NOTES:

1. ALL LEVELS, DIMENSIONS AND SETTING OUT DETAILS TO BE VERIFIED BY CONSULTANT AND CONTRACTORS ON SITE PRIOR TO CONSTRUCTION.
2. PIPE CULVERTS ARE TO BE LAID IN ACCORDANCE WITH SD 0401 WITH HEADWALLS AS PER SD 0402, SD 0403 OR SD 0406. MIN DIA = 450MM FOR MINOR ACCESS ROADS AND ACCESS BELL-MOUTHS, AND MIN DIA = 600MM FOR MAJOR ROAD CROSS DRAINAGE.
3. FOR EROSION CONTROL GABION MATTRESSES ARE RECOMMENDED AT CULVERT INLETS AND OUTLETS.
4. EARTH BERMS ARE TO BE CONSTRUCTED AT CULVERT INLETS TO DIRECT STORM-WATER INTO CULVERTS WHERE NECESSARY.
5. ROCK BOLSTERS ARE TO BE PLACED ACROSS THE INVERT OF DRAINS SUSCEPTIBLE TO EROSION FOR EVERY 2M VERTICAL DROP.
6. GRASSED/CONCRETE LINED V-DRAINS AS PER SD 0601/3 & 4 ARE RECOMMENDED FOR SHALLOW CUTTINGS OF DEPTH LESS THAN 5MM MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY. CONCRETE LINED 1000V - DRAINS AS PER SD 0601/2 ARE RECOMMENDED FOR DEEP CUTTINGS OF DEPTH GREATER THAN 5M MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY.
7. SUBSOIL DRAINS AS PER SD 0501 ARE TO BE INSTALLED WITH 1000 V - DRAINS OR WHERE HIGH WATER TABLES ARE ENCOUNTERED.
8. KERB AND CHANNEL DRAINS AS PER SD 0701 ARE TO BE PROVIDED WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT
9. WHERE SURFACE RUNOFF IS TOWARD THE ROAD, CATCH-WATER BANKS ARE TO BE PROVIDED TO DIVERT STORM-WATER TO MAJOR CROSS DRAINAGE STRUCTURES.
10. THE POSITIONS OF ACCESSES ARE TO BE DETERMINED IN CONSULTATION WITH THE LOCAL COMMUNITY. DAYLIGHTING REQUIREMENTS ARE TO BE DECIDED BY THE ENGINEER ON SITE. CONCRETE WEDGES AS PER SD 0303 MAY BE USED IN PLACE OF SURFACED BELL-MOUTHS FOR ACCESSES SERVING SINGLE RESIDENTIAL PROPERTIES.
11. GUARDRAILS ARE TO BE INSTALLED IN ACCORDANCE WITH SD 1101 AND SD 1102 WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT OR WHERE HAZARDOUS OBSTRUCTIONS CANNOT BE REMOVED.
12. EXISTING ROAD SIGNS, SERVICES AND FENCING AFFECTED BY CONSTRUCTION ARE TO BE REMOVED/ RELOCATED WHERE NECESSARY.
13. UNDERGROUND SERVICE CROSSINGS AND MARKERS ARE TO BE IN ACCORDANCE WITH SD 1001 - 3.
14. ALL NEW ROAD SIGNS AN ROAD MARKING REQUIREMENTS ARE TO CONFORM TO THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY ROAD TRAFFIC SIGNS MANUAL (SADC - RTSM).
15. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH "COTO SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES."
16. ALL SURVEY AND SETTING OUT DATA PROVIDED IS BASED ON (WGS 84/31)
17. NEW FILLS AND EXPOSED CUTTINGS ARE TO BE TOP-SOILED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
18. INTERSECTIONS DESIGNED SET OUT FROM EDGE OF EXISTING ROAD
19. ALL EXISTING CULVERTS ARE TO BE DEMOLISHED
20. ACCESS SCOOPS TO BE POSITIONED ON SITE
21. ALL PROPOSED DRIVEWAYS TYING INTO D1001 TO BE CONCRETE SURFACED
22. ALL PROPOSED CONCRETE SURFACING TO FOLLOW DWG. NO. C47122

NOTATION

BCC : BEGINNING OF CIRCULAR CURVE
ECC : END OF CIRCULAR CURVE
PI : POINT OF INTERSECTION
R : RADIUS OF CIRCULAR CURVE
Δ : DEFLECTION ANGLE CIRCULAR CURVE
Lc : LENGTH OF CIRCULAR CURVE
T : LENGTH OF CURVE TANGENT
BT : BEGINNING OF TAPER
ET: END OF TAPER
C2 : STRAIGHT ACCESS SCOOP
C3 : SKEW ACCESS SCOOP

BEACON PEG CO-ORDINATES (Lo31)

POINT	Y	X	LEVEL (m)
AA01	42756.618	3273086.739	816.748
AA02	42668.456	3273281.353	811.572
AA03	42628.470	3273510.559	823.238
AA04	42559.014	3273536.318	823.884
AA05	42441.831	3273553.435	816.154
AA06	42238.754	3273586.314	817.613
AA07	42151.965	3273621.991	806.415
AA08	42082.561	3273914.972	795.913

HORIZONTAL ALIGNMENT

D1001

Position	Chainage	Y-Coord	X-Coord	Radius	Tan	Deflection
Start	0+004.08	42772.12	3273088.07	0.00		
BCC1	0+086.07	42733.86	3273160.58			
PI1	0+226.28	42667.89	3273285.60	900.00	141.36	17°51'08"
ECC1	0+366.49	42643.43	3273424.83			
BCC2	0+400.10	42637.61	3273457.93			
PI2	0+479.91	42620.73	3273554.01	110.00	97.55	83°08'11"
ECC2	0+559.72	42523.32	3273548.73			
BCC3	0+643.86	42439.30	3273544.18			
PI3	0+697.74	42384.65	3273541.22	250.00	54.74	24°41'57"
ECC3	0+751.63	42333.75	3273561.36			
BCC4	0+879.79	42214.59	3273608.54			
PI4	0+938.66	42155.77	3273631.82	130.00	63.26	51°53'56"
ECC4	0+997.54	42137.80	3273692.48			

INTERSECTION SCHEDULE

CHAINAGE	ROAD NAME	DIRECTION	TYPE
START (CH0)	P26	T-JUNCTION	A1
CH 55.25	ACCESS ROAD 1	RHS	B3
CH 70.00	ACCESS ROAD 1b	LHS	B3
CH 452,34	ACCESS ROAD 2	CROSS	B3
	ACCESS ROAD 3		
CH 656,50	D1000	RHS	B1
CH 880.00	L1136	LHS	B3
CH 880.00	L1686	RHS	B3

FOR B1/B3 INTERSECTION DETAILS REFER TO DWG No. SD 0303
FOR A1 INTERSECTION DETAILS REFER TO DWG No. SD 0301

CATCH WATER SCHEDULE - D1001

START (CH)	END (CH)	DIRECTION
1040	1180	RHS

FOR CATCHWATER DETAILS REFER TO DWG No. SD 0605

PIPE CROSSING SCHEDULE- D1001

NO.	CH	DIAMETER(mm)	CLASS	BEDDING	LENGTH(m)	SKEW (°)	INLET (m)	OUTLET (m)	GRADE (%)	AREA (ha)	FLOW	CAPACITY(m^3/s)	VELOCITY (m/s)	INLET TYPE
1	182,00	900,00	75D	CLASS C	13,215	21,975	810,115	809,895	1,72	4,587	2%	1,170	3,380	HW
2	639,00	900,00	75D	CLASS C	17,549	6,229	817,189	815,179	11,61	7,495	4,2%	0,670	5,730	HW

FOR PIPE DETAILS REFER TO DWG NO. SD 0406

INCREASING CHAINAGE — LHS — RHS — CL

SKEW REFERENCE ANGLE

SIDE DRAINAGE SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	LHS DRAIN TYPE	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)	RHS DRAIN TYPE
20	410	390	TOE DRAIN	200	420	220	TOE DRAIN
420	550	130	1000V DRAIN	430	530	100	1000V DRAIN
550	760	210	TOE DRAIN	805	930	125	1000V DRAIN
900	910	10	TOE DRAIN	940	1030	90	TOE DRAIN

FOR 1000 'V' DRAIN DETAILS REFER TO DWG NO. SD 0601 | FOR TOE DRAIN REFER TO TOE DRAIN TYPICAL DETAIL

BUS BAY SCHEDULE

CHAINAGE	DIRECTION
CH 800.00	RHS
CH 930.00	LHS

FOR DETAILS REFER TO DWG NO. SD 0305

CATCH WATER SCHEDULE L1686

START (CH)	END (CH)	DIRECTION
20.000	73.000	RHS

FOR CATCHWATER DETAILS REFER TO DWG No. SD 0605

MITRE CHUTE SCHEDULE

LHS CHAINAGE (m)	RHS CHAINAGE (m)
182 x2	200
421	421
545	530
640	938
760	1030
910	

FOR DETAILS REFER TO DWG NO. SD 0603/1 - SD 0603/2

SIGN POSTING SCHEDULE

LEFT HAND SIDE CH	SIGN	SIZE	RIGHT HAND SIDE CH	SIGN	SIZE
0	W409	900mm	11	R1	900mm
40	R201-40	900mm	55	R1	900mm
55	W409	900mm	70	W409	900mm
70	R1	900mm	120	W302	900mm
355	W101	900mm	420	W405 +W406	450x 900mm
452	R1	900mm	440	W405 +W406	450x 900mm
600	W108	900mm	450	R1	900mm
640	GD4 (D1000)	900mm	480	W405 +W406	450x 900mm
656	W409	900mm	500	W405 +W406	450x 900mm
780	W332	900mm	520	W405 +W406	450x 900mm
800	W101	900mm	540	W405 +W406	450x 900mm
860	GD4 (L1686)	900mm	560	W101	900mm
	GD4 (L1136)	900mm	650	R1	900mm
880	R1	900mm	690	GD4 (D1000)	900mm
945	R121	900mm	720	W107	900mm
1060	R201-60	900mm	825	W121	900mm
			873	R1	900mm
			910	GD4 (L1136)	900mm
				GD4 (L1686)	900mm
			997	W302	900mm
			1060	R201-40	900mm

GUARDRAILS SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)
935	1030	95	100	340	240
			580	680	100

FOR DETAILS REFER TO DWG NO. SD 1101

ROAD MARKING SCHEDULE

TYPE	START CH	END CH
WM3	0	260
WM3 + RM1 (LHS)	260	440
RM2	440	1240
WM3 + RM1 (RHS)	1240	1440
WM3	1440	1620
WM3 + RM1 (RHS)	1620	1700

SIDEWALK SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)
600	1000	400	0	600	600

AS PER TYPICAL CROSS SECTION BELOW

SPEED SCHEDULE

START	END	POSTED SPEED	DESIGN SPEED
0	1040	40Km/hr	60Km/hr
1040	1200	60Km/hr	60Km/hr

DESIGN SPEED
60km/hr

DRAINAGE SCHEDULE- ACCESS ROADS/DRIVEWAYS

NO.	ROAD NAME	POSITION	CH	DIAMETER(mm)	CLASS	BEDDING	LENGTH(m)
1	AR @ CH70	PC	8,00	450,00	75D	CLASS C	7,50
2	D1001	LHS	155,00	450,00	75D	CLASS C	5,00
3	D1001	RHS	270,00	450,00	75D	CLASS C	5,00
4	D1001	LHS	280,00	450,00	75D	CLASS C	5,00
5	D1001	RHS	366,49	450,00	75D	CLASS C	5,00
6	AR @ CH452.34	PC	13,00	600,00	75D	CLASS C	33,80
7	AR @ CH452.34	PC	10,00	600,00	75D	CLASS C	13,00
8	D1000	PC	21,50	600,00	75D	CLASS C	13,00
9	D1000	RHS	24,00	450,00	75D	CLASS C	5,00
10	D1001	LHS	673,99	450,00	75D	CLASS C	5,00
11	D1001	LHS	735,96	450,00	75D	CLASS C	5,00
12	L1136	PC	14,00	600,00	75D	CLASS C	14,00

FOR PIPE DETAILS REFER TO DWG NO. SD 0406 AND SD 0401
FOR HEADWALL DETAILS REFER TO DWG NO. SD 0402

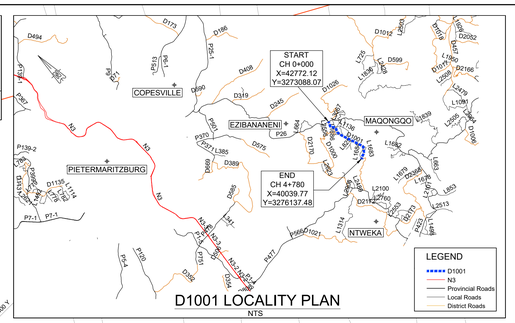
* AR -ACCESS ROAD
DW -DRIVEWAY

LEGEND

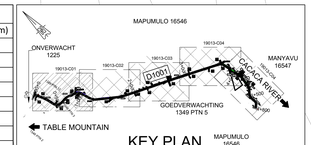
SYMBOL	DESCRIPTION
	CADASTRAL BOUNDARIES
	KERB AND TRANSITION/ FILLET (DETAIL B)
	1000mm WIDE CONCRETE "V" DRAIN (SD 0601/2)
	1500mm WIDE BOLSTER DRAIN (SD 0211)
	TOE DRAIN (AS PER DETAIL)
	CATCH WATER DRAIN (SD 0605)
	EXISTING ROAD RESERVE
	FLOW DIRECTION
	MITRE CHUTE (SD 0603/1 - SD 0603/2)
	GRID INLET (SD 0702)
	JUNCTION BOX (DETAIL F)
	CONCRETE PIPE CULVERT WITH HEADWALLS (SD 0406)
	SPEED HUMP + RUMBLE STRIP (SD 0314A)
	EXISTING EMBANKMENTS
	NEW EMBANKMENTS
	WALKWAYS
	GUARDRAIL (SD 1101)
	EXISTING FENCE LINE
	PROPOSED ROAD RESERVE
	PROPOSED ROAD
	LIMIT OF CONSTRUCTION
	ACCESSES TO BE CLOSED
	PROPOSED REALIGNED WATER LINE AND MARKER POST

EXISTING SERVICES LEGEND

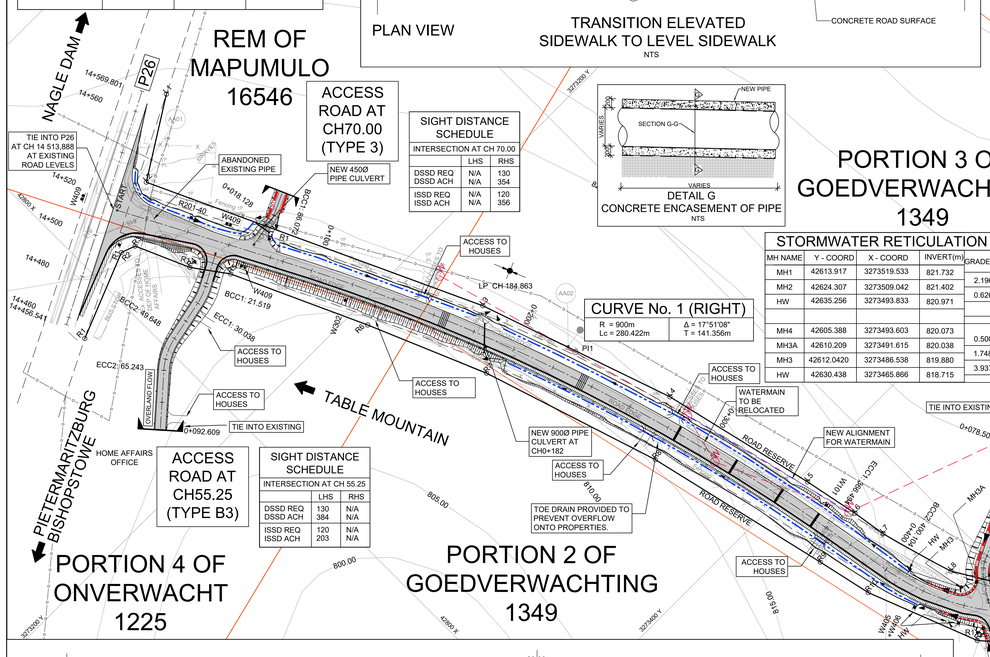
SYMBOL	DESCRIPTION
EP	ELECTRICITY POLE
TP	TELEPHONE POLE
	WATER LINE AND MARKER POST
	ELECTRICAL SERVICES

