

INDEX TO BILL OF QUANTITIES

SECTION 1 PRELIMINARY AND GENERAL

PART	AA	PRELIMINARIES
PART	AB	GENERAL SPECIFICATIONS
PART	AH	OCCUPATIONAL HEALTH and SAFETY

SECTION 2 ROADWORKS & FOOTPATHS

PART	B	SITE CLEARANCE
PART	C	CONCRETE WORK
PART	DA	EARTHWORKS : BULK
PART	ED	ROAD ASPHALT
PART	EF	KERBS AND HAUNCHES
PART	EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS
PART	F	PROTECTION WORKS
PART	TA	ROAD SIGNS
PART	TB	ROAD MARKINGS

SECTION 3 STORMWATER DRAINAGE

PART	B	SITE CLEARANCE
PART	C	CONCRETE WORK
PART	DB	EARTHWORKS FOR PIPE TRENCHES
PART	F	PROTECTION WORKS
PART	PG	NON PRESSURE PIPELINES and PC CULVERTS
PART	PH	MANHOLES and APPURTENANT DRAINAGE WORKS

SECTION 4 RETAINING STRUCTURES - CIVIL WORKS

PART	B	SITE CLEARANCE
PART	C	CONCRETE WORK
PART	DA	EARTHWORKS : BULK
PART	DB	EARTHWORKS FOR PIPE TRENCHES
PART	DD	EARTHWORKS FOR STRUCTURES
PART	F	PROTECTION WORKS
PART	PG	NON PRESSURE PIPELINES and PC CULVERTS

SECTION 5 SEWER RETICULATION

PART	PH	MANHOLES and APPURTENANT DRAINAGE WORKS
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The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

BILL OF QUANTITIES

SECTION 1 PRELIMINARY AND GENERAL

PART AA PRELIMINARIES

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>GENERAL CONDITIONS OF CONTRACT (GCC2015) READ IN CONJUNCTION WITH CONTRACT DATA</u>				
1	GCC 2015	Fixed Charge obligations	sum	1		
2	GCC 2015	Time Related obligations	sum	1		
		<u>SANS 1921-1: GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS</u>				
3	SANS 1921-1	Fixed Charge Items	sum	1		
4	SANS 1921-1	Time Related Items	sum	1		
5	C1.2.3.1	COMMUNITY LIAISON OFFICER	PC Sum	90000	1.00	90 000.00
6		Allow for CLO to be appointed	%	90000		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL

R

PART AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>FIXED CHARGES</u>				
1	PS.AB.2	Offices for Engineer and Staff	sum	1		
2	PS.AB.4	Contractor's Camp Site / Store Yard	sum	1		
3	AB.5	Notice Board as per Annexure C3.6.1	no.	1		
4	PS.15.3	Deductions for re-tests requested when density of a layer is not as per specification as determined by Acceptance Testing (minus R1000 per set)	-1000/set			
5	PS.AB.7	Initial Supply of all signs, barricades and delineators	sum	1		
6	PS.11.1	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
7	PS.11.3	Additional Site Survey	PC Sum	5000	1.00	5 000.00
8	PS.11.3	Contractor's markup on item 7	%	5000		
		<u>TIME RELATED CHARGES</u>				
9	PS.AB.2	Offices for Engineer and Staff	sum	1		
10	PS.AB.4	Contractors Camp Site/Store Yard	sum	1		

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

Part Continued **PART** **AB** **GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
11	AB.6	Cost of Samples and Contractor's Preliminary and Site and Site Control Testing	sum	1		
12	AB.7	Maintenance of Pedestrian and Traffic Facilities	sum	1		
13	AB.7	Maintenance of all signs, barricades and delineators	sum	1		
14	PS.11.2	Setting out of works	sum	1		
15	PS.12	Site Security	sum	1		
16	C1.2.3.6/PS.A B.8	Expected Risks: De-establishment costs	sum	1		
17	C1.2.3.6/PS.A B.8	Expected Risks: Re-establishment costs	sum	1		
18	PS.19.1	Penalties for not removing unwanted material by end of work day	R1000/Day	—	—	—

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL

R

PART **AH** **OCCUPATIONAL HEALTH and SAFETY**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AH.14.1/ PS.10	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
2	AH.14.2/ PS.10	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
3	AH.14.3/ PS.10	Submission of the Health and Safety File	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL

