL : 015 023 1118  
 eMAIL: admin@tekrod.co.za  
 WEBSITE: www.Tekrod.co.za



CLIENT DETAIL:  
 MAQUASSI HILLS LOCAL MUNICIPALITY  
 13 KRUGER STREET  
 PRIVATE BAG X 3  
 WOLMARANSSTAD  
 2630  
 TEL : 018 065 0010  
 FAX : 018 596 1555



DESIGNED  
 TEKROD CONSULTING ENGINEERS  
 DRAWING CHECKED BY  
 TEKROD CONSULTING ENGINEERS  
 DRAWN  
 TEKROD CONSULTING ENGINEERS  
 CIVIL DRAUGHTING SERVICES  
 TEKROD CONSULTING ENGINEERS

LOCATION OF PROJECT:  
**NORTH WEST: KGAKALA**  
 DESCRIPTION OF PROJECT:  
**UPGRADING OF GRAVEL ROAD TO BLOCK PAVING BETWEEN MAITEMOGELO TAXI ROUTE AND N12 TYPICAL CROSS SECTION DETAIL**  
 CONTRACT NO.: TBC  
 PROJECT NO.: 001 - R  
 SCALE: 1:1000  
 DATE: JUNE - 2026

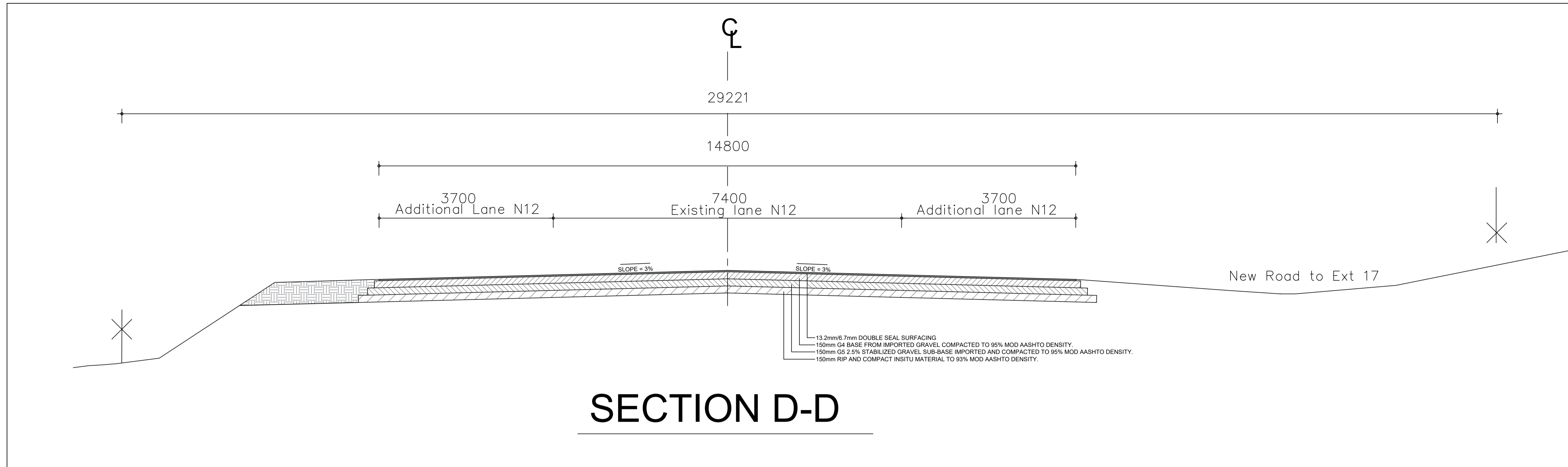
**LEGEND**

**ROADS:**

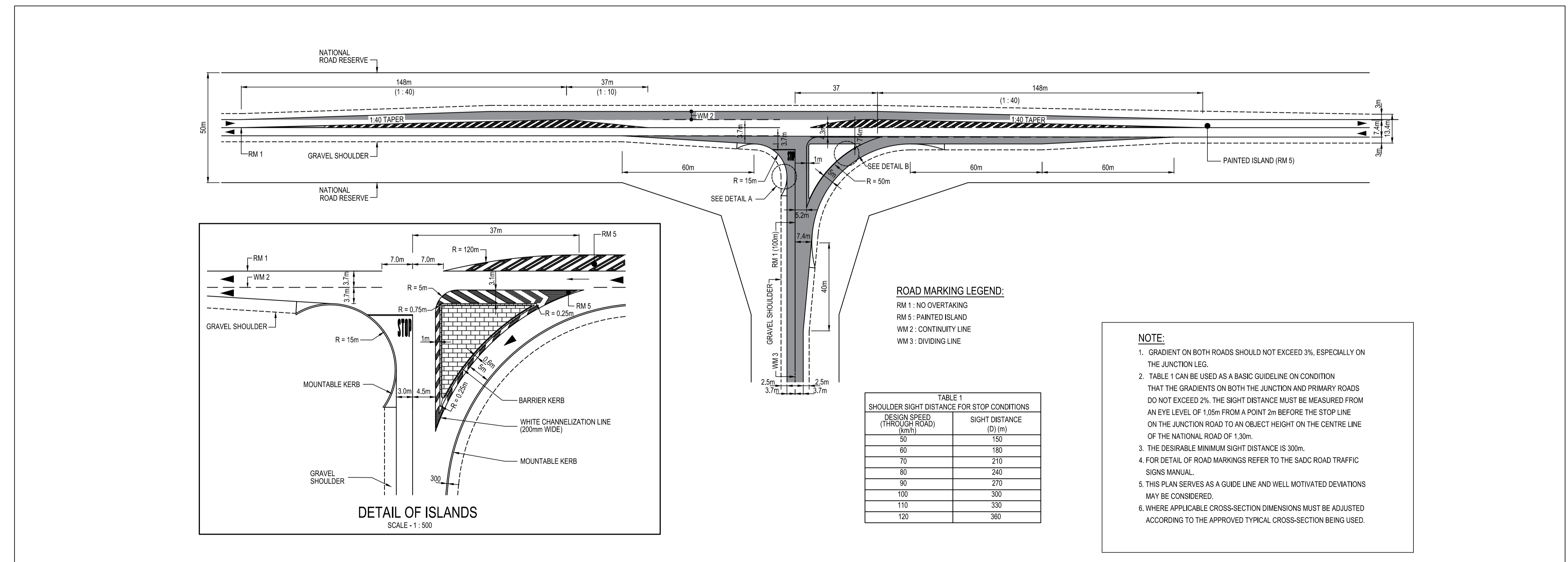
1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
3. ALL LEVELS TO BE CONFIRMED ON SITE.

**STORMWATER**

1. MINIMUM PIPE DIAMETER TO BE 450mm.
2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
6. BELL MOUTHS TO HAVE FIG6: KERBS



**SECTION D-D**



**SHEET LAYOUT**

**PROJECT STATUS**

PROJECT ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

INTAKE AND SURVEIL: \_\_\_\_\_ SIGNATURE & PIN NUMBER: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTOR OF WORKS: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

REMARKS: \_\_\_\_\_ ORIGINAL PAPER SIZE: **A1**

DRAWING NO: **010-W17-01** SHEET NO: **60F9**

AMENDMENTS		
NR.	DATE	DESCRIPTION

**CONSULTANTS DETAIL:**  
 TEKROD CONSULTING ENGINEERS  
 21 RIVIER STREET  
 VILLA PEREZ  
 UNIT No 8  
 POTCHEFSTROOM  
 2531  
 TEL : 015 023 1118  
 eMAIL: admin@tekrod.co.za  
 WEBSITE: www.Tekrod.co.za



**CLIENT DETAIL:**  
 MAQUASSI HILLS LOCAL MUNICIPALITY  
 13 KRUGER STREET  
 PRIVATE BAG X 3  
 WOLMARANSSTAD  
 2630  
 TEL : 018 065 0010  
 FAX : 018 596 1555



DESIGNED: TEKROD CONSULTING ENGINEERS  
 DRAWING CHECKED BY: TEKROD CONSULTING ENGINEERS  
 DRAWN: TEKROD CONSULTING ENGINEERS  
 CIVIL DRAUGHTING SERVICES: TEKROD CONSULTING ENGINEERS