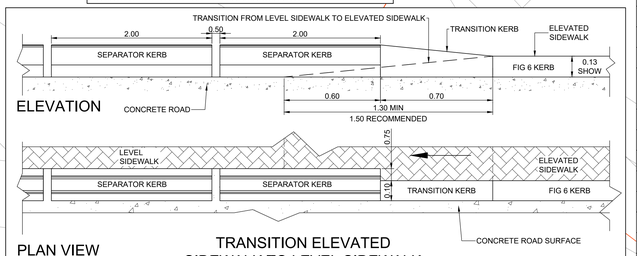


D1001 LOCALITY PLAN
NTS



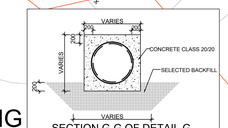
KEY PLAN
NTS





TRANSITION ELEVATED SIDEWALK TO LEVEL SIDEWALK
NTS

DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS



SECTION G-G OF DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS

STORMWATER RETICULATION (MH1 - HW)

MH NAME	Y - COORD	X - COORD	INVERT(m)	GRADE(%)	LENGTH(m)	DIA(mm)
MH1	42613.917	3273519.533	821.732	2.196	15.046	600.00
MH2	42624.307	3273509.042	821.402	0.626	18.740	600.00
HW	42635.256	3273493.833	820.971			
MH4	42605.388	3273493.603	820.073	0.500	7.032	600.00
MH3A	42610.209	3273491.615	820.038	1.748	9.325	600.00
MH3	42612.0420	3273486.538	819.880	3.937	23.224	600.00
HW	42630.438	3273465.866	818.715			

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 70.00

	LHS	RHS
DSSD REQ	N/A	130
DSSD ACH	N/A	354
ISSD REQ	N/A	120
ISSD ACH	N/A	356

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 55.25

	LHS	RHS
DSSD REQ	130	N/A
DSSD ACH	384	N/A
ISSD REQ	120	N/A
ISSD ACH	203	N/A

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 452.34

	LHS	RHS
DSSD REQ	130	130
DSSD ACH	294	84
ISSD REQ	120	120
ISSD ACH	227	91

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 452.34

	LHS	RHS
DSSD REQ	130	130
DSSD ACH	82	345
ISSD REQ	120	120
ISSD ACH	39	32

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 656.50

	LHS	RHS
DSSD REQ	130	130
DSSD ACH	157	183
ISSD REQ	120	120
ISSD ACH	174	171

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 883.38

	LHS	RHS
DSSD REQ	130	130
DSSD ACH	261	93
ISSD REQ	120	120
ISSD ACH	120	140

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 880.00

	LHS	RHS
DSSD REQ	130	130
DSSD ACH	70	180
ISSD REQ	120	120
ISSD ACH	20	130

CURVE No. 1 (RIGHT)

R = 900m | Δ = 17°51'08"
Lc = 280.422m | T = 141.356m

CURVE No. 2 (LEFT)

R = 110.000m | Δ = 83°08'11"
Lc = 159.611m | T = 97.554m

CURVE No. 3 (RIGHT)

R = 250.000m | Δ = 24°41'57"
Lc = 107.771m | T = 54.736m

CURVE No. 4 (RIGHT)

R = 130.000m | Δ = 51°53'56"
Lc = 117.755m | T = 63.263m

L1136 ACCESS LHS AT CH 880.00 (TYPE B3)

L1686 ACCESS RHS AT CH 880.00 (TYPE B3)

D1000 ACCESS RHS AT CH 656.50 (TYPE B1) CONCRETE SURFACE

LHS ACCESS ROAD AT CH 452.34 (TYPE B3)

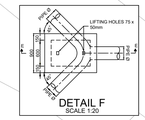
RHS ACCESS ROAD AT CH 452.34 (TYPE B3)

BUS BAY SETTING OUT

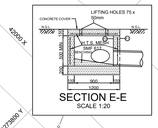
POINT	Y - COORD	X - COORD	LEVEL (m)
B1A	42315.636	3273572.301	816.257
B1B	42298.770	3273584.033	815.927
B1C	42284.823	3273589.554	815.647
B1D	42264.497	3273592.545	815.217

BUS BAY SETTING OUT

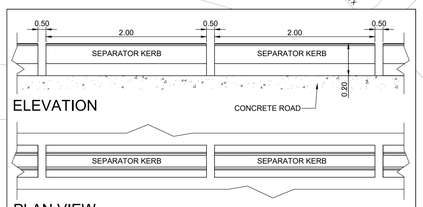
Point	Y - Coord	X - Coord	Level (m)
B2A	42193.593	3273614.829	812.359
B2B	42174.870	3273622.498	811.243
B2C	42163.144	3273633.292	810.091
B2D	42157.377	3273646.663	808.524



DETAIL F
SCALE 1:20



SECTION E-E
SCALE 1:20

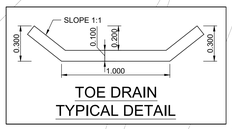


SEPARATOR KERB TYPICAL ARRANGEMENT
NTS

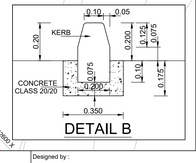
LAYERWORKS SCHEDULE

NO	LAYER
1	175mm JOINTED UNREINFORCED DOWELED (35MPa) CONCRETE PAVEMENT (JCP)
2	150mm C4 SUBBASE LAYER COMPACTED TO 97% OF MDD
3	150mm G7 UPPER SELECTED LAYER COMPACTED TO 95% OF MDD
4	150mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
5	100mm CONCRETE WALKWAY (20MPa)
6	125mm BASE LAYER G7 COMPACTED TO 95% OF MDD
7	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
8	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD

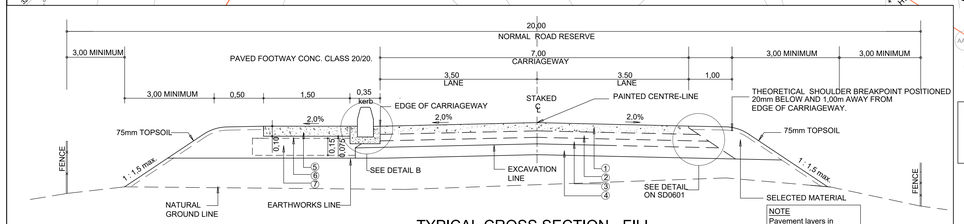
(NOTE: MDD - REFERS TO MAXIMUM DRY DENSITY)



TOE DRAIN
TYPICAL DETAIL

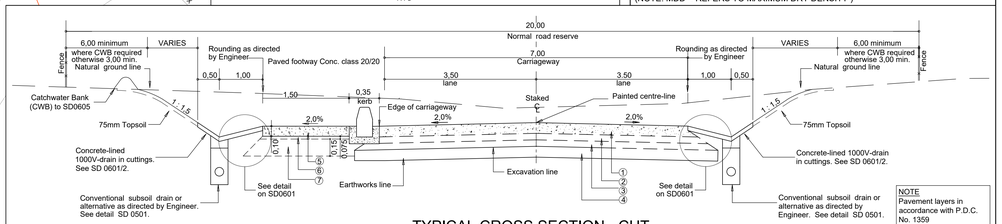


DETAIL B



NOTE
Pavement layers in accordance with P.D.C. No. 1359

TYPICAL CROSS SECTION - FILL
NTS



NOTE
Pavement layers in accordance with P.D.C. No. 1359
For pavement layers refer to Layerworks schedule

TYPICAL CROSS SECTION - CUT
NTS

Symbol	Date	Description	Checked	Signed
0	25/07/2022	FOR CONSTRUCTION	R.SMITH	

AMENDMENTS

AS BUILT

Supervising Engineer — Date
Supervising Authority

Continued from :
Continued on :
Longitudinal Section No :
Cross Section No :
Survey Plan No :

Designed by : Mr M NAICKER
Checked by : Mr R SMITH
Drawn by : Mr J FRANK
Checked by : Mr M NAICKER
Date of approval : 25/07/2022

PROVINCE OF KWAZULU - NATAL - ISIFUNDAZWE SAKWAZULU - NATALI
DEPARTMENT OF TRANSPORT
UMNYANGO WEZOKHTHTHA

Designed by :
NATHOO MBENYANE ENGINEERS
ENGINEERS & PROJECT MANAGERS
46 WOODFORD GROVE
DURBAN
4001
Signed — Date

Transportation Engineer: Chief Engineer
Head : Transport

DISTRICT ROAD 1001 : TABLE MOUNTAIN TO CACACA RIVER

UPGRADE FROM KM 0+000 - KM 4+780

DESIGN AND SERVICES PLAN

Staked Km distance	Sheet No:- 1
0+000 - 1+000	of:- 5
Scale 1:1000	Plan No. C47123

C47123 / 19013

NOTES:

1. ALL LEVELS, DIMENSIONS AND SETTING OUT DETAILS TO BE VERIFIED BY CONSULTANT AND CONTRACTORS ON SITE PRIOR TO CONSTRUCTION.
2. PIPE CULVERTS ARE TO BE LAID IN ACCORDANCE WITH SD 0401 WITH HEADWALLS AS PER SD 0402, SD 0403 OR SD 0406. MIN DIA = 450MM FOR MINOR ACCESS ROADS AND ACCESS BELL-MOUTHS, AND MIN DIA = 600MM FOR MAJOR ROAD CROSS DRAINAGE.
3. FOR EROSION CONTROL GABION MATTRESSES ARE RECOMMENDED AT CULVERT INLETS AND OUTLETS.
4. EARTH BERMS ARE TO BE CONSTRUCTED AT CULVERT INLETS TO DIRECT STORM-WATER INTO CULVERTS WHERE NECESSARY.
5. ROCK BOLSTERS ARE TO BE PLACED ACROSS THE INVERT OF DRAINS SUSCEPTIBLE TO EROSION FOR EVERY 2M VERTICAL DROP.
6. GRASSED/CONCRETE LINED V-DRAINS AS PER SD 0601/3 & 4 ARE RECOMMENDED FOR SHALLOW CUTTINGS OF DEPTH LESS THAN 5MM MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY. CONCRETE LINED 1000V - DRAINS AS PER SD 0601/2 ARE RECOMMENDED FOR DEEP CUTTINGS OF DEPTH GREATER THAN 5M MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY.
7. SUBSOIL DRAINS AS PER SD 0501 ARE TO BE INSTALLED WITH 1000 V - DRAINS OR WHERE HIGH WATER TABLES ARE ENCOUNTERED.
8. KERB AND CHANNEL DRAINS AS PER SD 0701 ARE TO BE PROVIDED WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT
9. WHERE SURFACE RUNOFF IS TOWARD THE ROAD, CATCH-WATER BANKS ARE TO BE PROVIDED TO DIVERT STORM-WATER TO MAJOR CROSS DRAINAGE STRUCTURES.
10. THE POSITIONS OF ACCESSES ARE TO BE DETERMINED IN CONSULTATION WITH THE LOCAL COMMUNITY. DAYLIGHTING REQUIREMENTS ARE TO BE DECIDED BY THE ENGINEER ON SITE. CONCRETE WEDGES AS PER SD 0303 MAY BE USED IN PLACE OF SURFACED BELL-MOUTHS FOR ACCESSES SERVING SINGLE RESIDENTIAL PROPERTIES.
11. GUARDRAILS ARE TO BE INSTALLED IN ACCORDANCE WITH SD 1101 AND SD 1102 WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT OR WHERE HAZARDOUS OBSTRUCTIONS CANNOT BE REMOVED.
12. EXISTING ROAD SIGNS, SERVICES AND FENCING AFFECTED BY CONSTRUCTION ARE TO BE REMOVED/ RELOCATED WHERE NECESSARY.
13. UNDERGROUND SERVICE CROSSINGS AND MARKERS ARE TO BE IN ACCORDANCE WITH SD 1001 - 3.
14. ALL NEW ROAD SIGNS AN ROAD MARKING REQUIREMENTS ARE TO CONFORM TO THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY ROAD TRAFFIC SIGNS MANUAL (SADC - RTSM).
15. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH "COTO SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES ".
16. ALL SURVEY AND SETTING OUT DATA PROVIDED IS BASED ON (WGS 84/31)
17. NEW FILLS AND EXPOSED CUTTINGS ARE TO BE TOP-SOILED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
18. INTERSECTIONS DESIGNED SET OUT FROM EDGE OF EXISTING ROAD
19. ALL EXISTING CULVERTS ARE TO BE DEMOLISHED
20. ACCESS SCOOPS TO BE POSITIONED ON SITE
21. ALL PROPOSED DRIVEWAYS TYING INTO D1001 TO BE CONCRETE SURFACED
22. ALL PROPOSED CONCRETE SURFACING TO FOLLOW DWG. NO. C47122

NOTATION

BCC : BEGINNING OF CIRCULAR CURVE
ECC : END OF CIRCULAR CURVE
PI : POINT OF INTERSECTION
R : RADIUS OF CIRCULAR CURVE
Δ : DEFLECTION ANGLE CIRCULAR CURVE
Lc : LENGTH OF CIRCULAR CURVE
T : LENGTH OF CURVE TANGENT
BT : BEGINNING OF TAPER
ET: END OF TAPER
C2 : STRAIGHT ACCESS SCOOP
C3 : SKEW ACCESS SCOOP

BEACON PEG CO-ORDINATES (Lo31)

POINT	Y	X	LEVEL (m)
AA07	42151.965	3273621.991	806.415
AA08	42082.561	3273914.972	795.913
AA09	41932.910	3274043.096	779.069
AA10	41695.251	3274234.371	760.802
AA11	41459.142	3274334.842	741.303
AA12	41235.269	3274451.716	724.572

HORIZONTAL ALIGNMENT

D1001

Position	Chainage	Y-Coord	X-Coord	Radius	Tan	Deflection
PI4	0+938.66	42155.77	3273631.82	130.00	63.26	51°53'56"
ECC4	0+997.54	42137.80	3273692.48			
BCC5	1+180.11	42085.94	3273867.52			
PI5	1+231.12	42070.99	3273917.96	170.00	52.60	34°23'17"
ECC5	1+282.14	42030.17	3273951.14			
BCC6	1+680.38	41721.16	3274202.34			
PI6	1+752.71	41664.80	3274248.16	650.00	72.63	12°45'05"
ECC6	1+825.04	41599.72	3274280.40			

INTERSECTION SCHEDULE

CHAINAGE	ROAD NAME	DIRECTION	TYPE
CH1588.57	L1685	RHS	B3
CH1865	L824	LHS	B3

FOR B1/B3 INTERSECTION DETAILS REFER TO DWG No. SD 0303

CATCH WATER SCHEDULE - D1001

START (CH)	END (CH)	DIRECTION
1040	1180	RHS

FOR CATCHWATER DETAILS REFER TO DWG No. SD 0605

DRAINAGE SCHEDULE-D1001

NO.	CH	DIAMETER(mm)	CLASS	BEDDING	LENGTH(m)	SKEW (°)	INLET (m)	OUTLET (m)	GRADE (%)	AREA (ha)	FLOW	CAPACITY(m^3/s)	VELOCITY (m/s)	INLET TYPE
3	1020.00	600,00	75D	CLASS C	13,584	0,000	801,660	800,347	9,67	9,485	0,5%	0,420	4,840	HW
4	1181.00	600,00	75D	CLASS C	10,714	0,000	794,261	794,051	1,96	3,251	0,18%	0,690	3,220	GI
5	1508.00	600,00	75D	CLASS C	12,185	4,695	771,019	770,898	1,00	8,261	0,47%	0,370	2,300	HW
6	1570.00	600,00	75D	CLASS C	11,619	0,000	767,518	767,327	1,64	3,100	0,20%	0,566	2,100	HW