R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

SECTION 2 ROADWORKS & FOOTPATHS

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance and grubbing including trees up to a maximum girth of 1.5m	m2	2000		
2	B.8.4	Removal of trees of girth exceeding 1,5 m	no.	5		
3	PS.B.8.5	Removal of 1,2 m - 2,4 m high wire mesh fence, stockpile and reinstate. Rate to include all haulage	m	40		
4	B.8.9	Removal of brickwork	m3	10		
5	PS.B.8.13	Removal of reinforced/unreinforced concrete	m3	10		
6	B.8.13	Removal of existing asphalt roadway to tip	m3	3		
7	PS.B.8.24	Removal of informal retaining structures	m2	25		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 20MPa/19mm concrete for Footpaths (Class 3 - Wood Float Surface Finish)	m3	75		
2	C.8.1	Grade 20MPa/19mm concrete for Handrail Post Bases and Bollard Bases	m3	5		
3	C.8.1	Grade 30MPa/28mm concrete for 2.5m Wide Footpath - Standard Panels (Class 2 - Broomed Surface Finish)	m3	25		
4	C.8.1	Grade 30MPa/28mm concrete for 2.5m Wide Footpath - Panel Anchors (Class 2 - Broomed Surface Finish)	m3	5		
5	C.8.2	Welded fabric reinforcement - Ref Mesh 193	t	1.5		
6	C.8.2	Welded fabric reinforcement - Ref Mesh 311	t	0.5		
7	C.8.3	Class 1 Formwork for concrete works	m2	110		
8	PS.C.8.4	Movement Joints for footpaths as per Detail Drawing 49285 (Sheet 3 of 3)	m	270		
9	PS.C.8.5	Saw cut joints for footpaths as per Detail Drawing 49285 (Sheet 3 of 3)	m	130		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.2	Remove topsoil to stockpile and if surplus to requirements, spoil in an approved dump site. Rate to include for stockpile handling.	m3	85		
2	DA.8.3	Excavate in all material, deposit and spread material as fill or stockpile or,if surplus to requirements, spoil in an approved dump site. Rate to include for stockpile handling.	m3	400		
3	DA.8.3	Excavate soft material to spoil	m3	160		
4	DA.8.3	Extra over on item 3 for excavation in intermediate material	m3	25		
5	DA.8.3	Extra over on item 3 for excavation in hard material	m3	35		
6	DA.8.4	Import G4 material from commercial sources	m3	100		
7	DA.8.4	Import G5 Material from commercial sources	m3	150		
8	DA.8.4	Import G7 material from commercial sources	m3	160		
9	DA.8.5	Compact imported G4 material to 97% Mod. AASHTO	m3	100		
10	DA.8.5	Compact imported G5 material to 95% Mod. AASHTO.	m3	150		
11	DA.8.5	Compact imported G7 material to 93% Mod. AASHTO.	m3	160		
12	PS.DA.8.11	Rip and re-compact insitu material to 90% Mod AASHTO	m3	300		
13	DA.8.6	Trimming of embankments	m2	200		
14	DA.8.9	Formation	m2	1700		
15	DA.8.9	Extra over item 14 above for areas of cut or where the fill layer thickness is less than 150mm	m2	150		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART ED ROAD ASPHALT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.ED.8.2	Sand skeletal - 30mm thick continuously graded Sa-S10 Asphalt wearing course (A-E2)(Level 1B)	t	40		
2	PS.ED.8.5	Prime Coat (Application rate = 0.8L/m2)	m2	540		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

PART EF KERBS AND HAUNCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Fig.12 kerb	m	550		
2	EF.8.1	Extra over item 1 for curves of radius less than 25 m	m	50		
3	EF.8.1	Type F mountable kerb and cast insitu channel as per drawing 38577	m	365		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.EG.8.7	Precast Concrete Steps (Base steps or similar approved) including Grade 20/13 base as per Standard Details Drawing No. 49285 (Sheet 3 of 3)	no.	100		
2	PS.EG.8.8	Handrails as per Standard Detail Drawing No. 49285 (Sheet 3 of 3)	m	40		
3	PS.EG.8.9	Precast Handrail Posts as per Standard Detail Drawing No. 49285 (Sheet 3 of 3)	no.	12		
4	PS.EG.8.10	Precast Concrete Bollards as per Standard Detail Drawing No. 49285 (Sheet 3 of 3)	no.	10		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Topsoiling on banks, verges and service lines from stockpile - thickness 100mm	m2	95		
2	PS.F.8.3	Grass planting on banks, verges and service lines. Rate to include for supply and lay of Cynodon 'Dactylon' grass, fertilizer and maintenance etc.	m2	95		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART TA ROAD SIGNS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TA.8.1	Supply and erect road sign boards, area not exceeding 2m2 including galvanising	m2	3		
2	TA.8.2	Supply and erect standard 76mm diameter hot dipped galvanised road name sign supports	no.	3		
3	TA.8.3	Excavate and backfill for road sign supports	m3	1		
4	TA.8.4	Concrete grade 20/19 for road sign footings	m3	1		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