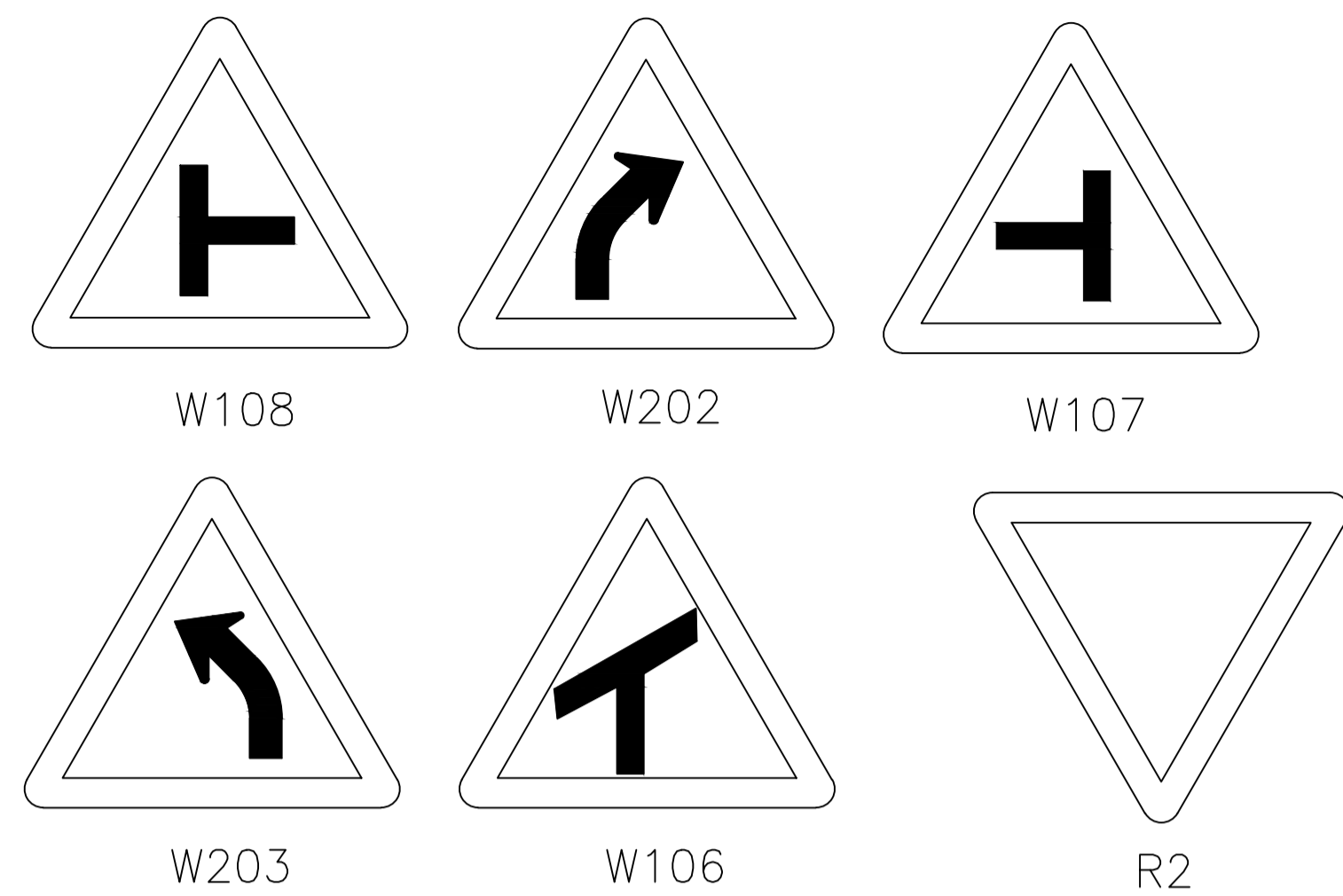
LOCATION OF PROJECT: **NORTH WEST: WOLMARANSSTAD**

DESCRIPTION OF PROJECT: **UPGRADING OF GRAVEL ROAD TO BLOCK PAVING BETWEEN MAITEMOGELO TAXI ROUTE AND N12 TYPICAL INTERSECTION DETAIL**

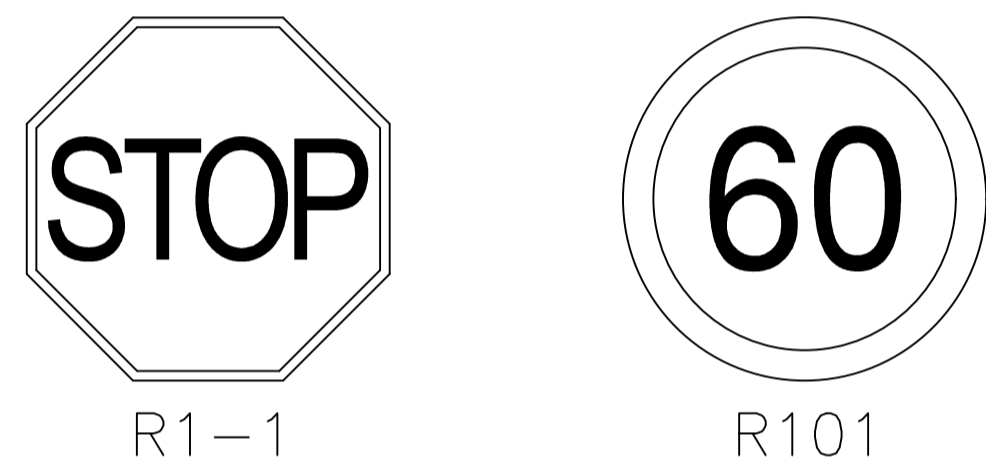
CONTRACT NO.: TBC PROJECT NO.: 001 - R SCALE: 1:1000 DATE: JUNE - 2020

**LEGEND**

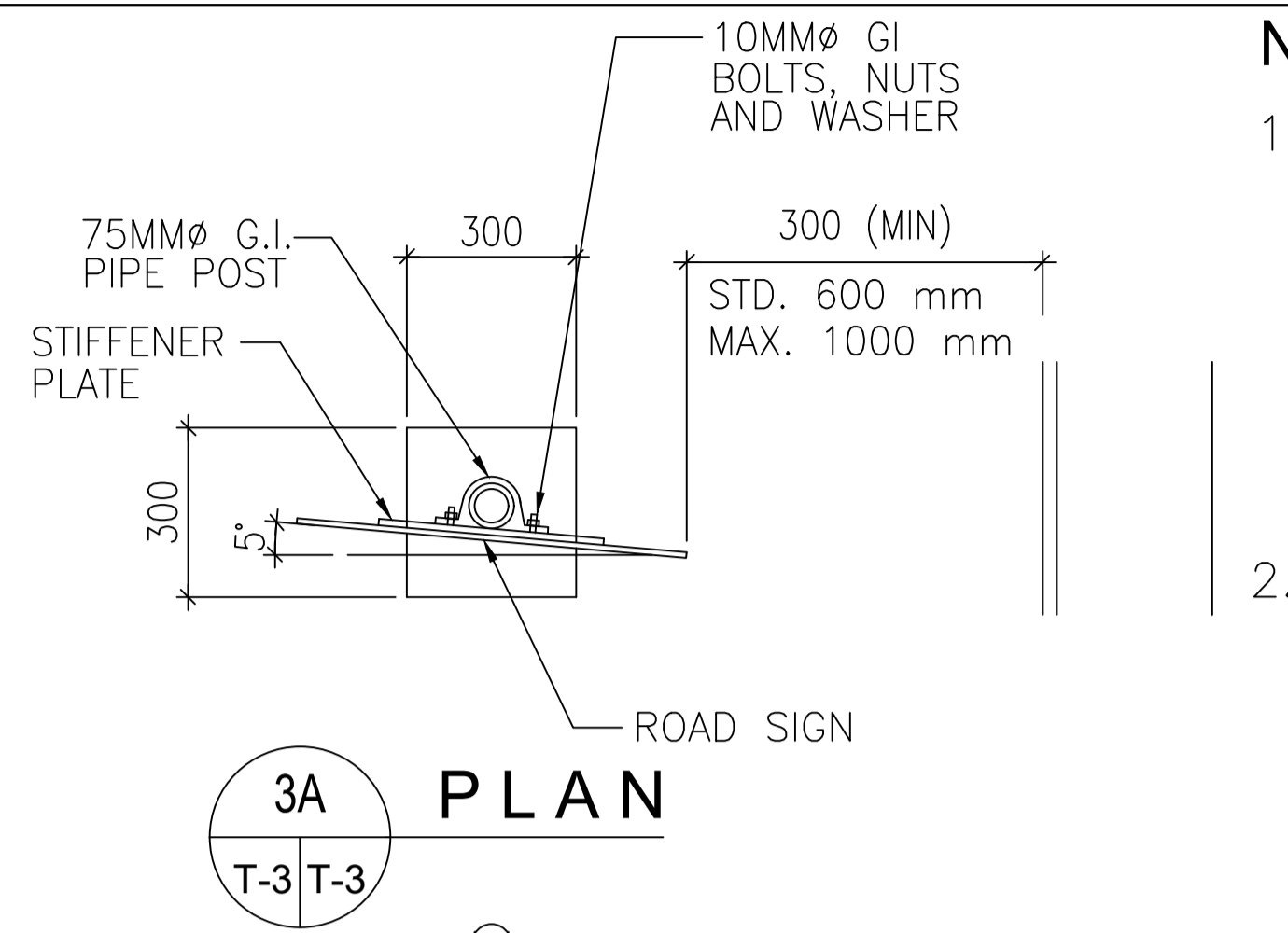
- ROADS:**
1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
  2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
  3. ALL LEVELS TO BE CONFIRMED ON SITE.
- STORMWATER**
1. MINIMUM PIPE DIAMETER TO BE 450mm.
  2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
  3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
  4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
  5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
  6. BELL MOUTHS TO HAVE FIG&K KERBS