FOR PIPE DETAILS REFER TO DWG NO. SD 0406

INCREASING CHAINAGE — LHS / RHS — CL

SKEW REFERENCE ANGLE

SIDE DRAINAGE SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	LHS DRAIN TYPE	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)	RHS DRAIN TYPE
1120	1170	50	1000V DRAIN	940	1030	90	TOE DRAIN
1190	1220	30	1000V DRAIN	1040	1490	450	1000V DRAIN
1250	1270	20	1000V DRAIN	1500	1760	260	TOE DRAIN
1270	1500	230	TOE DRAIN	1840	1900	60	TOE DRAIN
1660	1790	130	TOE DRAIN	1900	1960	60	1000V DRAIN
1880	2010	130	TOE DRAIN	1960	2320	360	TOE DRAIN

FOR 1000 'V' DRAIN DETAILS REFER TO DWG NO. SD 0601 | FOR TOE DRAIN REFER TO TOE DRAIN TYPICAL DETAIL

MITRE CHUTE SCHEDULE

LHS CHAINAGE (m)	RHS CHAINAGE (m)
1181	1490
1228	1758
1275	1900
1500	1952
1785	
2010	

FOR DETAILS REFER TO DWG NO. SD 0603/1 - SD 0603/2

SIGN POSTING SCHEDULE

LEFT HAND SIDE CH	SIGN	SIZE	RIGHT HAND SIDE CH	SIGN	SIZE
1060	W201-60	900mm	1020	W101	900mm
1520	W108	900mm	1060	R201-40	900mm
1560	GD4 L1685	900mm	1570	R1	900mm
1590	W409	900mm	1620	GD4 L1685	900mm
1620	W203	900mm	1640	W107	900mm
1810	W108	900mm	1870	W409	900mm
1875	R1	900mm	1890	GD4 L824	900mm
1960	W108	900mm	1920	W108	900mm
1840	GD4 L824	900mm	2000	R1	900mm
2010	W409	900mm			

BUS BAY SCHEDULE

CHAINAGE	DIRECTION
CH 1700.00	RHS
CH 1760.00	LHS

FOR DETAILS REFER TO DWG NO. SD 0305

GUARDRAILS SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)
935	1030	95			

FOR DETAILS REFER TO DWG NO. SD 1101

ROAD MARKING SCHEDULE

TYPE	START CH	END CH
RM2	455	1678
WM3 + RM1 (RHS)	1678	1693
WM3	1693	1800
WM3 + RM1 (RHS)	1800	2157

SIDEWALK SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)
1000	1240	240	1240	2000	760

AS PER TYPICAL CROSS SECTION BELOW

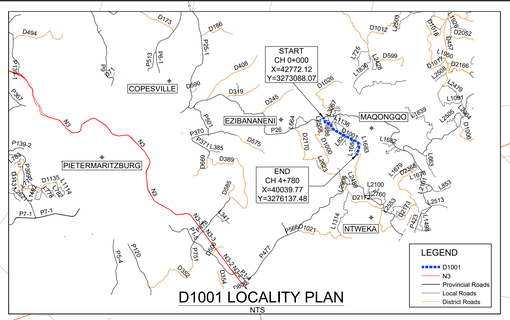
SPEED SCHEDULE

START	END	POSTED SPEED	DESIGN SPEED
1040	2000	60Km/hr	60Km/hr

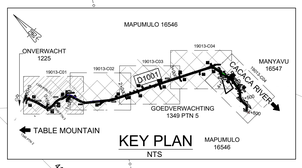
EXPROPRIATION OFFSET LIMITS

APPROXIMATE CO-ORDINATES (Lo31)

POINT	X	Y	POINT	X	Y
R39	42169.784	3273655.225	L21	42156.161	3273624.812
R40	42137.707	3273736.582	L22	42147.962	3273635.953
R41	42128.201	3273774.281	L23	42143.617	3273641.642
R42	42106.730	3273852.507	L24	42122.284	3273684.085
R43	42092.373	3273881.109	L25	42117.879	3273715.451
R43 A	42075.841	3273912.079	L26	42080.946	3273846.470
R44	42060.975	3273937.495	L27	42063.488	3273892.616
R45	42043.221	3273957.698	L28	42038.565	3273930.042
R46	41814.148	3274143.791	L28A	41902.299	3274039.316
R47	41842.369	3274139.554	L29	41682.574	3274217.229
R48	41890.958	3274137.06	L30	41650.665	3274229.402
R49	41891.394	3274157.008	L31	41620.848	3274254.301
R50	41841.845	3274159.975	L32	41568.299	3274282.204
R51	41800.000	3274166.641	L33	41576.302	3274244.656
R52	41791.538	3274159.562	L34	41556.705	3274240.673
R53	41736.559	3274204.698	L35	41544.761	3274293.916
R54	41726.115	3274221.045	L36	41418.185	3274360.141
R55	41715.163	3274231.89	L37	41328.168	3274402.087
R56	41678.537	3274249.049			
R57	41636.677	3274274.777			
R58	41592.623	3274298.27			
R59	41446.896	3274370.555			
R60	41431.915	3274378.338			



D1001 LOCALITY PLAN
NTS



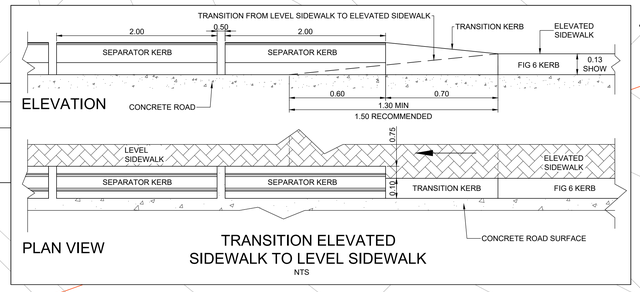
KEY PLAN
NTS

LEGEND

SYMBOL	DESCRIPTION
	CADASTRAL BOUNDARIES
	KERB AND TRANSITION/ FILLET (DETAIL B)
	1000mm WIDE CONCRETE "V" DRAIN (SD 0601/2)
	1500mm WIDE BOLSTER DRAIN (SD 0211)
	TOE DRAIN (AS PER DETAIL)
	CATCH WATER DRAIN (SD 0605)
	EXISTING ROAD RESERVE
	FLOW DIRECTION
	MITRE CHUTE (SD 0603/1 - SD 0603/2)
	GRID INLET (SD 0702)
	JUNCTION BOX (DETAIL F)
	CONCRETE PIPE CULVERT WITH HEADWALLS (SD 0406)
	SPEED HUMP + RUMBLE STRIP (SD 0314A)
	EXISTING EMBANKMENTS
	NEW EMBANKMENTS
	WALKWAYS
	GUARDRAIL (SD 1101)
	EXISTING FENCE LINE
	PROPOSED ROAD RESERVE
	PROPOSED ROAD
	LIMIT OF CONSTRUCTION
	ACCESSES TO BE CLOSED
	PROPOSED REALIGNED WATER LINE AND MARKER POST

EXISTING SERVICES LEGEND

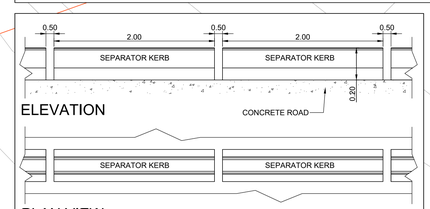
SYMBOL	DESCRIPTION
EP	ELECTRICITY POLE
TP	TELEPHONE POLE
	WATER LINE AND MARKER POST
	ELECTRICAL SERVICES



ELEVATION

PLAN VIEW

TRANSITION ELEVATED SIDEWALK TO LEVEL SIDEWALK
NTS



ELEVATION

PLAN VIEW

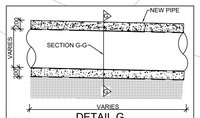
SEPARATOR KERB TYPICAL ARRANGEMENT
NTS

DRAINAGE SCHEDULE - ACCESS ROADS/DRIVEWAYS

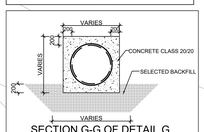
NO.	ROAD NAME	POSITION	CH	DIAMETER(mm)	CLASS	BEDDING	LENGTH(m)
13	D1001	LHS	1375,30	450,00	75D	CLASS C	5,00
14	D1001	LHS	1425,40	450,00	75D	CLASS C	5,00
15	D1001	LHS	1490,00	450,00	75D	CLASS C	5,00
16	L1685	PC	21,43	600,00	75D	CLASS C	22,00
17	D1001	RHS	1647,20	450,00	75D	CLASS C	5,00
18	D1001	LHS	1657,50	450,00	75D	CLASS C	5,00
19	D1001	RHS	1846,10	450,00	75D	CLASS C	5,00
20	L824	PC	8,50	600,00	75D	CLASS C	10,00
21	D1001	RHS	1905,00	450,00	75D	CLASS C	5,00
22	D1001	LHS	1948,00	450,00	75D	CLASS C	5,00
23	AR @ CH2010	PC	13,00	450,00	75D	CLASS C	8,00

FOR PIPE DETAILS REFER TO DWG NO. SD 0406 AND SD 0401
FOR HEADWALL DETAILS REFER TO DWG NO. SD 0402

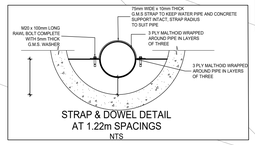
* AR -ACCESS ROAD
DW -DRIVEWAY



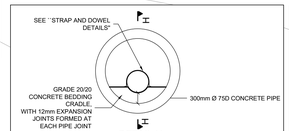
DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS



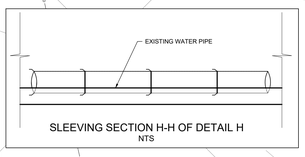
SECTION G-G OF DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS



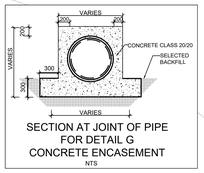
STRAP & DOWEL DETAIL
AT 1.22m SPACINGS
NTS



DETAIL H
SLEEVING FOR EXISTING WATER PIPE ACROSS ROADS
NTS



SLEEVING SECTION H-H OF DETAIL H
NTS



SECTION AT JOINT OF PIPE
FOR DETAIL G
CONCRETE ENCASEMENT
NTS

PORTION 5 OF GOEDVERWACHTING 1349

CURVE No. 4 (RIGHT)

R = 130.000m Δ = 51°53'56"
Lc = 117.755m T = 63.263m

CURVE No. 5 (LEFT)

R = 170.000m Δ = 34°23'17"
Lc = 102.032m T = 52.605m

CURVE No. 6 (RIGHT)

R = 650.000m Δ = 12°45'05"
Lc = 144.659m T = 72.630m

DESIGN SPEED
60km/hr

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B3A	41713,016	3274215,706	762,652
B3B	41698,392	3274230,524	761,468
B3C	41685,251	3274239,347	760,607
B3D	41667,400	3274248,091	759,217

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B4A	41728,520	3274200,870	763,521
B4B	41714,904	3274217,727	762,620
B4C	41702,512	3274227,155	761,823
B4D	41683,610	3274234,973	760,527

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 1588.57	LHS	RHS
DSSD REQ	190	190
DSSD ACH	380	410
ISSD REQ	150	150
ISSD ACH	360	174

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 1865	LHS	RHS
DSSD REQ	190	190
DSSD ACH	340	>190
ISSD REQ	150	150
ISSD ACH	345	>150

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 2010	LHS	RHS
DSSD REQ	190	190
DSSD ACH	>190	230
ISSD REQ	150	150
ISSD ACH	235	162

L1686 ACCESS RHS AT CH 880.00 (TYPE B3)

L1685 ACCESS RHS AT CH 1588.57 (TYPE B3)

L824 ACCESS LHS AT CH 1865.00 (TYPE B3)

ACCESS ROAD AT CH2010 (TYPE B3)

CONTINUED FROM DWG No. 19013 - C01

CONTINUED ON DWG No. 19013 - C03

TABLE MOUNTAIN

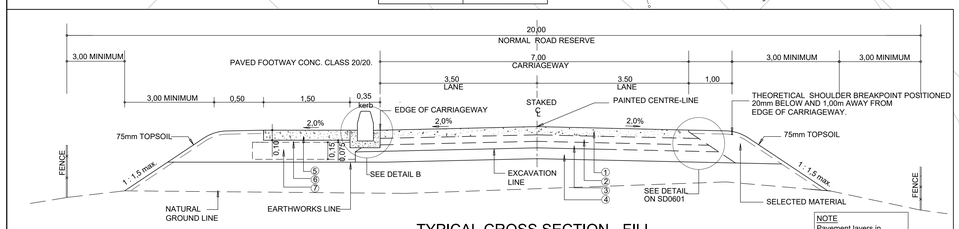
CACACA RIVER

PORTION 5 OF GOEDVERWACHTING 1349

LAYERWORKS SCHEDULE

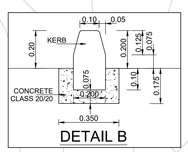
NO	LAYER
1	175mm JOINTED UNREINFORCED DOWELED (35MPa) CONCRETE PAVEMENT (JCP)
2	150mm C4 SUBBASE LAYER COMPACTED TO 97% OF MDD
3	150mm G7 UPPER SELECTED LAYER COMPACTED TO 95% OF MDD
4	150mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
5	100mm CONCRETE WALKWAY (20MPa)
6	125mm BASE LAYER G7 COMPACTED TO 95% OF MDD
7	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
8	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD

(NOTE: MDD - REFERS TO MAXIMUM DRY DENSITY)

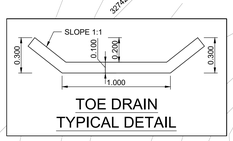


TYPICAL CROSS SECTION - FILL
NTS

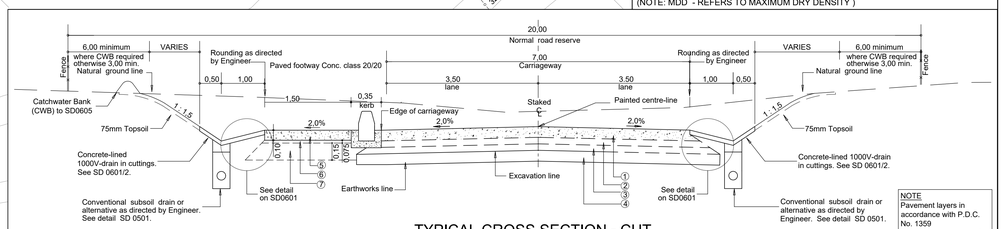
NOTE
Pavement layers in accordance with P.D.C. No. 1359



DETAIL B



TOE DRAIN
TYPICAL DETAIL



TYPICAL CROSS SECTION - CUT
NTS

NOTE
Pavement layers in accordance with P.D.C. No. 1359
For pavement layers refer to Layerworks schedule

Symbol	Date	Description	Checked	Signed
0	25/07/2022	FOR CONSTRUCTION	R.SMITH	

AMENDMENTS

AS BUILT

Supervising Engineer — Date

Supervising Authority

Continued from :	
Continued on :	
Longitudinal Section No :	
Cross Section No :	
Survey Plan No :	
Designed by :	Mr M NAICKER
Checked by :	Mr R SMITH
Drawn by :	Mr J FRANK
Checked by :	Mr M NAICKER
Date of approval :	25/07/2022

PROVINCE OF KWAZULU - NATAL - ISIFUNDAZWE SAKWAZULU - NATALI
DEPARTMENT OF TRANSPORT
UMNYANGO WEZOKTHTHA

Designed by :
NATHOO MBENYANE ENGINEERS
ENGINEERS & PROJECT MANAGERS
46 WOODFORD GROVE
DURBAN
4001
Signed — Date

Transportation Engineer: Chief Engineer

Head : Transport

DISTRICT ROAD 1001 : TABLE MOUNTAIN TO CACACA RIVER

UPGRADE FROM KM 0+000 - KM 4+780

DESIGN AND SERVICES PLAN

Staked Km distance	1+000 - 2+000
Sheet No:-	2
of:-	5
Scale	1:1000
Plan No.	C47124

C47124/ 19013

NOTES:

1. ALL LEVELS, DIMENSIONS AND SETTING OUT DETAILS TO BE VERIFIED BY CONSULTANT AND CONTRACTORS ON SITE PRIOR TO CONSTRUCTION.
2. PIPE CULVERTS ARE TO BE LAID IN ACCORDANCE WITH SD 0401 WITH HEADWALLS AS PER SD 0402, SD 0403 OR SD 0406. MIN DIA = 450MM FOR MINOR ACCESS ROADS AND ACCESS BELL-MOUTHS, AND MIN DIA = 600MM FOR MAJOR ROAD CROSS DRAINAGE.
3. FOR EROSION CONTROL GABION MATTRESSES ARE RECOMMENDED AT CULVERT INLETS AND OUTLETS.
4. EARTH BERMS ARE TO BE CONSTRUCTED AT CULVERT INLETS TO DIRECT STORM-WATER INTO CULVERTS WHERE NECESSARY.
5. ROCK BOLSTERS ARE TO BE PLACED ACROSS THE INVERT OF DRAINS SUSCEPTIBLE TO EROSION FOR EVERY 2M VERTICAL DROP.
6. GRASSED/CONCRETE LINED V-DRAINS AS PER SD 0601/3 & 4 ARE RECOMMENDED FOR SHALLOW CUTTINGS OF DEPTH LESS THAN 5MM MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY. CONCRETE LINED 1000V - DRAINS AS PER SD 0601/2 ARE RECOMMENDED FOR DEEP CUTTINGS OF DEPTH GREATER THAN 5M MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY.
7. SUBSOIL DRAINS AS PER SD 0501 ARE TO BE INSTALLED WITH 1000 V - DRAINS OR WHERE HIGH WATER TABLES ARE ENCOUNTERED.
8. KERB AND CHANNEL DRAINS AS PER SD 0701 ARE TO BE PROVIDED WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT
9. WHERE SURFACE RUNOFF IS TOWARD THE ROAD, CATCH-WATER BANKS ARE TO BE PROVIDED TO DIVERT STORM-WATER TO MAJOR CROSS DRAINAGE STRUCTURES.
10. THE POSITIONS OF ACCESSES ARE TO BE DETERMINED IN CONSULTATION WITH THE LOCAL COMMUNITY. DAYLIGHTING REQUIREMENTS ARE TO BE DECIDED BY THE ENGINEER ON SITE. CONCRETE WEDGES AS PER SD 0303 MAY BE USED IN PLACE OF SURFACED BELL-MOUTHS FOR ACCESSES SERVING SINGLE RESIDENTIAL PROPERTIES.
11. GUARDRAILS ARE TO BE INSTALLED IN ACCORDANCE WITH SD 1101 AND SD 1102 WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT OR WHERE HAZARDOUS OBSTRUCTIONS CANNOT BE REMOVED.
12. EXISTING ROAD SIGNS, SERVICES AND FENCING AFFECTED BY CONSTRUCTION ARE TO BE REMOVED/ RELOCATED WHERE NECESSARY.
13. UNDERGROUND SERVICE CROSSINGS AND MARKERS ARE TO BE IN ACCORDANCE WITH SD 1001 - 3.
14. ALL NEW ROAD SIGNS AN ROAD MARKING REQUIREMENTS ARE TO CONFORM TO THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY ROAD TRAFFIC SIGNS MANUAL (SADC - RTSM).
15. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH "COTO SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES."
16. ALL SURVEY AND SETTING OUT DATA PROVIDED IS BASED ON (WGS 84/31)
17. NEW FILLS AND EXPOSED CUTTINGS ARE TO BE TOP-SOILED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
18. INTERSECTIONS DESIGNED SET OUT FROM EDGE OF EXISTING ROAD
19. ALL EXISTING CULVERTS ARE TO BE DEMOLISHED
20. ACCESS SCOOPS TO BE POSITIONED ON SITE
21. ALL PROPOSED DRIVEWAYS TYING INTO D1001 TO BE CONCRETE SURFACED
22. ALL PROPOSED CONCRETE SURFACING TO FOLLOW DWG. NO. C47122

NOTATION

BCC	:	BEGINNING OF CIRCULAR CURVE
ECC	:	END OF CIRCULAR CURVE
PI	:	POINT OF INTERSECTION
R	:	RADIUS OF CIRCULAR CURVE
Δ	:	DEFLECTION ANGLE CIRCULAR CURVE
Lc	:	LENGTH OF CIRCULAR CURVE
T	:	LENGTH OF CURVE TANGENT
BT	:	BEGINNING OF TAPER
ET	:	END OF TAPER
C2	:	STRAIGHT ACCESS SCOOP
C3	:	SKEW ACCESS SCOOP

BEACON PEG CO-ORDINATES (Lo31)

POINT	Y	X	LEVEL (m)
AA11	41459.142	3274334.842	741.303
AA12	41235.269	3274451.716	724.572
AA13	40961.160	3274607.083	715.407
AA14	40670.748	3274724.410	729.922
AA15	40536.094	3274794.624	727.338

DRAINAGE SCHEDULE- ACCESS ROADS/DRIVEWAYS

NO.	ROAD NAME	POSITION	CH	DIAMETER(mm)	BEDDING	BEDDING	LENGTH(m)
21	D1001	RHS	1905,00	450,00	75D	CLASS C	5,00
22	D1001	LHS	1948,00	450,00	75D	CLASS C	5,00
23	AR @ CH2010	PC	13,00	450,00	75D	CLASS C	8,00
24	D1001	LHS	2133,73	450,00	75D	CLASS C	5,00
25	D1001	RHS	2150,00	450,00	75D	CLASS C	5,00
26	D1001	LHS	2210,00	450,00	75D	CLASS C	5,00
27	AR @ 2260	PC	5,16	450,00	75D	CLASS C	8,00
28	AR @ 2260	PC	35,16	450,00	75D	CLASS C	8,00
29	D1001	LHS	2270,00	600,00	75D	CLASS C	8,00
30	D1001	RHS	2340,00	450,00	75D	CLASS C	5,00
31	L1136	PC	1892,50	600,00	75D	CLASS C	8,00
32	D1001	RHS	2480,00	450,00	75D	CLASS C	5,00
33	D1001	LHS	2520,00	450,00	75D	CLASS C	5,00
34	D1001	LHS	2590,00	450,00	75D	CLASS C	5,00
35	L825	PC	10,00	600,00	75D	CLASS C	8,00
36	L825	PC	51,00	600,00	75D	CLASS C	8,00
37	L3278	PC	10,00	600,00	75D	CLASS C	8,00

FOR PIPE DETAILS REFER TO DWG NO. SD 0406 AND SD 0401
FOR HEADWALL DETAILS REFER TO DWG NO. SD 0402

* AR -ACCESS ROAD
DW -DRIVEWAY

HORIZONTAL ALIGNMENT

D1001

Position	Chainage	Y-Coord	X-Coord	Radius	Tan	Deflection
BCC7	2+807.11	40719.73	3274716.40			
PI7	2+849.62	40681.64	3274735.27	7000.00	42.51	0°41'45"
ECC7	2+892.14	40643.78	3274754.61			

INTERSECTION SCHEDULE

CHAINAGE	ROAD NAME	DIRECTION	TYPE
CH2010	ACCESS ROAD	RHS	B3
CH2260	ACCESS ROAD	RHS	B3
CH2370	L1136	LHS	B3
CH2675	L825	RHS	B3
CH2675	L3278	LHS	B3

FOR B1/B3 INTERSECTION DETAILS REFER TO DWG No. SD 0303

DRAINAGE SCHEDULE-D1001

NO.	CH	DIAMETER(mm)	CLASS	BEDDING	LENGTH(m)	SKEW (°)	INLET (m)	OUTLET (m)	GRADE (%)	AREA (ha)	FLOW	CAPACITY(m^3/s)	VELOCITY (m/s)	INLET TYPE
7	2569,00	900,00	75D	CLASS C	12,068	2,484	715,112	714,871	2,00	7,511	42,910%	0,753	2,890	HW
8	2660,00	600,00	75D	CLASS C	11,946	0,000	715,734	715,648	1,47	7,154	40,873%	0,753	0,820	HW

FOR PIPE DETAILS REFER TO DWG NO. SD 0406

INCREASING CHAINAGE — LHS — RHS — CL

SKEW REFERENCE ANGLE

SIDE DRAINAGE SCHEDULE

LHS				RHS			
START (CH)	END (CH)	LENGTH (m)	DRAIN TYPE	START (CH)	END (CH)	LENGTH (m)	DRAIN TYPE
1880	2010	130	TOE DRAIN	1960	2320	360	TOE DRAIN
2120	2280	160	TOE DRAIN	2590	2790	200	TOE DRAIN
2380	2790	410	TOE DRAIN	2800	3040	240	1000V DRAIN
2800	3040	240	1000V DRAIN				

FOR 1000 'V' DRAIN DETAILS REFER TO DWG NO. SD 0601 | FOR TOE DRAIN REFER TO TOE DRAIN TYPICAL DETAIL

BUS BAY SCHEDULE

CHAINAGE	DIRECTION
CH 2440.00	LHS
CH 2600.00	RHS

FOR DETAILS REFER TO DWG NO. SD 0305

ROAD MARKING SCHEDULE

TYPE	START CH	END CH
WM3 + RM1 (RHS)	1800	2157
WM3	2157	2445
WM3 + RM1 (LHS)	2445	2844
WM3	2844	2933
WM3 + RM1 (RHS)	2933	3243

SIDEWALK SCHEDULE

LHS			RHS		
START (CH)	END (CH)	LENGTH (m)	START (CH)	END (CH)	LENGTH (m)
2460	3000	540	2000	2460	460

AS PER TYPICAL CROSS SECTION BELOW

SPEED SCHEDULE

START	END	POSTED SPEED	DESIGN SPEED
2000	3000	60Km/hr	60Km/hr

MITRE CHUTE SCHEDULE

LHS	RHS
CHAINAGE	CHAINAGE
2290	2320
2569	2569
2660	2660
2800	2800

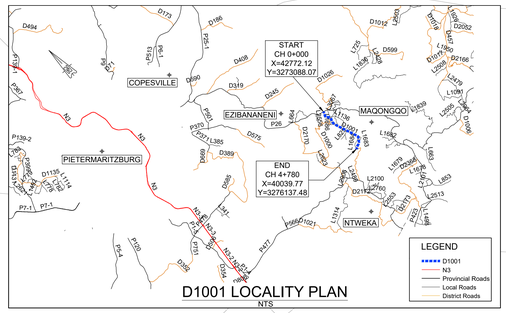
FOR DETAILS REFER TO DWG NO. SD 0603/1 - SD 0603/2

SIGN POSTING SCHEDULE

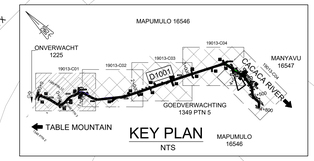
LEFT HAND SIDE			RIGHT HAND SIDE		
CH	SIGN	SIZE	CH	SIGN	SIZE
2010	W409	900mm	2000	R1	900mm
2060	R201-60	900mm	2060	W107	900mm
2220	W108	900mm	2220	R201-60	900mm
2260	W409	900mm	2257	R1	900mm
2280	R301	900mm	2330	W107	900mm
2300	W107	900mm	2370	W409	900mm
2340	GD4 L1136	900mm	2400	GD4 L1136	900mm
2380	R1	900mm	2430	W108	900mm
2600	W101	900mm	2665	R1	900mm
2645	GD4 L3278	900mm	2705	GD4 L3278	900mm
	GD4 L825	900mm		GD4 L825	900mm
2685	R1	900mm	2760	W101	900mm

EXISTING SERVICES LEGEND

SYMBOL	DESCRIPTION
EP	ELECTRICITY POLE
TP	TELEPHONE POLE
W	WATER LINE AND MARKER POST
	ELECTRICAL SERVICES



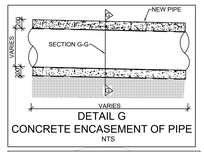
D1001 LOCALITY PLAN
NTS



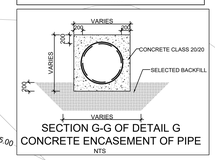
KEY PLAN
NTS

LEGEND

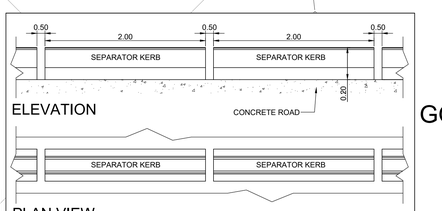
SYMBOL	DESCRIPTION
	CADASTRAL BOUNDARIES
	KERB AND TRANSITION/ FILLET (DETAIL B)
	1000mm WIDE CONCRETE "V" DRAIN (SD 0601/2)
	1500mm WIDE BOLSTER DRAIN (SD 0211)
	TOE DRAIN (AS PER DETAIL)
	CATCH WATER DRAIN (SD 0605)
	EXISTING ROAD RESERVE
	FLOW DIRECTION
	MITRE CHUTE (SD 0603/1 - SD 0603/2)
	GRID INLET (SD 0702)
	JUNCTION BOX (DETAIL F)
	CONCRETE PIPE CULVERT WITH HEADWALLS (SD 0406)
	SPEED HUMP + RUMBLE STRIP (SD 0314A)
	EXISTING EMBANKMENTS
	NEW EMBANKMENTS
	WALKWAYS
	GUARDRAIL (SD 1101)
	EXISTING FENCE LINE
	PROPOSED ROAD RESERVE
	PROPOSED ROAD
	LIMIT OF CONSTRUCTION
	ACCESSES TO BE CLOSED
W	PROPOSED REALIGNED WATER LINE AND MARKER POST



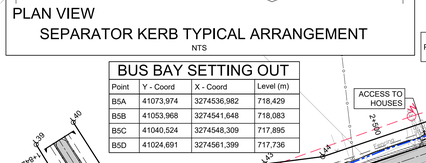
DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS



SECTION G-G OF DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS



ELEVATION



PLAN VIEW
SEPARATOR KERB TYPICAL ARRANGEMENT
NTS

DESIGN SPEED
60km/hr

L3278 ACCESS LHS
AT CH 2675.00
(TYPE B3)

CURVE No. 7 (RIGHT)

R = 7000.000m	Δ = 0°41'45"
Lc = 85.027m	T = 42.510m

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 2675

	LHS	RHS
DSSD REQ	190	190
DSSD ACH	>190	>190
ISSD REQ	150	150
ISSD ACH	>150	>150

L1136 ACCESS
LHS AT CH 2370.00
(TYPE B3)

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 2370

	LHS	RHS
DSSD REQ	190	190
DSSD ACH	>190	>190
ISSD REQ	150	150
ISSD ACH	>150	>150

PORTION 5 OF
GOEDVERWACHTING
1349

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B5A	41073,974	3274536,982	718,429
B5B	41053,968	3274541,648	718,083
B5C	41040,524	3274548,309	717,895
B5D	41024,691	3274561,399	717,736

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B6A	40933,746	3274614,271	716,680
B6B	40918,705	3274626,707	716,619
B6C	40903,468	3274634,256	716,712
B6D	40884,966	3274638,571	716,966

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 2675

	LHS	RHS
DSSD REQ	190	190
DSSD ACH	>190	>190
ISSD REQ	150	150
ISSD ACH	>150	152

L825 ACCESS RHS
AT CH 2675.00
(TYPE B1)

EXPROPRIATION OFFSET LIMITS

APPROXIMATE CO-ORDINATES (Lo31)

POINT	X	Y	POINT	X	Y
R59	41446.896	3274370.555	L36	41418.185	3274360.141
R60	41431.915	3274378.338	L37	41328.168	3274402.087
R61	41222.438	3274484.146	L38	41115.316	3274508.413
R62	41205.999	3274489.605	L39	41103.232	3274457.809
R63	41165.53	3274511.744	L40	41083.875	3274462.673
R64	41069.275	3274558.553	L41	41095.691	3274516.353
R65	40960.366	3274608.318	L42	41065.142	3274524.365
R66	40939.601	3274620.241	L43	41034.948	3274538.807
R67	40925.094	3274634.895	L44	41013.664	3274555.245
R68	40907.333	3274643.511	L45	40839.547	3274641.491
R69	40880.462	3274648.888	L46	40807.114	3274578.138
R70	40849.991	3274663.74	L47	40789.279	3274587.268
R71	40886.601	3274746.34	L48	40822.024	3274651.032
R72	40868.215	3274754.321	L49	40477.303	3274824.794
R73	40831.978	3274672.459	L50	40463.744	3274832.209
R74	40497.302	3274841.206			
R75	40484.874	3274852.519			

CONTINUED ON
DWG No. 19013 - C04

CONTINUED FROM
DWG No. 19013 - C02

ACCESS ROAD
AT CH2010
(TYPE B3)