PART TB ROAD MARKINGS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TB.8.1.1	Road marking paint as per SANS 731 150mm wide (white), including setting out and premarking	km	0.25		
TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS						R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

SECTION 3 STORMWATER DRAINAGE

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.3	General clearance and grubbing for pipelines within a servitude for a width of 2m	m2	220		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 25MPa/19mm concrete for 600mm wide x 100mm thick 'trapezodial' drain.	m3	2.5		
2	C.8.2	Welded fabric reinforcement Ref : Mesh 193	t	0.15		
3	C.8.3	Class 1 Formwork for concrete drain	m2	5.5		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.4	Remove Topsoil to stockpile and if surplus to requirement, spoil in approved dump site. Depth 100mm. Rate to include for stockpile handling.	m2	75		
2	PS.DB.8.5	Excavate and backfill in all material for 450 mm diameter pipe where depth is :- - Over 0,0 m and not exceeding 1,5 m	m3	50		
3	PS.DB.8.5	Excavate and backfill in all material for 450 mm diameter pipe where depth is :- - Over 1.5m and not exceeding 2,0m	m3	30		
4	DB.8.6	Extra over items 3-4 for hard material	m3	5		
5	DB.8.6	Extra over items 3-4 for rock	m3	5		
6	DB.8.15	Disposal of unsuitable or surplus material including material displaced by pipe from trench excavation	m3	15		
7	DB.8.9	Provision of selected fill for pipe bedding from scheduled excavation.	m3	15		
8	DB.8.9	Provision of selected fill for pipe bedding from a commercial or off- site source	m3	30		
9	DB.8.9	Provision of clean coarse sand for pipe bedding from commercial or off-site source	m3	15		
10	DB.8.10	Placing and compacting of Class C bedding for 450mm diameter pipe	m3	15		

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

Part Continued PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
11	DB.8.9	Provision of 19 mm stone chippings for trench bottom from commercial or offsite source	m3	5		
12	DB.8.19	Prove existing services by hand excavation (provisional), where depth is: - - Over 0,0 m and not exceeding 1,5 m	m3	10		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Topsoiling from stockpile as directed by the Engineer - thickness 100mm	m2	60		
2	PS.F.8.3	Grass planting as directed by the Engineer. Rate to include for supply and lay of Cynodon 'Dactylon' grass, fertilizers, pesticides etc	m2	60		
3	F.8.6	Gabion Mattresses: 300mm thick	m3	5		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

PART PG NON PRESSURE PIPELINES and PC CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.2	450 mm diameter Concrete pipe (50D)	m	35		
2	PG.8.2	450mm diameter Weholite stormwater pipe with rubber seal joint or similar approved. (Pressure rating = 1.5bar, Ring Stiffness = 4KN/m2)	m	110		
3	PG.8.5	Grade 15/26 concrete for anchor blocks as per Standard Detail No. 38575	no.	5		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.PH.8.2	Standard Single Stormwater manhole. As per standard detail drawing No. 38572. Depth:- Over 0.0m and not exceeding 1.5m	no.	7		
2	PS.PH.8.2	Standard Single Stormwater manhole. As per standard detail drawing No. 38572. Depth:- Over 1.5m and not exceeding 2m	no.	5		
3	PH.8.2	Extra over item 1-2 for type B benching	no.	10		
4	PH.8.2	Extra over item 1-2 for type A channel with 450 x 450mm junction including any change in direction.	no.	3		