**1 WARNING SIGNS**  
T-1 T-3

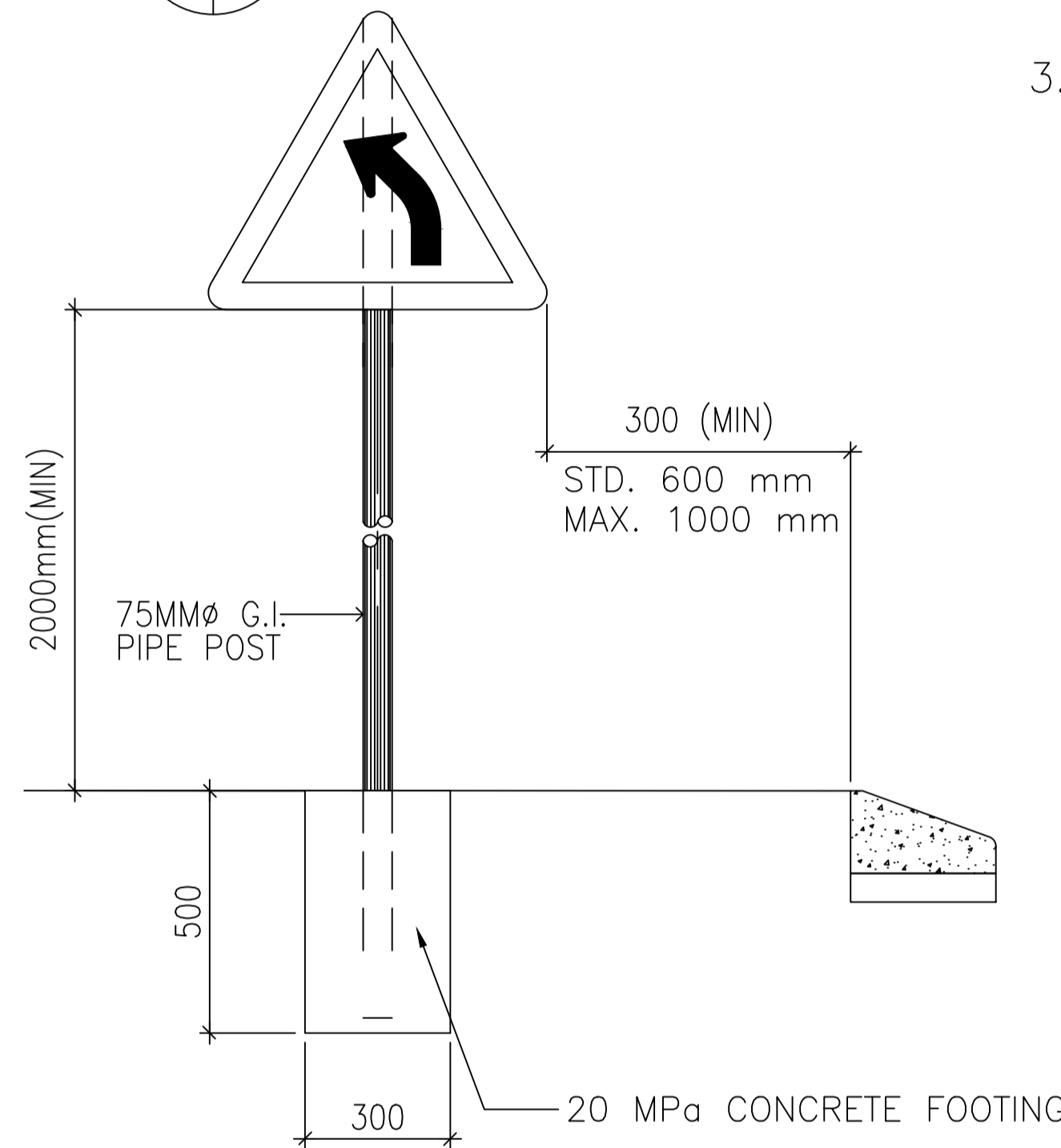


**2 REGULATORY SIGNS**  
T-1 T-3



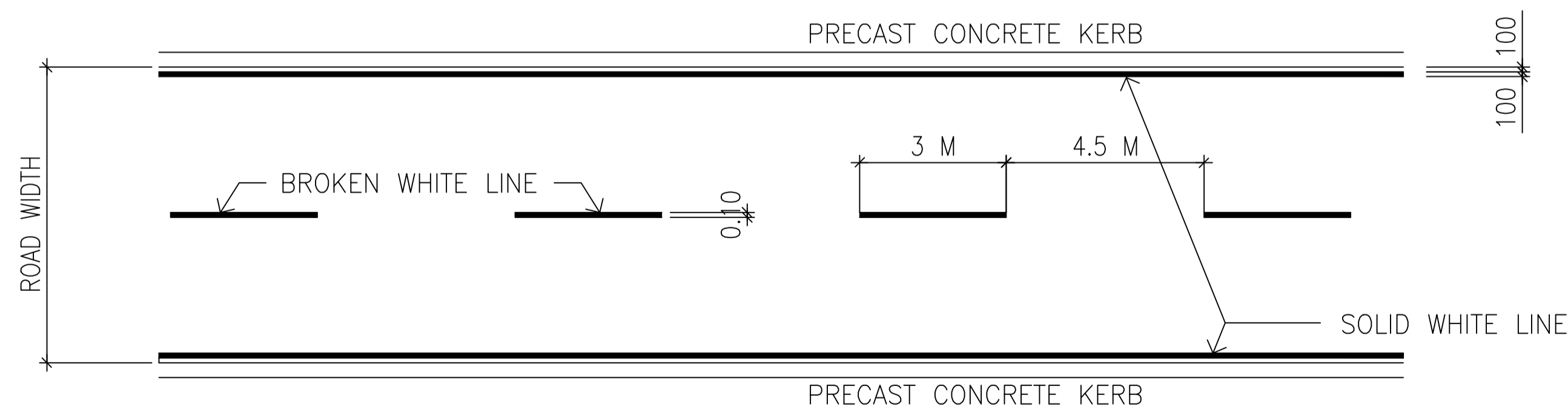
**NOTES :**

1. DANGER WARNING SIGNS
  - WARNING SIGN ARE TRIANGULAR SHAPE (WITH ONE ANGLE VERTICAL) WITH BLACK SYMBOL, RED BORDER AND REFLECTORIZED WHITE BACKGROUND WITH THE EXCEPTION OF THE ALIGNMENT ON INTER-SECTION AND JUNCTION SERIES OF WHICH THE SIGN BACKGROUND IS REFLECTORIZED YELLOW.
  - THE SIZE OF ONE SIDE OF THE EQUILATERAL TRIANGLE SHALL BE 750MM.
2. REGULATORY SIGNS
  - THE SIGNS SHALL BE CIRCULAR WHOSE DIAMETER SHALL NOT BE LESS THAN 0.60 METER.
  - UNLESS OTHERWISE SPECIFIED PROHIBITORY SIGNS SHALL HAVE WHITE BACKGROUND WITH RED BORDER.
  - THE SYMBOLS AND INSCRIPTION SHALL BE IN BLACK.
3. INSTALLATION
  - SIGNS SHOULD BE MOUNTED APPROXIMATELY RIGHT ANGLE TO AND FACING THE TRAFFIC THEY ARE INTENDED TO SERVE.
  - TO ELIMINATE POSSIBLE UNDESIRABLE SPECULAR REFLECTION FROM THE SURFACE OF THE SIGN, IT SHOULD BE TURNED ABOUT 5 DEGREES AWAY FROM THE NORMAL TO THE HEADLIGHT BEAM.



**3 TRAFFIC SIGN POST DETAILS**  
T-1 T-3

SEPARATION AND EDGE LINES.



**4 CENTERLINE AND EDGE MARKING**  
T-1 T-4

**SHEET LAYOUT**

**PROJECT STATUS**

<input type="checkbox"/> CONCEPT DRAWING	<input type="checkbox"/> DESIGN DRAWING	<input type="checkbox"/> APPROVED FOR CONSTRUCTION DRAWING	<input type="checkbox"/> ASSEMBLY DRAWING
PROJECT ENGINEER		DATE	
DETAILS AND SURVIVAL		SIGNATURE & PI NUMBER	
INSPECTOR OF WORKS		DATE	
REMARKS		ORIGINAL PAPER SIZE	
		<b>A1</b>	
DRAWING NO:		SHEET NO:	
<b>010-W17-04</b>		<b>60F9</b>	

NR.	DATE	DESCRIPTION

CONSULTANTS DETAIL:  
TEKROD CONSULTING ENGINEERS  
21 RIVIER STREET  
VILLA PEREZ  
UNIT No.3  
POTCHEFSTROOM  
2531  
TEL : 015 023 1118  
eMAIL: admin@tekrod.co.za  
WEBSITE: www.Tekrod.co.za



CLIENT DETAIL:  
MAQUASSI HILLS LOCAL MUNICIPALITY  
13 KRUGER STREET  
PRIVATE BAG X 3  
WOLMARANSSTAD  
2630  
TEL : 018 065 0010  
FAX : 018 598 1555



DESIGNED TEKROD CONSULTING ENGINEERS
DRAWING CHECKED BY TEKROD CONSULTING ENGINEERS
DRAWN BY TEKROD CONSULTING ENGINEERS
CIVIL DRAUGHTING SERVICES TEKROD CONSULTING ENGINEERS

LOCATION OF PROJECT: <b>NORTH WEST: KGAKALA</b>
DESCRIPTION OF PROJECT: <b>UPGRADING OF GRAVEL ROAD TO BLOCK PAVING BETWEEN MAITEMOGELO TAXI ROUTE AND N12 TYPICAL ROAD SIGNAGE DETAILS</b>
CONTRACT NO: TBC
PROJECT NO: 001 - R
SCALE: <b>1:1000</b>
DATE: JUNE - 2006