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 2010

	LHS	RHS
DSSD REQ	190	190
DSSD ACH	>190	230
ISSD REQ	150	150
ISSD ACH	235	162

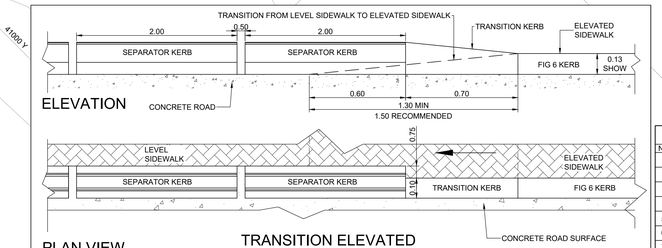
ACCESS ROAD
AT CH 2260
(TYPE B3)

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 2260

	LHS	RHS
DSSD REQ	190	190
DSSD ACH	>190	>190
ISSD REQ	150	150
ISSD ACH	495	750

PORTION 5 OF
GOEDVERWACHTING
1349



ELEVATION

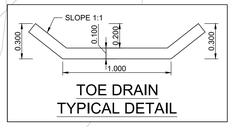
PLAN VIEW

TRANSITION ELEVATED
SIDEWALK TO LEVEL SIDEWALK
NTS

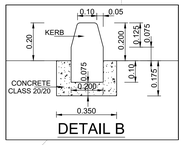
LAYERWORKS SCHEDULE

NO	LAYER
1	175mm JOINTED UNREINFORCED DOWELED (35MPa) CONCRETE PAVEMENT (JCP)
2	150mm C4 SUBBASE LAYER COMPACTED TO 97% OF MDD
3	150mm G7 UPPER SELECTED LAYER COMPACTED TO 95% OF MDD
4	150mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
5	100mm CONCRETE WALKWAY (20MPa)
6	125mm BASE LAYER G7 COMPACTED TO 95% OF MDD
7	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
8	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD

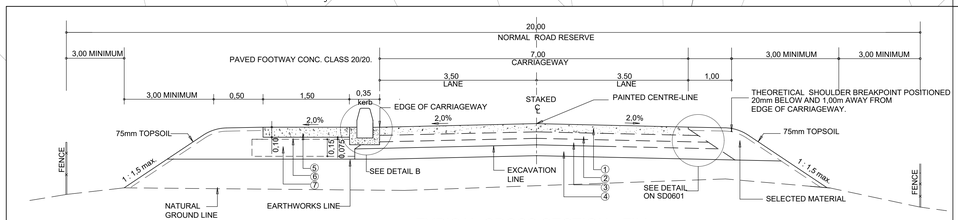
(NOTE: MDD - REFERS TO MAXIMUM DRY DENSITY)



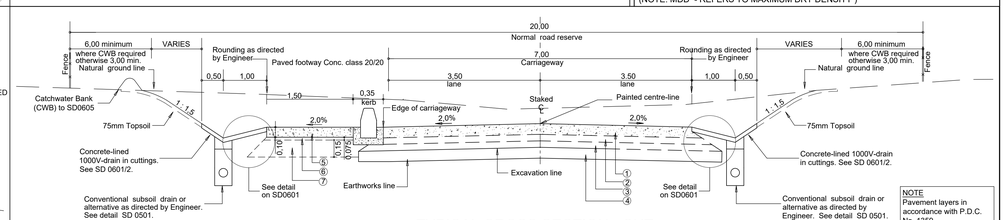
TOE DRAIN
TYPICAL DETAIL



DETAIL B



TYPICAL CROSS SECTION - FILL
NTS



TYPICAL CROSS SECTION - CUT
NTS

NOTE
Pavement layers in accordance with P.D.C. No. 1359
For pavement layers refer to Layerworks schedule

Symbol	Date	Description	Checked	Signed
0	25/07/2022	FOR CONSTRUCTION	R.SMITH	

AMENDMENTS

AS BUILT

Supervising Engineer — Date

Supervising Authority

Continued from :	
Continued on :	
Longitudinal Section No :	
Cross Section No :	
Survey Plan No :	
Designed by :	Mr M NAICKER
Checked by :	Mr R SMITH
Drawn by :	Mr J FRANK
Checked by :	Mr M NAICKER
Date of approval :	25/07/2022

PROVINCE OF KWAZULU - NATAL - ISIFUNDAZWE SAKWAZULU - NATALI
DEPARTMENT OF TRANSPORT
UMNYANGO WEZOKHTHTHA

Designed by :
NATHOO MBENYANE ENGINEERS
ENGINEERS & PROJECT MANAGERS
46 WOODFORD GROVE
DURBAN
4001

Signed — Date

Transportation Engineer: Chief Engineer

Head : Transport

DISTRICT ROAD 1001 : TABLE MOUNTAIN TO CACACA RIVER

UPGRADE FROM KM 0+000 - KM 4+780

DESIGN AND SERVICES PLAN

Staked Km distance	2+000 - 3+000
Sheet No:-	3
of:-	5
Scale	1:1000
Plan No.	C47125

C47125 / 19013

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14. ALL NEW ROAD SIGNS AN ROAD MARKING REQUIREMENTS ARE TO CONFORM TO THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY ROAD TRAFFIC SIGNS MANUAL (SADC - RTSM).
15. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH "COTO SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES."
16. ALL SURVEY AND SETTING OUT DATA PROVIDED IS BASED ON (WGS 84/31)
17. NEW FILLS AND EXPOSED CUTTINGS ARE TO BE TOP-SOILED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
18. INTERSECTIONS DESIGNED SET OUT FROM EDGE OF EXISTING ROAD
19. ALL EXISTING CULVERTS ARE TO BE DEMOLISHED
20. ACCESS SCOOPS TO BE POSITIONED ON SITE
21. ALL PROPOSED DRIVEWAYS TYING INTO D1001 TO BE CONCRETE SURFACED
22. ALL PROPOSED CONCRETE SURFACING TO FOLLOW DWG. NO. C47122

HORIZONTAL ALIGNMENT

D1001

Position	Chainage	Y-Coord	X-Coord	Radius	Tan	Deflection
BCC8	3+643.26	39974.83	3275096.23			
PI8	3+701.82	39918.84	3275124.82	130.00	62.86	51°36'51"
ECC8	3+760.37	39906.49	3275186.46			
BCC9	4+090.10	39841.69	3275509.75			
PI9	4+141.27	39831.52	3275560.54	270.00	51.80	21°43'12"
ECC9	4+192.45	39840.85	3275611.49			

INTERSECTION SCHEDULE

CHAINAGE	ROAD NAME	DIRECTION	TYPE
CH3072	ACCESS ROAD	LHS	B3
CH3072	ACCESS ROAD	RHS	B3
CH3460	ACCESS ROAD	RHS	B3
CH3695	L3626	LHS	B3
CH20	L1683	RHS	B3
CH3880	L1684	RHS	B3
CH4000	ACCESS ROAD	RHS	B3

FOR B1/B3 INTERSECTION DETAILS REFER TO DWG No. SD 0303

DRAINAGE SCHEDULE-D1001

NO.	CH	DIAMETER(mm)	CLASS	BEDDING	LENGTH(m)	SKEW (°)	INLET (m)	OUTLET (m)	GRADE (%)	AREA (ha)	FLOW	CAPACITY(m^3/s)	VELOCITY (m/s)	INLET TYPE
9	3116.00	900.00	75D	CLASS C	12.846	0.000	722.154	721.482	5.23	36.510	2.0%	1.04	4.39	HW
10	3500.00	600.00	75D	CLASS C	12.288	0.000	730.381	730.256	1.02	9.240	0.5%	0.67	3.22	GI
11	3800.00	600.00	75D	CLASS C	13.113	0.000	749.702	749.568	1.29	0.210	0.01%	0.67	3.29	GI
12	3900.00	600.00	75D	CLASS C	11.608	5.659	752.260	752.028	2.00	9.240	0.5%	0.67	3.22	GI
13	3996.00	600.00	75D	CLASS C	20.810	45.00	757.864	757.457	1.96	0.210	0.01%	0.67	3.29	GI

FOR PIPE DETAILS REFER TO DWG NO. SD 0406

INCREASING CHAINAGE — LHS / RHS — CL — SKEW REFERENCE ANGLE

SIDE DRAINAGE SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	LHS DRAIN TYPE	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)	RHS DRAIN TYPE
2800	3040	240	1000V DRAIN	2800	3040	240	1000V DRAIN
3050	3230	180	TOE DRAIN	3040	3100	60	TOE DRAIN
3260	3320	60	1000V DRAIN	3320	3420	100	TOE DRAIN
3320	3490	170	TOE DRAIN	3530	3640	110	TOE DRAIN
3500	3640	140	TOE DRAIN	3670	3800	130	1000V DRAIN
3650	3840	190	1000V DRAIN	3910	4170	260	1000V DRAIN
3840	3890	50	TOE DRAIN				
3900	4330	430	1000V DRAIN				

FOR 1000 'V' DRAIN DETAILS REFER TO DWG NO. SD 0601 | FOR TOE DRAIN REFER TO TOE DRAIN TYPICAL DETAIL

BUS BAY SCHEDULE

CHAINAGE	DIRECTION
CH 3940.00	RHS
CH 4080.00	LHS

FOR DETAILS REFER TO DWG NO. SD 0305

ROAD MARKING SCHEDULE

TYPE	START CH	END CH
RM1 + WM3 (LHS)	2660	2860
RM2	2860	2900
WM3 + RM1 (RHS)	2900	3120
WM3	3120	3520
WM3 + RM1 (LHS)	3520	3700
RM2	3700	3720
WM3 + RM1 (RHS)	3720	3920

SIDEWALK SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)
3000	3500	500	3500	4000	500

AS PER TYPICAL CROSS SECTION BELOW

SPEED SCHEDULE

START	END	POSTED SPEED	DESIGN SPEED
3000	4000	60Km/hr	60Km/hr

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B8A	39847.552	3275462.722	763.501
B8B	39838.088	3275483.433	765.414
B8C	39835.140	3275498.142	766.937
B8D	39835.961	3275523.015	769.207

CATCH WATER SCHEDULE D1001

START (CH)	END (CH)	DIRECTION
3700.00	3840.00	LHS
3970.00	4080.00	LHS

FOR CATCHWATER DETAILS REFER TO DWG No. SD 0605

NOTATION

BCC : BEGINNING OF CIRCULAR CURVE
ECC : END OF CIRCULAR CURVE
PI : POINT OF INTERSECTION
R : RADIUS OF CIRCULAR CURVE
Δ : DEFLECTION ANGLE CIRCULAR CURVE
Lc : LENGTH OF CIRCULAR CURVE
T : LENGTH OF CURVE TANGENT
BT : BEGINNING OF TAPER
ET: END OF TAPER
C2 : STRAIGHT ACCESS SCOOP
C3 : SKEW ACCESS SCOOP

MITRE CHUTE SCHEDULE

LHS CHAINAGE	RHS CHAINAGE
3040	3039
3116 x2	3100
3240	3320
3312	3524
3500	3662
3643	3900
3840	

FOR DETAILS REFER TO DWG NO. SD 0603/1 - SD 0603/2

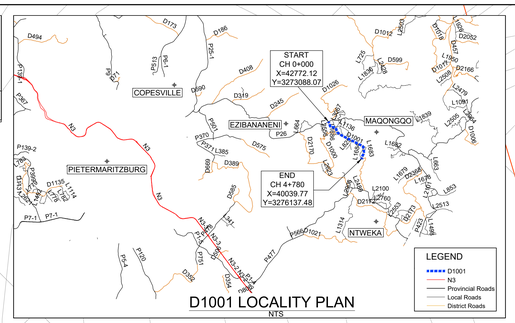
BEACON PEG CO-ORDINATES (Lo31)

POINT	Y	X	LEVEL (m)
AA15	40536.094	3274794.624	727.338
AA16	40210.019	3274959.565	729.128
AA17	39925.082	3275106.110	747.428
AA18	39875.713	3275375.664	756.426
AA19	39824.627	3275570.527	776.879

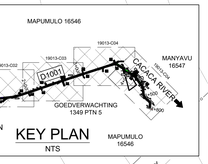
EXPROPRIATION OFFSET LIMITS

APPROXIMATE CO-ORDINATES (Lo31)

POINT	X	Y	POINT	X	Y
R74	40497.302	3274841.206	L49	40477.303	3274824.794
R75	40484.874	3274852.519	L50	40463.744	3274832.209
R76	40455.866	3274863.204	L51	40243.872	3274943.682
R77	40152.373	3275018.487	L52	40095.954	3275021.01
R78	40135.418	3275025.794	L53	39962.833	3275086.957
R79	39952.551	3275124.056	L54	39939.049	3275103.376
R80	39925.176	3275162.964	L55	39929.819	3275109.995
R81	39898.417	3275282.509	L56	39907.968	3275057.127
R82	39903.897	3275296.842	L57	39889.292	3275064.314
R83	39935.059	3275354.995	L58	39907.403	3275108.121
R84	39914.777	3275365.675	L59	39876.542	3275121.187
R85	39892.511	3275326.009	L60	39847.519	3275128.695
R86	39889.646	3275360.335	L61	39853.355	3275149.054
R87	39871.411	3275411.936	L62	39907.017	3275133.124
R88	39867.904	3275436.794	L63	39897.374	3275160.778
R89	39848.316	3275548.308	L64	39890.331	3275190.758
			L65	39877.281	3275262.299
			L66	39876.025	3275280.077
			L67	39869.393	3275314.234
			L68	39856.809	3275376.609
			L69	39849.967	3275389.197
			L70	39837.191	3275456.214
			L71	39825.314	3275479.565
			L72	39822.07	3275505.426
			L73	39825.476	3275540.107
			L74	39817.117	3275522.238
			L75	39785.496	3275462.714
			L76	39766.163	3275472.109



D1001 LOCALITY PLAN
NTS



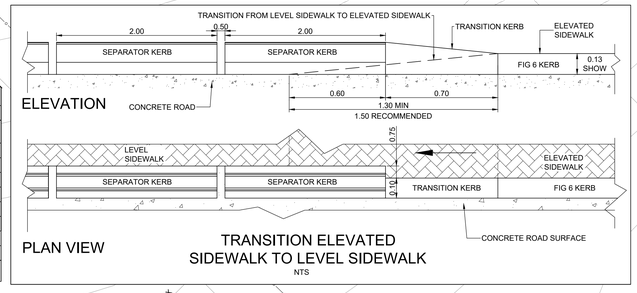
KEY PLAN
NTS

LEGEND

SYMBOL	DESCRIPTION
	CADASTRAL BOUNDARIES
	KERB AND TRANSITION/ FILLET (DETAIL B)
	1000mm WIDE CONCRETE "V" DRAIN (SD 0601/2)
	1500mm WIDE BOLSTER DRAIN (SD 0211)
	TOE DRAIN (AS PER DETAIL)
	CATCH WATER DRAIN (SD 0605)
	EXISTING ROAD RESERVE
	FLOW DIRECTION
	MITRE CHUTE (SD 0603/1 - SD 0603/2)
	GRID INLET (SD 0702)
	JUNCTION BOX (DETAIL F)
	CONCRETE PIPE CULVERT WITH HEADWALLS (SD 0406)
	SPEED HUMP + RUMBLE STRIP (SD 0314A)
	EXISTING EMBANKMENTS
	NEW EMBANKMENTS
	WALKWAYS
	GUARDRAIL (SD 1101)
	EXISTING FENCE LINE
	PROPOSED ROAD RESERVE
	PROPOSED ROAD
	LIMIT OF CONSTRUCTION
	ACCESSES TO BE CLOSED
	PROPOSED REALIGNED WATER LINE AND MARKER POST

EXISTING SERVICES LEGEND

SYMBOL	DESCRIPTION
EP	ELECTRICITY POLE
TP	TELEPHONE POLE
	WATER LINE AND MARKER POST
	ELECTRICAL SERVICES



TRANSITION ELEVATED SIDEWALK TO LEVEL SIDEWALK
NTS

SIGHT DISTANCE SCHEDULE

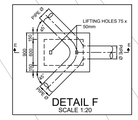
INTERSECTION AT CH 3695	LHS	RHS
DSSD REQ / DSSD ACH	190 / 355	190 / 760
ISSD REQ / ISSD ACH	150 / 153	150 / 371