LEGEND

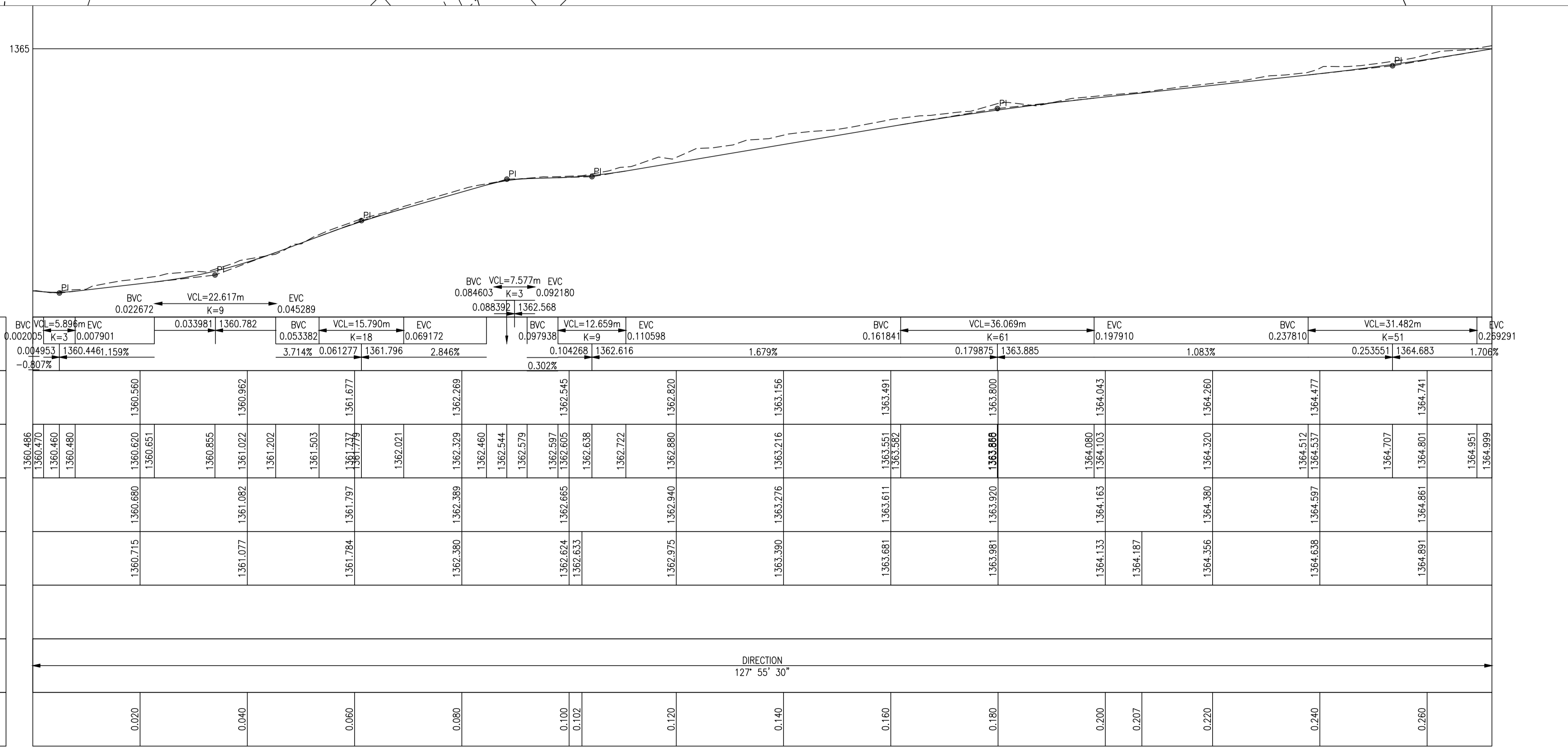
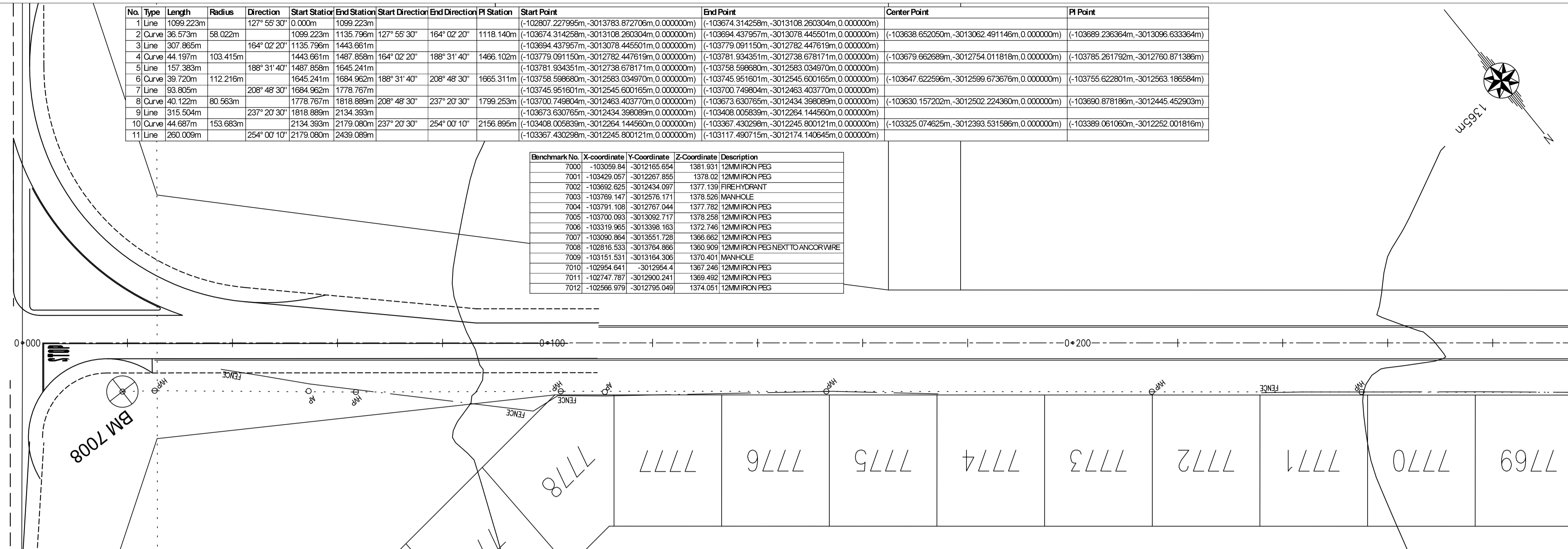
- ROADS:**
1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
  2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
  3. ALL LEVELS TO BE CONFIRMED ON SITE.

**STORMWATER**

1. MINIMUM PIPE DIAMETER TO BE 450mm.
2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
6. BELL MOUTHS TO HAVE FIGS& KERBS

No.	Type	Length	Radius	Direction	Start Station	End Station	Start Direction	End Direction	PI Station	Start Point	End Point	Center Point	PI Point
1	Line	1099.223m		127° 55' 30"	0.000m	1099.223m			1118.140m	(-102807.227959m, -3013783.872706m, 0.000000m)	(-103674.314258m, -3013108.260304m, 0.000000m)	(-103638.652050m, -3013062.491148m, 0.000000m)	(-103689.236364m, -3013096.633364m)
2	Curve	36.573m	58.022m		1099.223m	1135.796m	127° 55' 30"	164° 02' 20"		(-103674.314258m, -3013108.260304m, 0.000000m)	(-103674.314258m, -3013108.260304m, 0.000000m)	(-103638.652050m, -3013062.491148m, 0.000000m)	(-103689.236364m, -3013096.633364m)
3	Line	307.865m		164° 02' 20"	1135.796m	1443.661m				(-103694.437957m, -3013078.445501m, 0.000000m)	(-103779.091150m, -3012782.447619m, 0.000000m)	(-103779.091150m, -3012782.447619m, 0.000000m)	(-103781.594351m, -3012738.678171m, 0.000000m)
4	Curve	44.197m	103.415m		1443.661m	1487.858m	164° 02' 20"	188° 31' 40"	1466.102m	(-103779.091150m, -3012782.447619m, 0.000000m)	(-103779.091150m, -3012782.447619m, 0.000000m)	(-103779.091150m, -3012782.447619m, 0.000000m)	(-103781.594351m, -3012738.678171m, 0.000000m)
5	Line	157.383m		188° 31' 40"	1487.858m	1645.241m				(-103781.594351m, -3012738.678171m, 0.000000m)	(-103758.662898m, -3012583.034970m, 0.000000m)	(-103758.662898m, -3012583.034970m, 0.000000m)	(-103758.662898m, -3012583.034970m, 0.000000m)
6	Curve	39.720m	112.218m		1645.241m	1684.962m	188° 31' 40"	208° 48' 30"	1665.311m	(-103758.662898m, -3012583.034970m, 0.000000m)	(-103745.951601m, -3012545.600165m, 0.000000m)	(-103745.951601m, -3012545.600165m, 0.000000m)	(-103745.951601m, -3012545.600165m, 0.000000m)
7	Line	93.805m		208° 48' 30"	1684.962m	1778.767m				(-103745.951601m, -3012545.600165m, 0.000000m)	(-103700.749804m, -3012463.403770m, 0.000000m)	(-103700.749804m, -3012463.403770m, 0.000000m)	(-103700.749804m, -3012463.403770m, 0.000000m)
8	Curve	40.122m	80.563m		1778.767m	1818.889m	208° 48' 30"	237° 20' 30"	1799.253m	(-103700.749804m, -3012463.403770m, 0.000000m)	(-103673.630765m, -3012434.398088m, 0.000000m)	(-103673.630765m, -3012434.398088m, 0.000000m)	(-103673.630765m, -3012434.398088m, 0.000000m)
9	Line	315.504m		237° 20' 30"	1818.889m	2134.393m				(-103673.630765m, -3012434.398088m, 0.000000m)	(-103630.157202m, -3012502.224360m, 0.000000m)	(-103630.157202m, -3012502.224360m, 0.000000m)	(-103630.157202m, -3012502.224360m, 0.000000m)
10	Curve	44.687m	153.683m		2134.393m	2179.080m	237° 20' 30"	254° 00' 10"	2156.895m	(-103630.157202m, -3012502.224360m, 0.000000m)	(-103608.005839m, -3012264.144560m, 0.000000m)	(-103608.005839m, -3012264.144560m, 0.000000m)	(-103608.005839m, -3012264.144560m, 0.000000m)
11	Line	260.009m		254° 00' 10"	2179.080m	2439.089m				(-103608.005839m, -3012264.144560m, 0.000000m)	(-103367.430298m, -3012245.800121m, 0.000000m)	(-103367.430298m, -3012245.800121m, 0.000000m)	(-103367.430298m, -3012245.800121m, 0.000000m)

Benchmark No.	X-Coordinate	Y-Coordinate	Z-Coordinate	Description
7000	-103059.84	-3012165.654	1361.931	12MM IRON PEG
7001	-103429.057	-3012267.855	1378.02	12MM IRON PEG
7002	-103692.625	-3012434.097	1377.139	FIRE HYDRANT
7003	-103789.147	-3012576.171	1378.326	MANHOLE
7004	-103791.108	-3012767.044	1377.782	12MM IRON PEG
7005	-103700.093	-3013092.717	1378.256	12MM IRON PEG
7006	-103319.965	-3013398.163	1372.746	12MM IRON PEG
7007	-103090.864	-3013551.728	1366.662	12MM IRON PEG
7008	-102816.533	-3013764.866	1360.909	12MM IRON PEG NEXT TO ANCHOR WIRE
7009	-103151.531	-3013164.306	1370.401	MANHOLE
7010	-102954.841	-3012964.4	1367.346	12MM IRON PEG
7011	-102747.787	-3012900.241	1369.492	12MM IRON PEG
7012	-102566.979	-3012795.049	1374.051	12MM IRON PEG



SCALES:  
Horizontal 1:100  
Vertical 1:10  
DATUM 1360.000

VERTICAL PROFILE GRADES	BVC VCL=5.896m EVC K=3 0.007901		BVC VCL=22.617m EVC K=9 0.045289		BVC VCL=15.790m EVC K=18 0.069172		BVC VCL=12.659m EVC K=9 0.097938		BVC VCL=36.069m EVC K=61 0.110598		BVC VCL=31.482m EVC K=51 0.289291	
	0.004953	1360.4461	1360.159%	0.033981	1360.782	0.053382	0.084603	0.088392	0.161841	0.179875	0.197910	0.237810
LEFT EDGE (HL)	1360.486	1360.470	1360.460	1360.480	1360.620	1360.651	1360.855	1361.022	1361.202	1361.503	1361.737	1361.778
CENTRE LINE (CL)	1360.486	1360.470	1360.460	1360.480	1360.620	1360.651	1360.855	1361.022	1361.202	1361.503	1361.737	1361.778
RIGHT EDGE (HR)	1360.486	1360.470	1360.460	1360.480	1360.620	1360.651	1360.855	1361.022	1361.202	1361.503	1361.737	1361.778
GROUND LEVELS ON CL	1360.715	1360.680	1360.651	1360.620	1360.582	1360.544	1360.503	1360.460	1360.417	1360.374	1360.331	1360.288
SUPERELEVATION	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
HORIZONTAL ALIGNMENT	DIRECTION 127° 55' 30"											
DISTANCE (km)	0.020	0.040	0.060	0.080	0.100	0.102	0.120	0.140	0.160	0.180	0.200	0.207

LONGSECTION ALIGNMENT 1  
FROM 0.000 TO 0.272.085

AMENDMENTS		
NR.	DATE	DESCRIPTION

CONSULTANTS DETAIL:  
TEKROD CONSULTING ENGINEERS  
21 RIVIER STREET  
VILLA PEREZ  
UNIT No.8  
POTCHEFSTROOM  
2531  
TEL : 015 023 1118  
eMAIL: admin@tekrod.co.za  
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CLIENT DETAIL:  
MAQUASSI HILLS LOCAL MUNICIPALITY  
13 KRUGER STREET  
PRIVATE BAG X 3  
WOLMARANSSTAD  
2630  
TEL : 018 065 0010  
FAX : 018 596 1555



DESIGNED BY  
TEKROD CONSULTING ENGINEERS  
DRAWING CHECKED BY  
TEKROD CONSULTING ENGINEERS  
DRAWN BY  
TEKROD CONSULTING ENGINEERS  
CIVIL DRAUGHTING SERVICES  
TEKROD CONSULTING ENGINEERS

LOCATION OF PROJECT:  
**NORTH WEST: WOLMARANSSTAD**  
DESCRIPTION OF PROJECT:  
**UPGRADING OF GRAVEL ROAD TO BLOCK PAVING  
BETWEEN MAITEMOGELO TAXI ROUTE AND N12  
ROAD 1 LAYOUT PLAN & LONG SECTION**  
CONTRACT NO.: TBC  
PROJECT NO.: 001 - R  
SCALE: 1:1000  
DATE: JUNE - 2026

**SHEET LAYOUT**  
**PROJECT STATUS**

CONCEPT DRAWING  
 TENDER DRAWING  
 APPROVED FOR CONSTRUCTION DRAWING  
 ASBUILT DRAWING

PROJECT ENGINEER: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

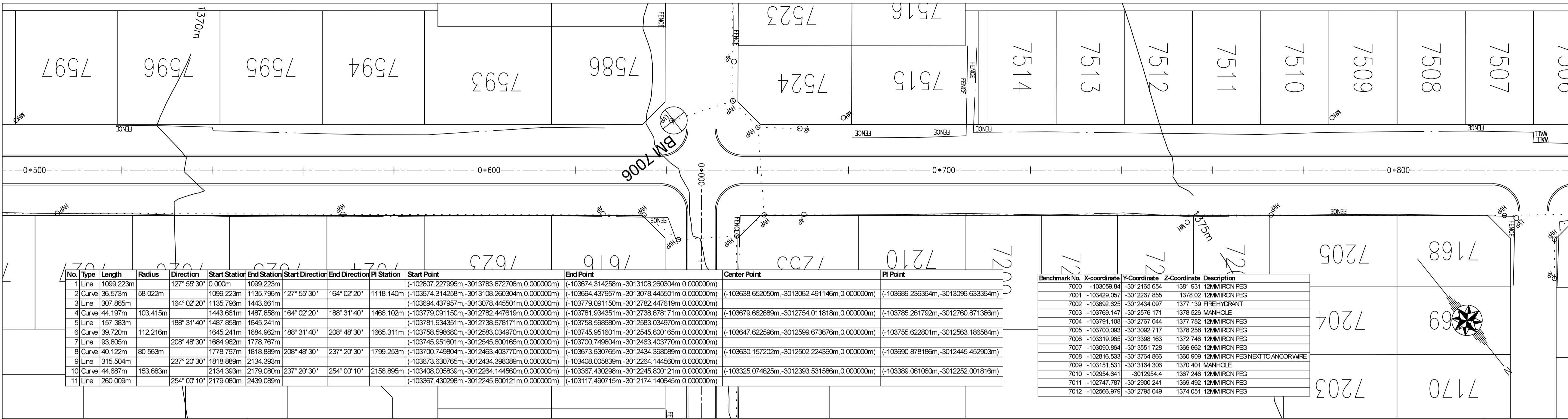
REVISIONS: \_\_\_\_\_  
 ORIGINAL PROJECT NO.: A1  
 SHEET NO.: 10F9  
 DRAWING NO.: 002-W17-01



LEGEND

- ROADS:**
1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
  2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
  3. ALL LEVELS TO BE CONFIRMED ON SITE.

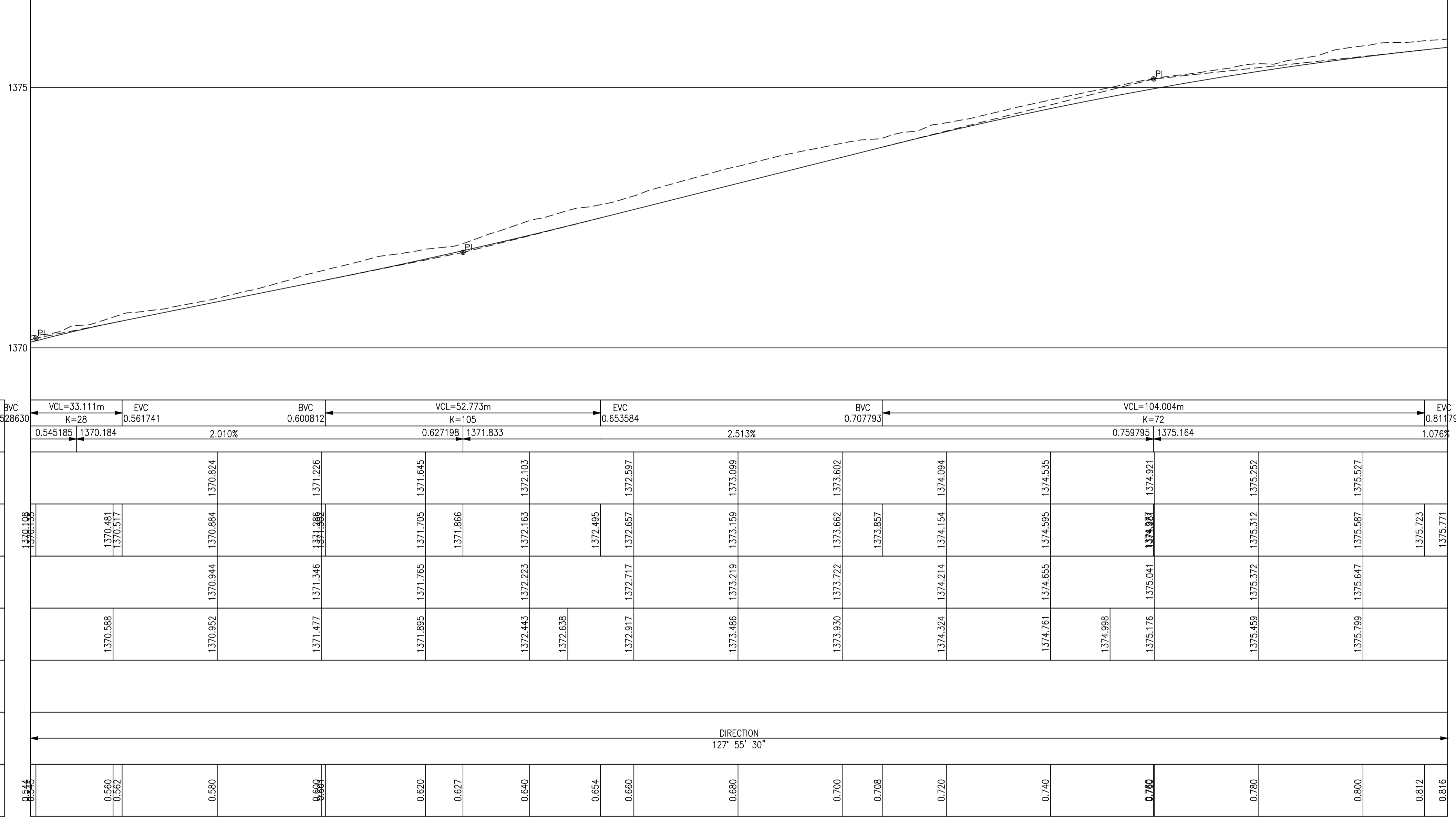
- STORMWATER**
1. MINIMUM PIPE DIAMETER TO BE 450mm.
  2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
  3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
  4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
  5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
  6. BELL MOUTHS TO HAVE FIGS& KERBS