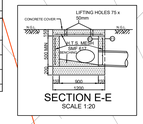
CURVE No. 8 (RIGHT)

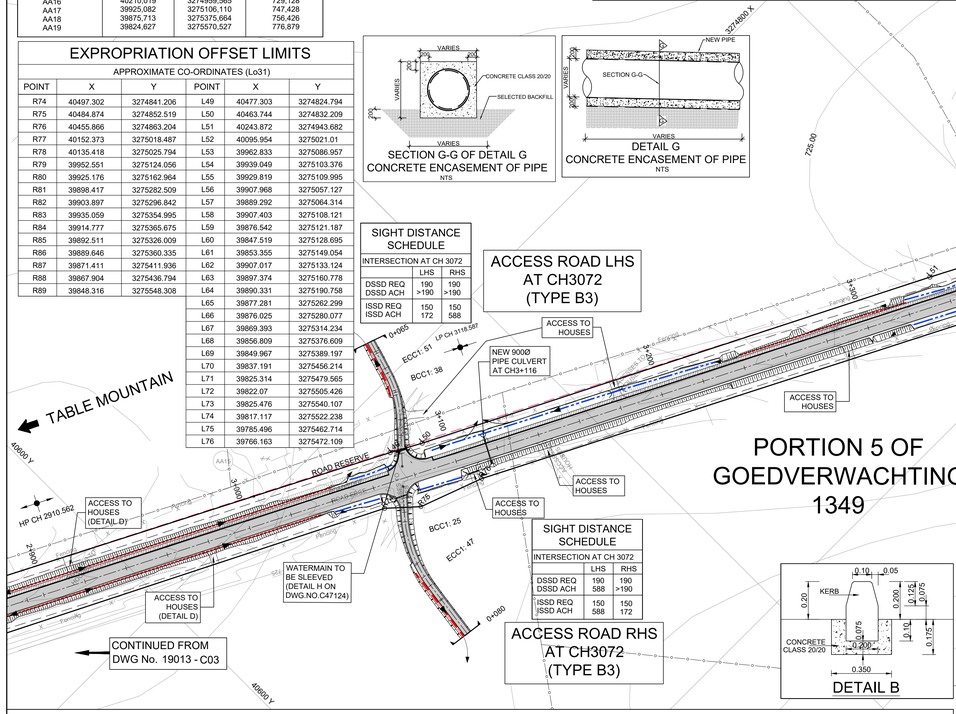
R = 130.000m Δ = 51°36'51"
Lc = 117.109m T = 62.864m

STORMWATER RETICULATION (MH10 - HW)

MH NAME	Y - Coord	X - Coord	Invert(m)	Grade(%)	Length(m)	Dia(mm)
MH10	39913.673	3275109.664	745.621	3.074	13.455	600.00
MH11	39912.048	3275120.437	745.207	6.767	7.960	600.00
MH12	39926.694	3275127.815	744.670	6.257	15.921	600.00
MH13	39937.613	3275116.109	743.676	7.709	20.339	600.00
MH14	39952.776	3275102.643	742.112	9.147	14.802	600.00
MH15	39965.367	3275094.979	740.764	1.000	14.078	600.00
HW	39977.958	3275088.683	740.287			
MH17	39829.635	3275561.160	770.368	13.565	11.762	600.00
MH18	39826.016	3275547.361	768.787	8.356	22.326	600.00
MH19	39833.987	3275526.590	766.928	12.755	16.227	600.00
MH20	39834.315	3275510.496	766.424	1.000	18.904	600.00
HW	39852.489	3275505.296	766.244			







SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 3072	LHS	RHS
DSSD REQ / DSSD ACH	190 / >190	190 / >190
ISSD REQ / ISSD ACH	150 / 172	150 / 588

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 3072	LHS	RHS
DSSD REQ / DSSD ACH	190 / 588	190 / >190
ISSD REQ / ISSD ACH	150 / 588	150 / 172

SECTION G-G OF DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS

DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS

CATCH WATER SCHEDULE L1684

START (CH)	END (CH)	DIRECTION
17.000	71.000	LHS

FOR CATCHWATER DETAILS REFER TO DWG No. SD 0605

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 3460	LHS	RHS
DSSD REQ / DSSD ACH	190 / 412	190 / 221
ISSD REQ / ISSD ACH	150 / 233	150 / 196

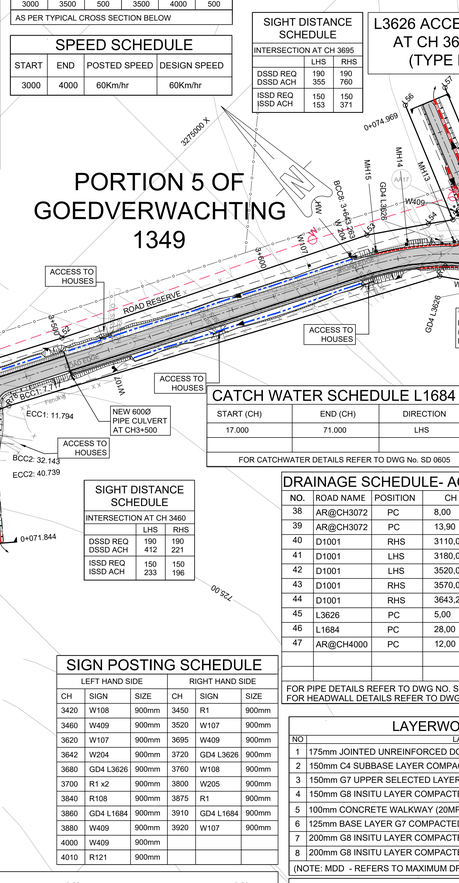
SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 3880	LHS	RHS
DSSD REQ / DSSD ACH	190 / 450	190 / 350
ISSD REQ / ISSD ACH	150 / 382	150 / 355

DRAINAGE SCHEDULE- ACCESS ROADS/DRIVEWAYS

NO.	ROAD NAME	POSITION	CH	DIAMETER(mm)	BEDDING	BEDDING	LENGTH(m)
38	AR@CH3072	PC	8,00	450,00	75D	CLASS C	5,00
39	AR@CH3072	PC	13,90	450,00	75D	CLASS C	5,00
40	D1001	RHS	3110,00	450,00	75D	CLASS C	5,00
41	D1001	LHS	3180,00	450,00	75D	CLASS C	5,00
42	D1001	LHS	3520,00	450,00	75D	CLASS C	5,00
43	D1001	RHS	3570,00	450,00	75D	CLASS C	5,00
44	D1001	RHS	3643,26	450,00	75D	CLASS C	5,00
45	L3626	PC	5,00	600,00	75D	CLASS C	15,00
46	L1684	PC	28,00	600,00	75D	CLASS C	9,37
47	AR@CH4000	PC	12,00	450,00	75D	CLASS C	10,00

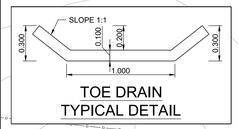
FOR PIPE DETAILS REFER TO DWG NO. SD 0406 AND SD 0401
FOR HEADWALL DETAILS REFER TO DWG NO. SD 0402
* AR -ACCESS ROAD
DW -DRIVEWAY



SIGN POSTING SCHEDULE

LEFT HAND SIDE CH	SIGN	SIZE	RIGHT HAND SIDE CH	SIGN	SIZE
3420	W108	900mm	3450	R1	900mm
3460	W409	900mm	3520	W107	900mm
3620	W107	900mm	3695	W409	900mm
3642	W204	900mm	3720	GD4 L3626	900mm
3680	GD4 L3626	900mm	3760	W108	900mm
3700	R1 x2	900mm	3800	W205	900mm
3840	R108	900mm	3875	R1	900mm
3860	GD4 L1684	900mm	3910	GD4 L1684	900mm
3880	W409	900mm	3920	W107	900mm
4000	W409	900mm			
4010	R121	900mm			

DETAIL B



TOE DRAIN
TYPICAL DETAIL

LAYERWORKS SCHEDULE

NO	LAYER
1	175mm JOINTED UNREINFORCED DOWELED (35MPa) CONCRETE PAVEMENT (JCP)
2	150mm C4 SUBBASE LAYER COMPACTED TO 97% OF MDD
3	150mm G7 UPPER SELECTED LAYER COMPACTED TO 95% OF MDD
4	150mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
5	100mm CONCRETE WALKWAY (20MPa)
6	125mm BASE LAYER G7 COMPACTED TO 95% OF MDD
7	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
8	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD

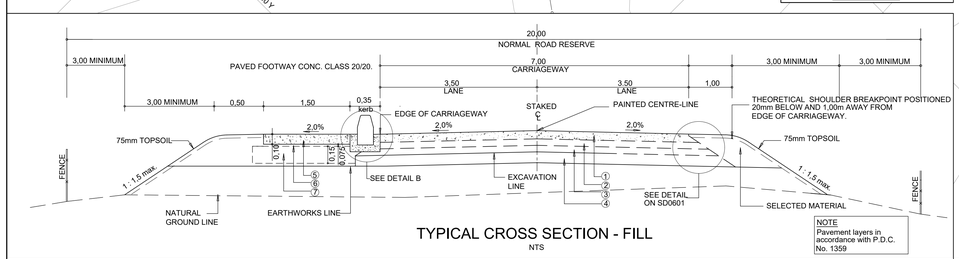
(NOTE: MDD - REFERS TO MAXIMUM DRY DENSITY)

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B7A	39882.381	3275334.230	753.974
B7B	39881.196	3275354.391	754.800
B7C	39878.346	3275368.609	755.578
B7D	39871.906	3275387.207	756.867

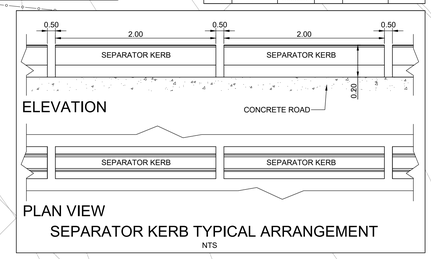
STORMWATER RETICULATION (MH29 - MH@CH3900)

MH NAME	Y - Coord	X - Coord	Invert(m)	Grade(%)	Length(m)	Dia(mm)
MH26	39871.317	3275336.229	752.766	3.553	14.240	600.00
3900	39875.032	3275322.483	752.260			

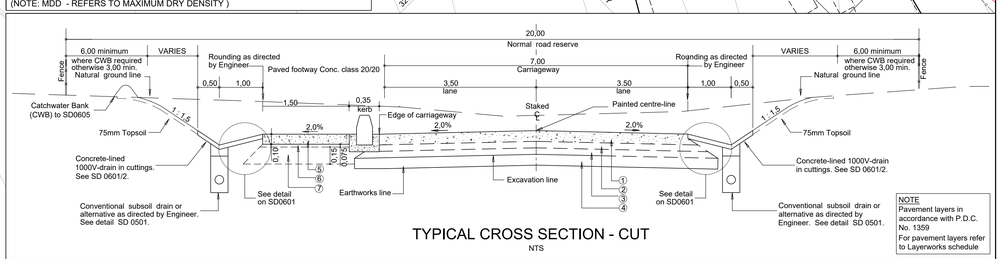


TYPICAL CROSS SECTION - FILL
NTS

NOTE
Pavement layers in accordance with P.D.C. No. 1359



SEPARATOR KERB TYPICAL ARRANGEMENT
NTS



TYPICAL CROSS SECTION - CUT
NTS

NOTE
Pavement layers in accordance with P.D.C. No. 1359
For pavement layers refer to Layerworks schedule

Symbol	Date	Description	Checked	Signed
0	25/07/2022	FOR CONSTRUCTION	R.SMITH	

AMENDMENTS

AS BUILT

Supervising Engineer — Date
Supervising Authority

Continued from :	Designed by : Mr M NAICKER
Continued on :	Checked by : Mr R SMITH
Longitudinal Section No :	Drawn by : Mr J FRANK
Cross Section No :	Checked by : Mr M NAICKER
Survey Plan No :	Date of approval : 25/07/2022

PROVINCE OF KWAZULU - NATAL - ISIFUNDAZWE SAKWAZULU - NATALI
DEPARTMENT OF TRANSPORT
UMNYANGO WEZOKHTHTHA

Designed by :
NATHOO MBENYANE ENGINEERS
ENGINEERS & PROJECT MANAGERS
46 WOODFORD GROVE
DURBAN
4001
Signed — Date

Transportation Engineer: Chief Engineer
Head : Transport

DISTRICT ROAD 1001 : TABLE MOUNTAIN TO CACACA RIVER

UPGRADE FROM KM 0+000 - KM 4+780

DESIGN AND SERVICES PLAN

Staked Km distance	3+000 - 4+000
Sheet No:-	4
of:-	5
Scale	1:1000
Plan No.	C47126

C47126 / 19013

NOTES:

1. ALL LEVELS, DIMENSIONS AND SETTING OUT DETAILS TO BE VERIFIED BY CONSULTANT AND CONTRACTORS ON SITE PRIOR TO CONSTRUCTION.
2. PIPE CULVERTS ARE TO BE LAID IN ACCORDANCE WITH SD 0401 WITH HEADWALLS AS PER SD 0402, SD 0403 OR SD 0406. MIN DIA = 450MM FOR MINOR ACCESS ROADS AND ACCESS BELL-MOUTHS, AND MIN DIA = 600MM FOR MAJOR ROAD CROSS DRAINAGE.
3. FOR EROSION CONTROL GABION MATTRESSES ARE RECOMMENDED AT CULVERT INLETS AND OUTLETS.
4. EARTH BERMS ARE TO BE CONSTRUCTED AT CULVERT INLETS TO DIRECT STORM-WATER INTO CULVERTS WHERE NECESSARY.
5. ROCK BOLSTERS ARE TO BE PLACED ACROSS THE INVERT OF DRAINS SUSCEPTIBLE TO EROSION FOR EVERY 2M VERTICAL DROP.
6. GRASSED/CONCRETE LINED V-DRAINS AS PER SD 0601/3 & 4 ARE RECOMMENDED FOR SHALLOW CUTTINGS OF DEPTH LESS THAN 5MM MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY. CONCRETE LINED 1000V - DRAINS AS PER SD 0601/2 ARE RECOMMENDED FOR DEEP CUTTINGS OF DEPTH GREATER THAN 5M MEASURED AT A POINT 6M FROM EDGE OF CARRIAGEWAY.
7. SUBSOIL DRAINS AS PER SD 0501 ARE TO BE INSTALLED WITH 1000 V - DRAINS OR WHERE HIGH WATER TABLES ARE ENCOUNTERED.
8. KERB AND CHANNEL DRAINS AS PER SD 0701 ARE TO BE PROVIDED WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT
9. WHERE SURFACE RUNOFF IS TOWARD THE ROAD, CATCH-WATER BANKS ARE TO BE PROVIDED TO DIVERT STORM-WATER TO MAJOR CROSS DRAINAGE STRUCTURES.
10. THE POSITIONS OF ACCESSES ARE TO BE DETERMINED IN CONSULTATION WITH THE LOCAL COMMUNITY. DAYLIGHTING REQUIREMENTS ARE TO BE DECIDED BY THE ENGINEER ON SITE. CONCRETE WEDGES AS PER SD 0303 MAY BE USED IN PLACE OF SURFACED BELL-MOUTHS FOR ACCESSES SERVING SINGLE RESIDENTIAL PROPERTIES.
11. GUARDRAILS ARE TO BE INSTALLED IN ACCORDANCE WITH SD 1101 AND SD 1102 WHERE FILL EMBANKMENTS EXCEED 3M IN HEIGHT OR WHERE HAZARDOUS OBSTRUCTIONS CANNOT BE REMOVED.
12. EXISTING ROAD SIGNS, SERVICES AND FENCING AFFECTED BY CONSTRUCTION ARE TO BE REMOVED/ RELOCATED WHERE NECESSARY.
13. UNDERGROUND SERVICE CROSSINGS AND MARKERS ARE TO BE IN ACCORDANCE WITH SD 1001 - 3.
14. ALL NEW ROAD SIGNS AN ROAD MARKING REQUIREMENTS ARE TO CONFORM TO THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY ROAD TRAFFIC SIGNS MANUAL (SADC - RTSM).
15. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH "COTO SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES."
16. ALL SURVEY AND SETTING OUT DATA PROVIDED IS BASED ON (WGS 84/31)
17. NEW FILLS AND EXPOSED CUTTINGS ARE TO BE TOP-SOILED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
18. INTERSECTIONS DESIGNED SET OUT FROM EDGE OF EXISTING ROAD
19. ALL EXISTING CULVERTS ARE TO BE DEMOLISHED
20. ACCESS SCOOPS TO BE POSITIONED ON SITE
21. ALL PROPOSED DRIVEWAYS TYING INTO D1001 TO BE CONCRETE SURFACED
22. ALL PROPOSED CONCRETE SURFACING TO FOLLOW DWG. NO. C47122