No.	Type	Length	Radius	Direction	Start Station	End Station	Start Direction	End Direction	PI Station	Start Point	End Point	Center Point	PI Point
1	Line	1059.223m		127° 55' 30"	0+000	1059.223m				(-102807.227955m, -3013783.872709m, 0.000000m)	(-103674.314259m, -3013108.260304m, 0.000000m)	(-103638.652050m, -3013062.491148m, 0.000000m)	(-103689.236364m, -3013096.633364m)
2	Curve	36.573m	58.022m		1059.223m	1135.796m	127° 55' 30"	164° 02' 20"	1118.140m	(-103674.314259m, -3013108.260304m, 0.000000m)	(-103694.437957m, -3013078.445501m, 0.000000m)	(-103679.091150m, -3012738.447619m, 0.000000m)	(-103775.261792m, -3012760.871986m)
3	Line	307.865m		164° 02' 20"	1135.796m	1443.661m				(-103694.437957m, -3013078.445501m, 0.000000m)	(-103775.261792m, -3012738.447619m, 0.000000m)	(-103679.091150m, -3012738.447619m, 0.000000m)	(-103785.261792m, -3012760.871986m)
4	Curve	44.197m	103.415m		1443.661m	1487.858m	164° 02' 20"	188° 31' 40"	1466.102m	(-103775.261792m, -3012738.447619m, 0.000000m)	(-103781.934351m, -3012738.678171m, 0.000000m)	(-103759.662699m, -3012754.018181m, 0.000000m)	(-103785.261792m, -3012760.871986m)
5	Line	157.383m		188° 31' 40"	1487.858m	1645.241m				(-103781.934351m, -3012738.678171m, 0.000000m)	(-103758.598680m, -3012583.034970m, 0.000000m)	(-103679.662699m, -3012583.034970m, 0.000000m)	(-103755.622801m, -3012563.186594m)
6	Curve	39.720m	112.216m		1645.241m	1684.962m	188° 31' 40"	208° 48' 30"	1665.311m	(-103758.598680m, -3012583.034970m, 0.000000m)	(-103745.951601m, -3012545.600165m, 0.000000m)	(-103647.622599m, -3012598.673676m, 0.000000m)	(-103755.622801m, -3012563.186594m)
7	Line	93.805m		208° 48' 30"	1684.962m	1778.767m				(-103745.951601m, -3012545.600165m, 0.000000m)	(-103700.749804m, -3012463.403770m, 0.000000m)	(-103647.622599m, -3012598.673676m, 0.000000m)	(-103690.878188m, -3012445.452903m)
8	Curve	40.122m	80.593m		1778.767m	1818.889m	208° 48' 30"	237° 20' 30"	1799.253m	(-103700.749804m, -3012463.403770m, 0.000000m)	(-103673.630765m, -3012434.398089m, 0.000000m)	(-103630.157202m, -3012502.224360m, 0.000000m)	(-103690.878188m, -3012445.452903m)
9	Line	315.504m		237° 20' 30"	1818.889m	2134.393m				(-103673.630765m, -3012434.398089m, 0.000000m)	(-103408.006839m, -3012264.144560m, 0.000000m)	(-103325.074625m, -3012393.531586m, 0.000000m)	(-103389.061060m, -3012252.001816m)
10	Curve	44.687m	153.683m		2134.393m	2179.080m	237° 20' 30"	254° 00' 10"	2156.866m	(-103408.006839m, -3012264.144560m, 0.000000m)	(-103367.430298m, -3012245.800121m, 0.000000m)	(-103325.074625m, -3012393.531586m, 0.000000m)	(-103389.061060m, -3012252.001816m)
11	Line	260.009m		254° 00' 10"	2179.080m	2439.089m				(-103367.430298m, -3012245.800121m, 0.000000m)	(-103117.490715m, -3012174.140645m, 0.000000m)	(-103325.074625m, -3012393.531586m, 0.000000m)	(-103389.061060m, -3012252.001816m)

Benchmark No.	X-Coordinate	Y-Coordinate	Z-Coordinate	Description
7000	-103099.84	-3012165.654	1381.931	12MM IRON PEG
7001	-103429.057	-3012267.895	1379.321	12MM IRON PEG
7002	-103692.635	-3012434.097	1377.139	FRESH HYDRANT
7003	-103789.147	-3012576.171	1378.526	MAN-HOLE
7004	-103791.108	-3012767.044	1377.782	12MM IRON PEG
7005	-103700.093	-3013092.717	1378.258	12MM IRON PEG
7006	-103319.965	-3013398.163	1372.746	12MM IRON PEG
7007	-103090.864	-3013551.728	1366.662	12MM IRON PEG
7008	-102816.533	-3013764.886	1360.309	12MM IRON PEG NEXT TO ANCHOR WIRE
7009	-103151.531	-3013164.306	1370.401	MAN-HOLE
7010	-102954.641	-3012964.4	1367.246	12MM IRON PEG
7011	-102747.787	-3012900.241	1369.492	12MM IRON PEG
7012	-102566.978	-3012795.049	1374.051	12MM IRON PEG

SCALES:  
Horizontal 1:100  
Vertical 1:10  
DATUM 1369.000



LONGSECTION ALIGNMENT 1  
FROM 544.171 TO 816.256

NR.	DATE	DESCRIPTION

CONSULTANTS DETAIL:  
TEKROD CONSULTING ENGINEERS  
21 RIVIER STREET  
VILLA PEREZ  
UNIT No.8  
POTCHEFSTROOM  
2531  
TEL : 015 023 1118  
eMAIL: admin@tekrod.co.za  
WEBSITE: www.Tekrod.co.za



CLIENT DETAIL:  
MAQUASSI HILLS LOCAL MUNICIPALITY  
13 KRUGER STREET  
PRIVATE BAG X 3  
WOLMARANSSTAD  
2630  
TEL : 018 065 0010  
FAX : 018 596 1555



DESIGNED BY  
TEKROD CONSULTING ENGINEERS  
DRAWING CHECKED BY  
TEKROD CONSULTING ENGINEERS  
DRAWN BY  
TEKROD CONSULTING ENGINEERS  
CIVIL DRAUGHTING SERVICES  
TEKROD CONSULTING ENGINEERS

LOCATION OF PROJECT: **NORTH WEST: WOLMARANSSTAD**

DESCRIPTION OF PROJECT:  
**UPGRADING OF GRAVEL ROAD TO BLOCK PAVING  
BETWEEN MAITEMOGELO TAXI ROUTE AND N12  
ROAD 1 LAYOUT PLAN & LONG SECTION**

CONTRACT NO: TBC PROJECT NO: 001 - R SCALE: 1:1000 DATE: JUNE - 2026 SHEET NO: 30F9

**SHEET LAYOUT**

**PROJECT STATUS**

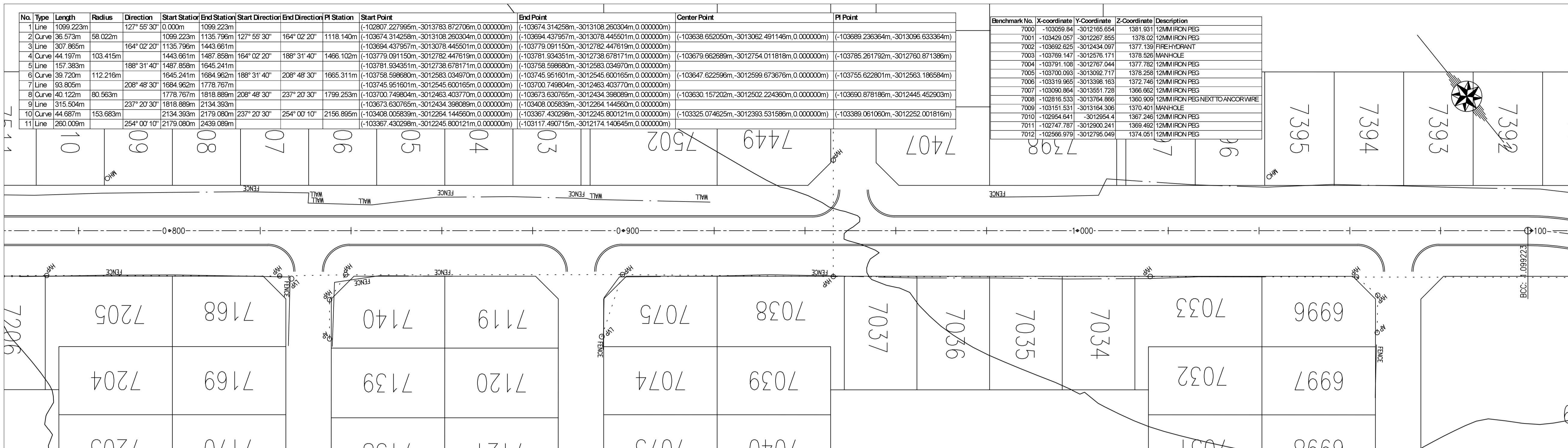
CONCEPT DRAWING:  TENDER DRAWING:  APPROVED FOR CONSTRUCTION DRAWING:  AS-BUILT DRAWING:

DESIGNED BY: \_\_\_\_\_ SIGNATURE & P.R. NUMBER: \_\_\_\_\_ DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

REMARKS: \_\_\_\_\_ ORIGINAL PROJECT SIZE: **A1**  
DRAWING NO: **002-W17-03** SHEET NO: **30F9**

LEGEND

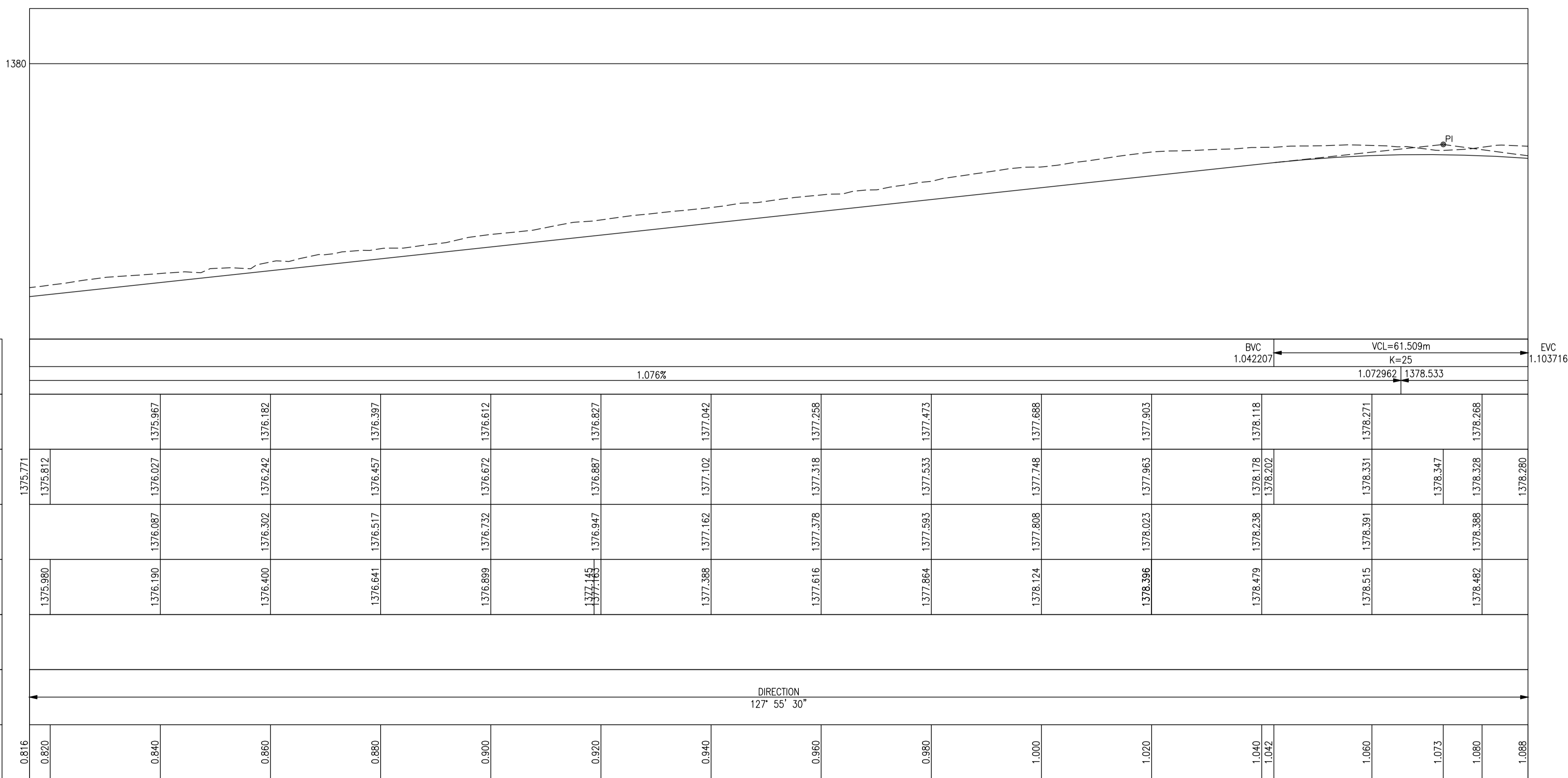
- ROADS:**
- KERBING TO BE AS PER STANDARD DETAIL PLANS.
  - TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
  - ALL LEVELS TO BE CONFIRMED ON SITE.
- STORMWATER**
- MINIMUM PIPE DIAMETER TO BE 450mm.
  - MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
  - PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
  - ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
  - CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
  - BELL MOUTHS TO HAVE FIGS& KERBS



SCALES:  
Horizontal 1:100  
Vertical 1:10

DATUM 1375.000

VERTICAL PROFILE GRADES	
FINAL DESIGN ROAD LEVELS	LEFT EDGE (HL)
	CENTRE LINE (CL)
	RIGHT EDGE (HR)
GROUND LEVELS ON CL	
SUPERELEVATION	
HORIZONTAL ALIGNMENT	
DISTANCE (km)	



LONGSECTION ALIGNMENT 1  
FROM 816.256 TO 1088.342

AMENDMENTS		
NR.	DATE	DESCRIPTION

CONSULTANTS DETAIL:  
TEKROD CONSULTING ENGINEERS  
21 RIVIER STREET  
VILLA PEREZ  
UNIT No.8  
POTCHEFSTROOM  
2531  
TEL : 015 023 1118  
eMAIL: admin@tekrod.co.za  
WEBSITE: www.Tekrod.co.za



CLIENT DETAIL:  
MAQUASSI HILLS LOCAL MUNICIPALITY  
13 KRUGER STREET  
PRIVATE BAG X 3  
WOLMARANSSTAD  
2630  
TEL : 018 065 0010  
FAX : 018 596 1555



DESIGNED: TEKROD CONSULTING ENGINEERS  
DRAWING CHECKED BY: TEKROD CONSULTING ENGINEERS  
DRAWN: TEKROD CONSULTING ENGINEERS  
CIVIL DRAUGHTING SERVICES: TEKROD CONSULTING ENGINEERS

LOCATION OF PROJECT: NORTH WEST: WOLMARANSSTAD  
DESCRIPTION OF PROJECT: UPGRADING OF GRAVEL ROAD TO BLOCK PAVING BETWEEN MAITEMOGELO TAXI ROUTE AND N12 ROAD 1 LAYOUT PLAN & LONG SECTION  
CONTRACT NO: TBC  
PROJECT NO: 001 - R  
SCALE: 1:1000  
DATE: JUNE - 2026

SHEET LAYOUT

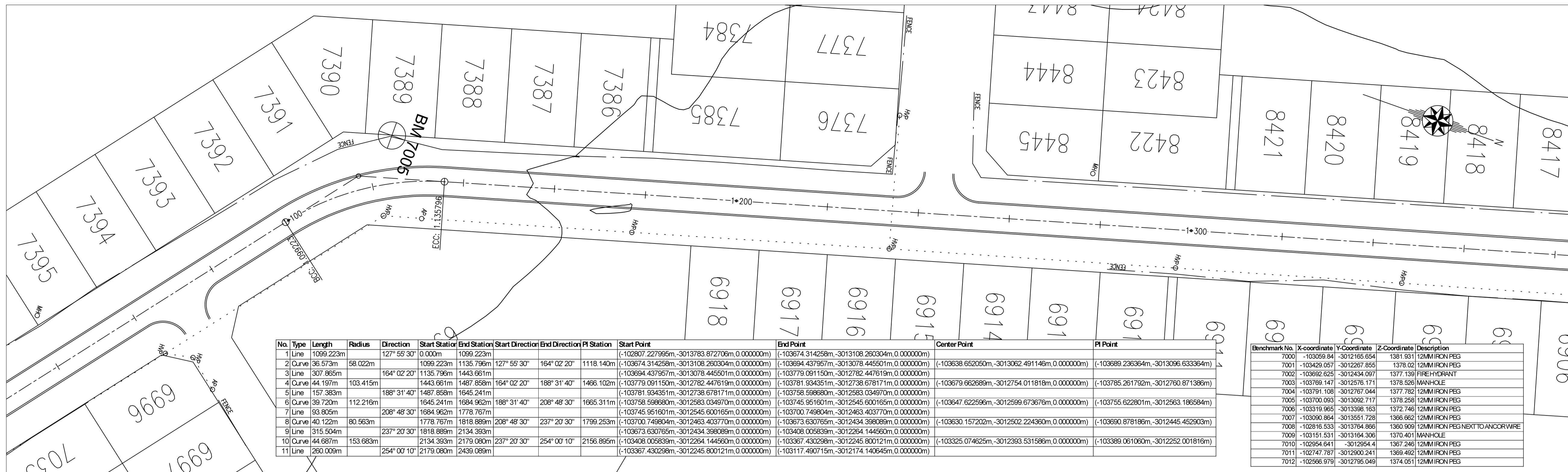
PROJECT STATUS

<input type="radio"/> CONCEPT DRAWING	<input type="radio"/> TENDER DRAWING	<input type="radio"/> APPROVED FOR CONSTRUCTION DRAWING	<input type="radio"/> ADULT DRAWING
PROJECT ENGINEER	SIGNATURE & P. NUMBER	DATE	
REMARKS	SIGNATURE	DATE	
DRAWING NO: 002-W17-04	SHEET NO: 40F9		

LEGEND

- ROADS:**
1. KERBING TO BE AS PER STANDARD DETAIL PLANS.
  2. TRAFFIC CONTROL MUST COMPLY WITH THE REQUIREMENTS OF THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL (THIRD EDITION).
  3. ALL LEVELS TO BE CONFIRMED ON SITE.