HORIZONTAL ALIGNMENT

D1001

Position	Chainage	Y-Coord	X-Coord	Radius	Tan	Deflection
BCC9	4+090.10	39841.69	3275509.75			
PI9	4+141.27	39831.52	3275550.54	270.00	51.80	21°43'12"
ECC9	4+192.45	39840.85	3275611.49			
BCC10	4+347.81	39868.87	3275764.31			
PI10	4+379.94	39874.80	3275796.68	120.00	32.91	30°40'37"
ECC10	4+412.06	39896.42	3275821.50			
BCC11	4+467.55	39932.87	3275863.34			
PI11	4+547.53	39988.40	3275927.08	200.00	84.54	45°49'31"
ECC11	4+627.51	39981.39	3276011.32			
BCC12	4+669.10	39977.93	3276052.76			
PI12	4+701.74	39974.97	3276088.33	65.00	35.68	57°31'56"
ECC12	4+734.37	40003.38	3276109.91			
End	4+780.00	40039.91	3276137.62			

INTERSECTION SCHEDULE

CHAINAGE	ROAD NAME	DIRECTION	TYPE
CH4000	ACCESS ROAD	RHS	B3
CH4140	L1683	LHS	B3
CH4285	ACCESS ROAD	LHS	B3

FOR B1/B3 INTERSECTION DETAILS REFER TO DWG No. SD 0303

CATCH WATER SCHEDULE

START (CH)	END (CH)	DIRECTION
17.864(L1684)	71.93	LHS
3970	4087	LHS
555.029(L1683)	656.915	LHS
4147	4280	LHS

FOR CATCHWATER DETAILS REFER TO DWG No. SD 0605

DRAINAGE SCHEDULE-D1001

NO.	CH	DIAMETER(mm)	CLASS	BEDDING	LENGTH(m)	SKEW (°)	INLET (m)	OUTLET (m)	GRADE (%)	AREA (ha)	FLOW	CAPACITY(m^3/s)	VELOCITY (m/s)	INLET TYPE
13	3996.00	600,00	75D	CLASS C	20.810	45,00	757,864	757,457	1,96	0,210	0,01%	0,67	3,29	GI
14	4353,00	600,00	75D	CLASS C	11,776	4,991	769,295	768,800	4,20	3,227	0,20%	0,39	3,48	HW
15	4575,00	600,00	75D	CLASS C	13,843	3,505	750,889	749,616	9,20	2,693	0,15%	0,39	4,71	HW
16	4780,00	600,00	75D	CLASS C	9,272	2,600	736.000	735.857	1.54	0,575	0,03%	0,72	3,37	GI

FOR PIPE DETAILS REFER TO DWG NO. SD 0406

INCREASING CHAINAGE — LHS 0 RHS — CL

SKEW REFERENCE ANGLE

SIDE DRAINAGE SCHEDULE

LHS START (CH)	LHS END (CH)	LHS LENGTH (m)	LHS DRAIN TYPE	RHS START (CH)	RHS END (CH)	RHS LENGTH (m)	RHS DRAIN TYPE
3900	4330	430	1000V DRAIN	4006	4160	154	1000V DRAIN
4330	4570	240	TOE DRAIN	4280	4340	60	TOE DRAIN
4580	4730	150	1000V DRAIN	4620	4780	160	1000V DRAIN

FOR 1000 'V' DRAIN DETAILS REFER TO DWG NO. SD 0601 | FOR TOE DRAIN REFER TO TOE DRAIN TYPICAL DETAIL

BUS BAY SCHEDULE

CHAINAGE	DIRECTION
CH 3940.00	RHS
CH 4080.00	LHS

FOR DETAILS REFER TO DWG NO. SD 0305

ROAD MARKING SCHEDULE

TYPE	START CH	END CH
WM3 + RM1 (LHS)	4000	4200
RM2	4200	4720
WM3 + RM1 (RHS)	4720	4780

MITRE CHUTE SCHEDULE

LHS CHAINAGE	RHS CHAINAGE
4330	4005
4575	4340
4735	

FOR DETAILS REFER TO DWG NO. SD 0603/1 - SD 0603/2

SIGN POSTING SCHEDULE

LEFT HAND SIDE CH	SIGN	SIZE	RIGHT HAND SIDE CH	SIGN	SIZE
3860	GD4 (L1684)	900mm	3900	GD4 (L1684)	900mm
4010	W121	900mm	4010	R121	900mm
4080	W107	900mm	4080	W308	900mm
4105	R201-40	900mm	4110	R201-60	900mm
4120	GD4 (L1683)	900mm	4140	W409	900mm
4142	R1	900mm	4160	GD4 (L1683)	900mm
4145	W308	900mm	4275	W308	900mm
4240	W107	900mm	4285	W409	900mm
4305	W208	900mm	4347	W108	900mm
4660	W207	900mm	4760	W207	900mm
END	W409	900mm			

SIDEWALK SCHEDULE

LHS START	LHS END	LHS LENGTH	RHS START	RHS END	RHS LENGTH
			4000	4780	780

AS PER TYPICAL CROSS SECTION BELOW

SPEED SCHEDULE

START	END	POSTED SPEED	DESIGN SPEED
4000	4160	60Km/hr	60Km/hr
4160	4803	40Km/hr	40Km/hr

DRAINAGE SCHEDULE- ACCESS ROADS/DRIVEWAYS

NO.	ROAD NAME	POSITION	CH	DIAMETER(mm)	BEDDING	BEDDING	LENGTH(m)
47	AR@CH4000	PC	12,00	450,00	75D	CLASS C	10,00
48	L1683	PC	559,00	600,00	75D	CLASS C	5,00
49	AR@CH4285	PC	5,00	600,00	75D	CLASS C	8,30
50	D1001	LHS	4366,00	450,00	75D	CLASS C	5,00
51	D1001	LHS	4410,00	450,00	75D	CLASS C	5,00
52	D1001	LHS	4440,00	450,00	75D	CLASS C	5,00
53	D1001	LHS	4440,00	600,00	75D	CLASS C	5,00

FOR PIPE DETAILS REFER TO DWG NO. SD 0406 AND SD 0401
FOR HEADWALL DETAILS REFER TO DWG NO. SD 0402

* AR -ACCESS ROAD
DW -DRIVEWAY

STORMWATER RETICULATION (MH17 - HW)

MH NAME	Y - Coord	X - Coord	Invert(m)	Grade(%)	Length(m)	Dia(mm)
MH17	39823.367	3275558.820	770.368			
MH18	39826.016	3275547.361	768.787	11.029	14.353	600.00
MH19	39833.987	3275526.590	766.928	8.327	22.326	600.00
MH20	39834.315	3275510.496	766.563	2.249	16.227	600.00
HW	39852.489	3275505.296	766.148	2.178	19.056	600.00

STORMWATER RETICULATION (MH22 - HW)

MH NAME	Y - Coord	X - Coord	Invert(m)	Grade(%)	Length(m)	Dia(mm)
MH22	39847.179	3275703.645	774.823			
MH23	39851.121	3275710.906	774.181	7.014	9.176	600.00
MH24	39856.650	3275729.299	773.217	5.015	19.230	600.00
HW	39860.859	3275750.404	772.022	4.142	21.539	600.00

NOTATION

BCC	:	BEGINNING OF CIRCULAR CURVE
ECC	:	END OF CIRCULAR CURVE
PI	:	POINT OF INTERSECTION
R	:	RADIUS OF CIRCULAR CURVE
Δ	:	DEFLECTION ANGLE CIRCULAR CURVE
Lc	:	LENGTH OF CIRCULAR CURVE
T	:	LENGTH OF CURVE TANGENT
BT	:	BEGINNING OF TAPER
ET	:	END OF TAPER
C2	:	STRAIGHT ACCESS SCOOP
C3	:	SKEW ACCESS SCOOP

BEACON PEG CO-ORDINATES (Lo31)

POINT	Y	X	LEVEL (m)
AA18	39875.713	3275375.664	756.426
AA19	39824.627	3275570.527	776.879
AA20	39870.299	3275702.455	776.675
AA21	39860.276	3275779.495	769.517
AA22	39981.361	3275940.640	750.917
AA23	39965.717	3276054.886	754.645
AA24	40055.597	3276181.202	735.329

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B8A	39847.552	3275462.722	763.501
B8B	39838.088	3275483.433	765.414
B8C	39835.140	3275498.142	766.937
B8D	39835.961	3275523.015	769.207

BUS BAY SETTING OUT

Point	Y - Coord	X - Coord	Level (m)
B7A	39882.381	3275334.230	753.974
B7B	39881.196	3275354.391	754.800
B7C	39878.346	3275368.609	755.578
B7D	39871.906	3275387.207	756.867

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 4140

	LHS	RHS
DSSD REQ	190	190
DSSD ACH	380	207
ISSD REQ	150	150
ISSD ACH	300	207

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 4285

	LHS	RHS
DSSD REQ	130	130
DSSD ACH	130	182
ISSD REQ	120	120
ISSD ACH	120	182

SIGHT DISTANCE SCHEDULE

INTERSECTION AT CH 4000

	LHS	RHS
DSSD REQ	190	190
DSSD ACH	380	207
ISSD REQ	150	150
ISSD ACH	150	207

CURVE No. 9 (RIGHT)

R = 270.000m	Δ = 21°43'12"
Lc = 102.353m	T = 51.798m

CURVE No. 10 (RIGHT)

R = 120.000m	Δ = 30°40'37"
Lc = 64.250m	T = 32.915m

CURVE No. 11 (LEFT)

R = 200.000m	Δ = 45°49'31"
Lc = 159.960m	T = 84.535m

CURVE No. 12 (RIGHT)

R = 65.000m	Δ = 57°31'56"
Lc = 65.268m	T = 35.684m

EXPROPRIATION OFFSET LIMITS

APPROXIMATE CO-ORDINATES (Lo31)

POINT	X	Y	POINT	X	Y
R81	39898.417	3275282.509	L65	39877.281	3275262.299
R82	39903.897	3275296.842	L66	39876.025	3275280.077
R83	39935.059	3275354.995	L67	39869.393	3275314.234
R84	39907.708	3275353.081	L68	39856.809	3275376.609
R85	39892.511	3275326.009	L69	39849.967	3275389.197
R86	39889.646	3275360.335	L70	39837.191	3275456.214
R87	39867.904	3275436.794	L71	39825.314	3275479.565
R88	39848.316	3275548.308	L72	39822.07	3275505.426
R89	39865.56	3275667.37	L73	39825.476	3275540.107
R90	39874.033	3275720.938	L74	39817.117	3275522.238
R91	39879.856	3275757.439	L75	39785.496	3275462.714
R92	39880.565	3275769.192	L76	39766.163	3275472.109
R93	39899.577	3275808.91	L77	39785.768	3275523.174
R94	39949.253	3275861.389	L78	39793.824	3275549.939
R95	39954.751	3275873.225	L79	39808.113	3275569.903
R96	39968.837	3275892.208	L80	39822.513	3275573.68
R97	39988.853	3275929.56	L81	39822.374	3275586.538
R98	39993.278	3275948.803	L82	39842.145	3275697.503
R99	39995.074	3275981.067	L83	39849.41	3275719.464
R100	39995.295	3276001.917	L84	39852.769	3275758.267
R101	39989.64	3276041.164	L85	39865.253	3275798.759
R102	39996.176	3276085.25	L86	39886.82	3275834.122
R103	40006.491	3276095.346	L87	39934.291	3275883.077
R104	40021.276	3276106.261	L88	39956.441	3275918.868
R105	40022.096	3276111.274	L89	39970.573	3275977.564
R106	40052.11	3276133.79	L90	39964.876	3276033.881
			L91	39962.604	3276056.34
			L92	39967.609	3276079.079
			L93	39977.562	3276095.653
			L94	39989.621	3276113.357
			L95	40045.038	3276156.11

LAYERWORKS SCHEDULE

NO	LAYER
1	175mm JOINTED UNREINFORCED DOWELED (35MPa) CONCRETE PAVEMENT (JCP)
2	150mm C4 SUBBASE LAYER COMPACTED TO 97% OF MDD
3	150mm G7 UPPER SELECTED LAYER COMPACTED TO 95% OF MDD
4	150mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
5	100mm CONCRETE WALKWAY (20MPa)
6	125mm BASE LAYER G7 COMPACTED TO 95% OF MDD
7	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD
8	200mm G8 INSITU LAYER COMPACTED TO 93% OF MDD

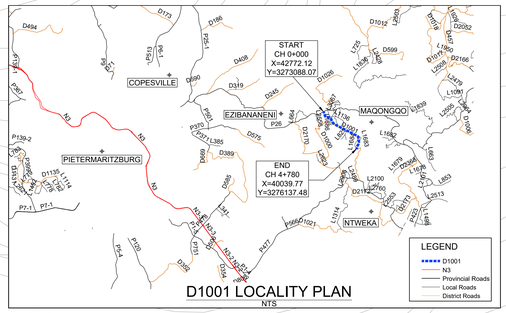
(NOTE: MDD - REFERS TO MAXIMUM DRY DENSITY)

LEGEND

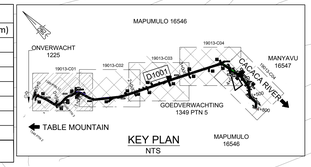
SYMBOL	DESCRIPTION
	CADASTRAL BOUNDARIES
	KERB AND TRANSITION/ FILLET (DETAIL B)
	1000mm WIDE CONCRETE "V" DRAIN (SD 0601/2)
	1500mm WIDE BOLSTER DRAIN (SD 0211)
	TOE DRAIN (AS PER DETAIL)
	CATCH WATER DRAIN (SD 0605)
	EXISTING ROAD RESERVE
	FLOW DIRECTION
	MITRE CHUTE (SD 0603/1 - SD 0603/2)
	GRID INLET (SD 0702)
	JUNCTION BOX (DETAIL F)
	CONCRETE PIPE CULVERT WITH HEADWALLS (SD 0406)
	SPEED HUMP + RUMBLE STRIP (SD 0314A)
	EXISTING EMBANKMENTS
	NEW EMBANKMENTS
	WALKWAYS
	GUARDRAIL (SD 1101)
	EXISTING FENCE LINE
	PROPOSED ROAD RESERVE
	PROPOSED ROAD
	LIMIT OF CONSTRUCTION
	ACCESSES TO BE CLOSED
	PROPOSED REALIGNED WATER LINE AND MARKER POST