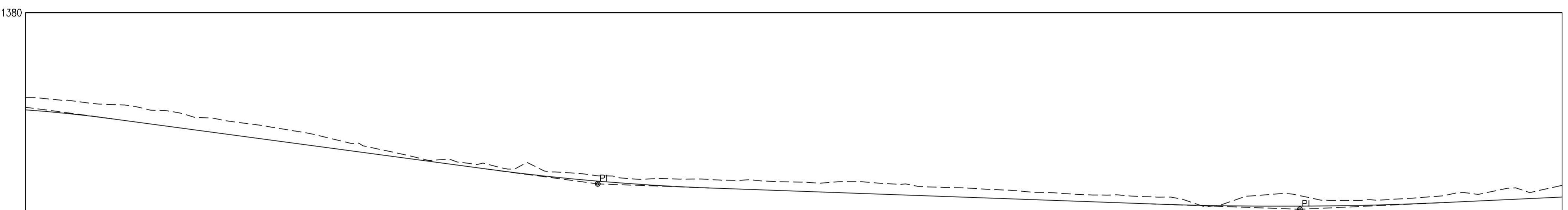
- STORMWATER**
1. MINIMUM PIPE DIAMETER TO BE 450mm.
  2. MINIMUM PIPE FALL TO BE 1:200(1%) UNLESS OTHERWISE APPROVED BY MUNICIPALITY.
  3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
  4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
  5. CLEAN EXISTING STORMWATER INLETS AND REPAIR WHERE NECESSARY (IF APPLICABLE).
  6. BELL MOUTHS TO HAVE FIGS & KERBS



Benchmark No.	X-Coordinate	Y-Coordinate	Z-Coordinate	Description
7000	-103659.64	-3012165.654	1381.831	12MM IRON PEG
7001	-103429.057	-3012267.855	1378.02	12MM IRON PEG
7002	-103692.625	-3012434.097	1377.139	FIRE HYDRANT
7003	-103791.147	-3012576.171	1378.526	MANHOLE
7004	-103791.108	-3012767.044	1377.782	12MM IRON PEG
7005	-103700.093	-3013092.717	1378.258	12MM IRON PEG
7006	-103319.865	-3013398.163	1372.746	12MM IRON PEG
7007	-103040.864	-3013551.728	1366.562	12MM IRON PEG
7008	-102816.533	-3013764.866	1360.909	12MM IRON PEG NEXT TO ANCHOR WIRE
7009	-103151.531	-3013164.306	1370.401	MANHOLE
7010	-102954.641	-3012954.4	1367.246	12MM IRON PEG
7011	-102747.787	-3012900.241	1369.492	12MM IRON PEG
7012	-102566.979	-3012795.048	1374.051	12MM IRON PEG

SCALES:  
Horizontal 1:100  
Vertical 1:10

DATUM 1375.000



VERTICAL PROFILE GRADES	BVC		EVC		Grade (%)
	Station	Station	Station	Station	
	1.072962	1.103716	1.169929	1.209391	-1.339%
					1.189660   1.376.970
					-0.361%
					1.287590
					1.314007   1.376.521
					0.466%
					1.340424

FINAL DESIGN ROAD LEVELS	Station		Level (m)
	Left Edge (HL)	Right Edge (HR)	
	1.088	1.100	1377.977
	1.100	1.104	1377.903
	1.104	1.120	1377.655
	1.120	1.140	1377.367
	1.140	1.160	1377.234
	1.160	1.170	1377.112
	1.170	1.180	1377.018
	1.180	1.190	1376.943
	1.190	1.200	1376.899
	1.200	1.209	1376.860
	1.209	1.220	1376.800
	1.220	1.240	1376.728
	1.240	1.260	1376.656
	1.260	1.280	1376.584
	1.280	1.288	1376.516
	1.288	1.300	1376.443
	1.300	1.314	1376.375
	1.314	1.320	1376.307
	1.320	1.340	1376.239
	1.340	1.360	1376.171

GROUND LEVELS ON CL	Station		Level (m)
	Left	Right	
	1.088	1.100	1378.394
	1.100	1.104	1378.140
	1.104	1.120	1377.832
	1.120	1.140	1377.584
	1.140	1.160	1377.384
	1.160	1.170	1377.207
	1.170	1.180	1377.112
	1.180	1.190	1377.063
	1.190	1.200	1376.920
	1.200	1.209	1376.848
	1.209	1.220	1376.776
	1.220	1.240	1376.704
	1.240	1.260	1376.632
	1.260	1.280	1376.560
	1.280	1.288	1376.488
	1.288	1.300	1376.416
	1.300	1.314	1376.344
	1.314	1.320	1376.272
	1.320	1.340	1376.200
	1.340	1.360	1376.128

SUPERELEVATION	Station		Left (%)	Right (%)
	Left	Right		
	1.088	1.100	0.00	0.00
	1.100	1.104	0.00	0.00
	1.104	1.120	0.00	0.00
	1.120	1.140	0.00	0.00
	1.140	1.160	0.00	0.00
	1.160	1.170	0.00	0.00
	1.170	1.180	0.00	0.00
	1.180	1.190	0.00	0.00
	1.190	1.200	0.00	0.00
	1.200	1.209	0.00	0.00
	1.209	1.220	0.00	0.00
	1.220	1.240	0.00	0.00
	1.240	1.260	0.00	0.00
	1.260	1.280	0.00	0.00
	1.280	1.288	0.00	0.00
	1.288	1.300	0.00	0.00
	1.300	1.314	0.00	0.00
	1.314	1.320	0.00	0.00
	1.320	1.340	0.00	0.00
	1.340	1.360	0.00	0.00

HORIZONTAL ALIGNMENT	Station		Direction
	Left	Right	
	1.088	1.100	127° 55' 30"
	1.100	1.104	164° 02' 20"
	1.104	1.120	164° 02' 20"
	1.120	1.140	164° 02' 20"
	1.140	1.160	164° 02' 20"
	1.160	1.170	164° 02' 20"
	1.170	1.180	164° 02' 20"
	1.180	1.190	164° 02' 20"
	1.190	1.200	164° 02' 20"
	1.200	1.209	164° 02' 20"
	1.209	1.220	164° 02' 20"
	1.220	1.240	164° 02' 20"
	1.240	1.260	164° 02' 20"
	1.260	1.280	164° 02' 20"
	1.280	1.288	164° 02' 20"
	1.288	1.300	164° 02' 20"
	1.300	1.314	164° 02' 20"
	1.314	1.320	164° 02' 20"
	1.320	1.340	164° 02' 20"
	1.340	1.360	164° 02' 20"

DISTANCE (km)	Station	
	Left	Right
	1.088	1.100
	1.100	1.104
	1.104	1.120
	1.120	1.140
	1.140	1.160
	1.160	1.170
	1.170	1.180
	1.180	1.190
	1.190	1.200
	1.200	1.209
	1.209	1.220
	1.220	1.240
	1.240	1.260
	1.260	1.280
	1.280	1.288
	1.288	1.300
	1.300	1.314
	1.314	1.320
	1.320	1.340
	1.340	1.360

LONGSECTION ALIGNMENT 1 FROM 1088.342 TO 1360.427

AMENDMENTS		
NR.	DATE	DESCRIPTION

CONSULTANTS DETAIL:  
TEKROD CONSULTING ENGINEERS  
21 RIVIER STREET  
VILLA PEREZ  
UNIT No.8  
POTCHEFSTROOM  
2531  
TEL : 015 023 1118  
eMAIL: admin@tekrod.co.za  
WEBSITE: www.Tekrod.co.za



CLIENT DETAIL:  
MAQUASSI HILLS LOCAL MUNICIPALITY  
13 KRUGER STREET  
PRIVATE BAG X 3  
WOLMARANSSTAD  
2630  
TEL : 018 065 0010  
FAX : 018 596 1555



DESIGNED BY  
TEKROD CONSULTING ENGINEERS  
DRAWING CHECKED BY  
TEKROD CONSULTING ENGINEERS  
DRAWN BY  
TEKROD CONSULTING ENGINEERS  
CIVIL DRAUGHTING SERVICES  
TEKROD CONSULTING ENGINEERS

LOCATION OF PROJECT:  
**NORTH WEST: WOLMARANSSTAD**  
DESCRIPTION OF PROJECT:  
**UPGRADING OF GRAVEL ROAD TO BLOCK PAVING BETWEEN MAITEMOGELO TAXI ROUTE AND N12 ROAD 1 LAYOUT PLAN & LONG SECTION**  
DRAWING NO: TBC  
PROJECT NO: 001 - R  
SCALE: 1:1000  
DATE: JUNE - 2026

**SHEET LAYOUT**

**PROJECT STATUS**

CONCEPT DRAWING:  TENDER DRAWING:  APPROVED FOR CONSTRUCTION DRAWING:  AS-BUILT DRAWING:

PROJECT ENGINEER: \_\_\_\_\_  
SIGNATURE AND P. NUMBER: \_\_\_\_\_ DATE: \_\_\_\_\_  
REMARKS: \_\_\_\_\_  
DRAWING NO: 002-W17-05  
SHEET NO: 50F9