EXISTING SERVICES LEGEND

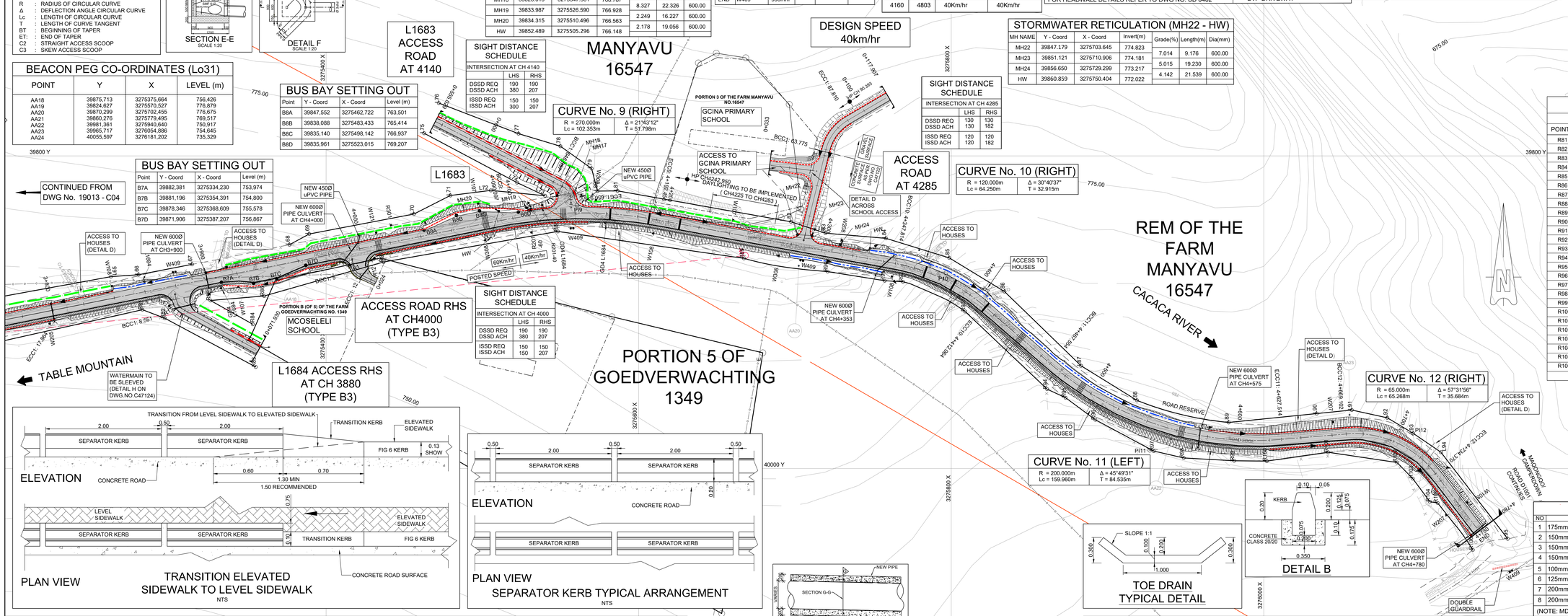
SYMBOL	DESCRIPTION
EP	ELECTRICITY POLE
TP	TELEPHONE POLE
W	WATER LINE AND MARKER POST
	ELECTRICAL SERVICES



D1001 LOCALITY PLAN
NTS



KEY PLAN
NTS

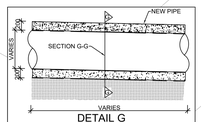


TRANSITION ELEVATED SIDEWALK TO LEVEL SIDEWALK
NTS

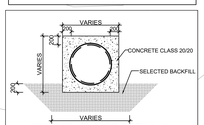
SEPARATOR KERB TYPICAL ARRANGEMENT
NTS

TOE DRAIN TYPICAL DETAIL

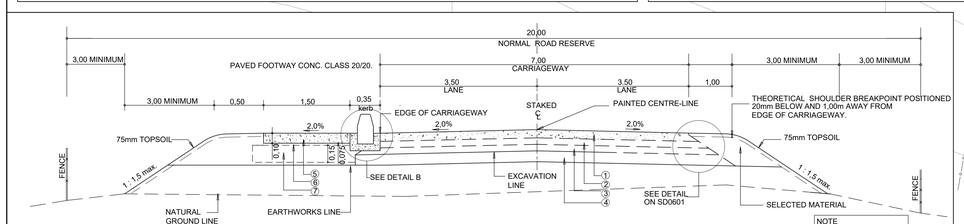
DETAIL B



DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS

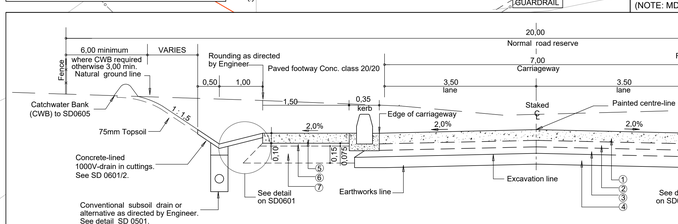


SECTION G-G OF DETAIL G
CONCRETE ENCASEMENT OF PIPE
NTS



TYPICAL CROSS SECTION - FILL
NTS

NOTE
Pavement layers in accordance with P.D.C. No. 1359



TYPICAL CROSS SECTION - CUT
NTS

NOTE
Pavement layers in accordance with P.D.C. No. 1359
For pavement layers refer to Layerworks schedule

Symbol	Date	Description	Checked	Signed
0	25/07/2022	FOR CONSTRUCTION	R.SMITH	

AMENDMENTS

AS BUILT

Supervising Engineer — Date

Supervising Authority

Continued from :	
Continued on :	
Longitudinal Section No :	
Cross Section No :	
Survey Plan No :	
Designed by :	Mr M NAICKER
Checked by :	Mr R SMITH
Drawn by :	Mr J FRANK
Checked by :	Mr M NAICKER
Date of approval :	25/07/2022

PROVINCE OF KWAZULU - NATAL - ISIFUNDAZWE SAKWAZULU - NATALI
DEPARTMENT OF TRANSPORT
UMNYANGO WEZOKTHTHA

Designed by :
NATHOO MBENYANE ENGINEERS
ENGINEERS & PROJECT MANAGERS
46 WOODFORD GROVE
DURBAN
4001
Signed — Date

Transportation Engineer: Chief Engineer

Head : Transport

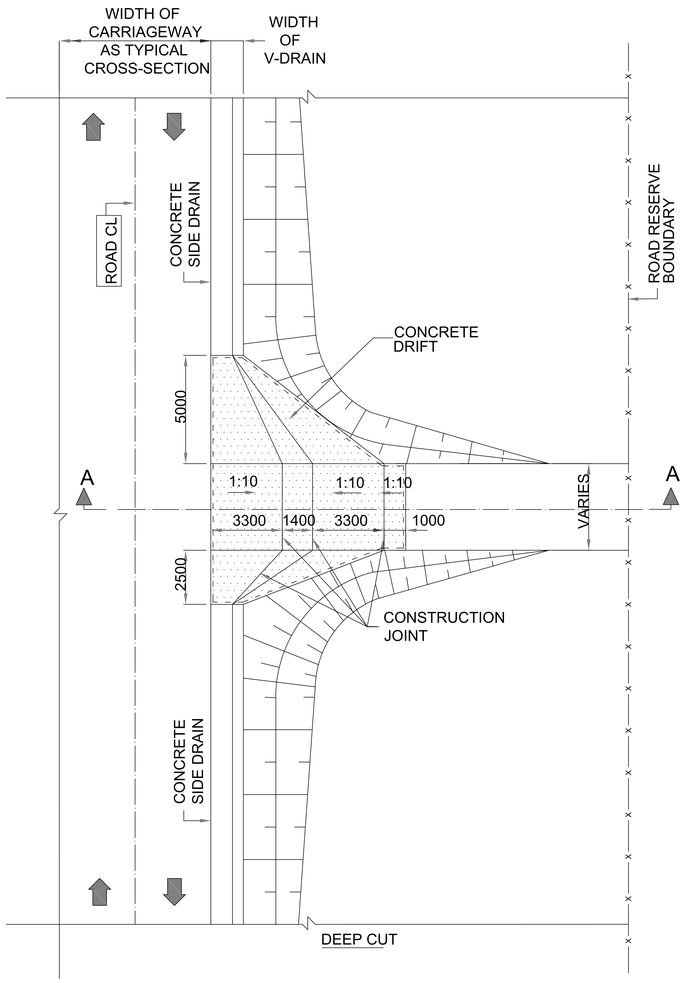
DISTRICT ROAD 1001 : TABLE MOUNTAIN TO CACACA RIVER

UPGRADE FROM KM 0+000 - KM 4+780

DESIGN AND SERVICES PLAN

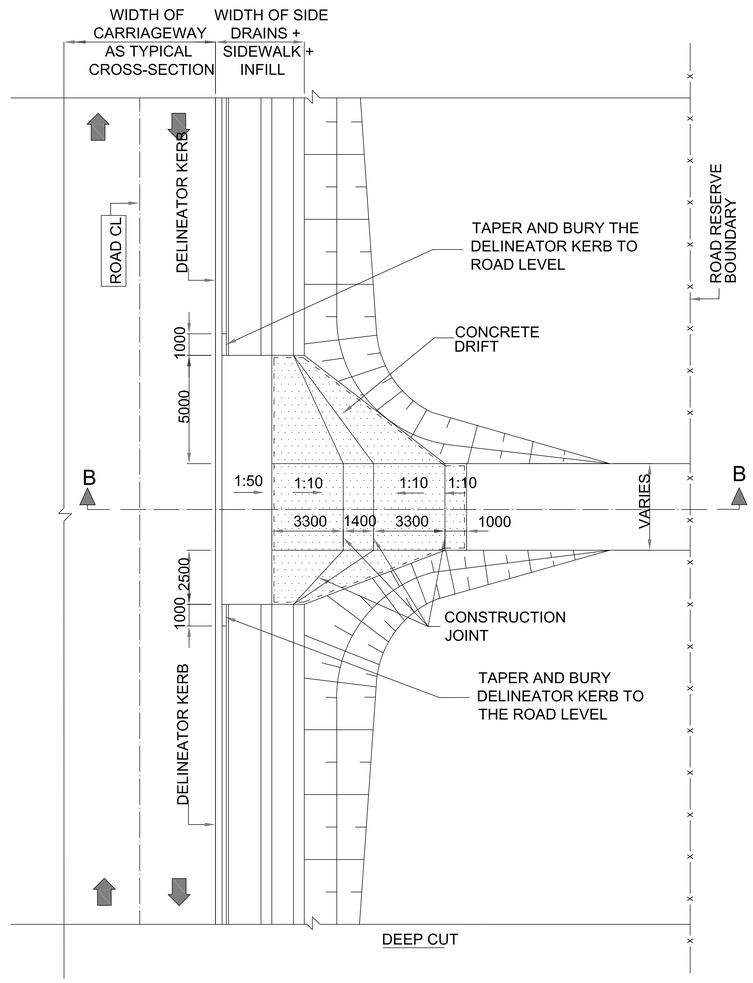
Staked Km distance	4+000 - 4+780
Sheet No:-	5
of:-	5
Scale	1:1000
Plan No.	C47127

C47127 / 19013



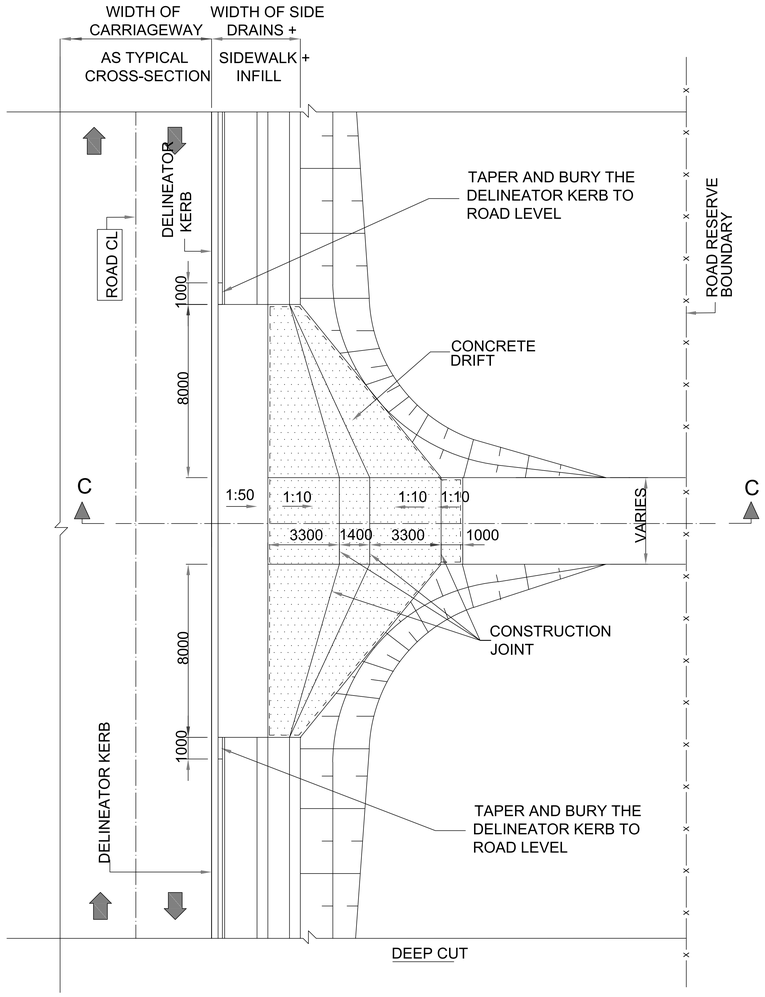
PLAN OF ROAD ACCESS WITH V-DRAIN

N.T.S



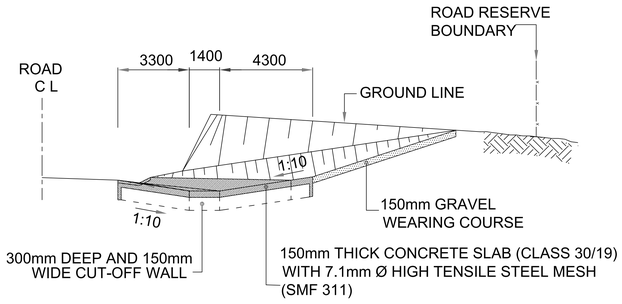
PLAN OF ROAD ACCESS WITH AT-GRADE SIDEWALK

N.T.S



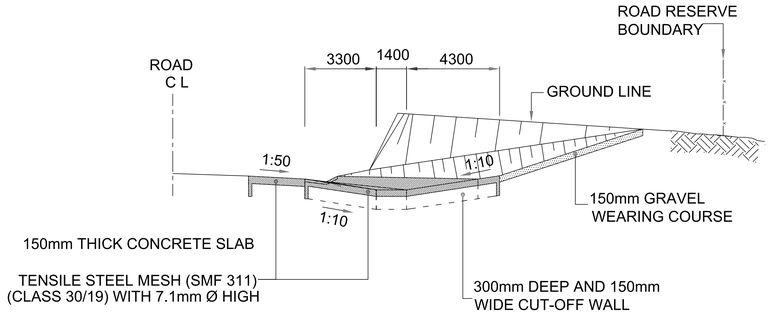
PLAN OF ROAD ACCESS AT TYPE B3 ACCESS

N.T.S



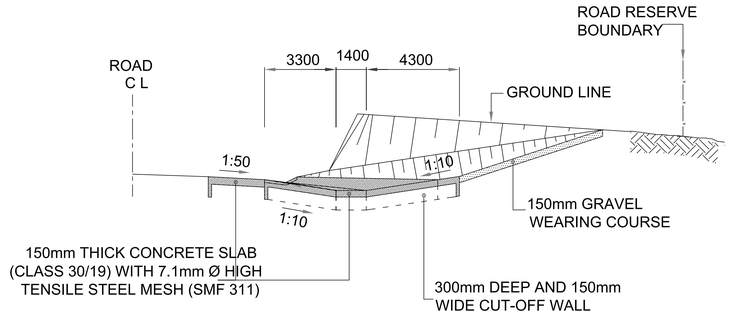
SECTION A-A

N.T.S



SECTION B-B

N.T.S



SECTION C-C

N.T.S

Symbol	Date	Description	Checked	Signed
0	25/07/2022	FOR CONSTRUCTION	R.SMITH	

AMENDMENTS

AS BUILT

Supervising Engineer — Date

Supervising Authority

Continued from :
Continued on :
Longitudinal Section No :
Cross Section No :
Survey Plan No :

Designed by : Mr M NAICKER
Checked by : Mr R SMITH
Drawn by : Mr J FRANK
Checked by : Mr M NAICKER
Date of approval : 25/07/2022

PROVINCE OF KWAZULU - NATAL - ISIFUNDAZWE SAKWAZULU - NATALI
DEPARTMENT OF TRANSPORT
UMNYANGO WEZOKTHTHA

Designed by :
NATHOO MBENYANE ENGINEERS
ENGINEERS & PROJECT MANAGERS
46 WOODFORD GROVE
DURBAN
4001
Signed — Date

Transportation Engineer: Chief Engineer

Head : Transport

UPGRADE FROM KM 0+000 - KM 4+780

DETAIL D - ACCESS OVER V DRAINS

Staked Km distance: 4+000 - 4+780

Sheet No:-

Scale: AS SHOWN

Plan No.: 19013-D01

D01 / 19013