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

Part Continued **PART** **PH MANHOLES and APPURTENANT DRAINAGE WORKS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	PS.PH.8.3	Standard inlet manhole type S1. Depth as per standard detail drawing No. 38572. Depth :- - Over 0,0 m and not exceeding 1,5 m	no.	1		
6	PS.PH.8.3	Single Splay Stormwater inlet manhole - Right Type S2. As per Drawing : 38572 Depth :- - 1.5m and not exceeding 2.0m	no.	2		
7	PS.PH.8.10	Construct standard outlet headwall for 450mm diameter pipes as per standard detail drawing No. 38576	no.	2		

TOTAL CARRIED TO SECTION 3 SUMMARY: STORMWATER DRAINAGE

R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

SECTION 4 RETAINING STRUCTURES - CIVIL WORKS

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General site clearance and grubbing	m2	110		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 25MPa/28mm concrete for retaining wall bases	m3	16		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.4	Import G7 material from commercial sources	m3	50		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.9	Provision of 19 mm single size stone chippings for subsoil drain from commercial or off-site source	m3	15		
2	DB.8.9	Provision of clean coarse sand for pipe trench bedding from commercial or offsite source	m3	65		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART DD EARTHWORKS FOR STRUCTURES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all material, load, haul, deposit, stockpile or if surplus to requirements or unsuitable spoil in an approved dump site. Rate to include for stockpile handling	m3	50		
2	DD.8.2	Extra over item 1 for rock	m3	25		
3	DD.8.2	Extra over item 1 for hard material	m3	15		
4	DD.8.3	Backfill G7/G9 material and compact to 93% MOD AASHTO	m3	50		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Supply and construct the following blocks:</u>				
1	PS.F.8.9	Supply and construct dry stack retaining wall using Geolok - G400 or similar approved	m2	75		
2	PS.F.8.11	50mm dia. uPVC Pipe for retaining wall	no.	25		
3	PS.F.8.10	Soilcrete or stabilised fill material	m3	30		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

PART PG NON PRESSURE PIPELINES and PC CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Supply 450mm diameter Concrete pipe (50D)</u>				
1	PG.8.12.1	Geotextile blanket for gabion baskets(2.3mm thick, Penetration load = 2.5KN, Porosity = 93%)	m2	90		
2	PG.8.12.1	Geotextile blanket as surround to Subsoil Drains (1.6mm thick, Penetration load = 1.7KN, Porosity = 93%)	m2	90		
3	PG.8.12.2	110 mm diameter pitch fibre sub-soil pipes	m	75		
4	PS.PG.8.14	Sub-soil drains and outlets	no.	3		

TOTAL CARRIED TO SECTION 4 SUMMARY: RETAINING STRUCTURES - CIVIL WORKS

R

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

SECTION 5 SEWER RETICULATION
PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.PH.8.7	Lowering of existing manholes to suit foopath profile	no.	8		
2	PS.PH.8.7	Extra over item 1 above for precast concrete heavy duty manhole covers and frames as per standard drawing 38570 and dispose of existing covers and frames	no.	8		

TOTAL CARRIED TO SECTION 5 SUMMARY: SEWER RETICULATION R

BILL OF QUANTITIES SECTION SUMMARY

SECTION 1 PRELIMINARY AND GENERAL

PART	AA	PRELIMINARIES	
PART	AB	GENERAL SPECIFICATIONS	
PART	AH	OCCUPATIONAL HEALTH and SAFETY	
TOTAL CARRIED TO FINAL SUMMARY			

BILL OF QUANTITIES SECTION SUMMARY

SECTION 2 ROADWORKS & FOOTPATHS

PART B	SITE CLEARANCE	
PART C	CONCRETE WORK	
PART DA	EARTHWORKS : BULK	
PART ED	ROAD ASPHALT	
PART EF	KERBS AND HAUNCHES	
PART EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS	
PART F	PROTECTION WORKS	
PART TA	ROAD SIGNS	
PART TB	ROAD MARKINGS	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY**SECTION 3 STORMWATER DRAINAGE**

PART	B	SITE CLEARANCE	
PART	C	CONCRETE WORK	
PART	DB	EARTHWORKS FOR PIPE TRENCHES	
PART	F	PROTECTION WORKS	
PART	PG	NON PRESSURE PIPELINES and PC CULVERTS	
PART	PH	MANHOLES and APPURTENANT DRAINAGE WORKS	
TOTAL CARRIED TO FINAL SUMMARY			

BILL OF QUANTITIES SECTION SUMMARY

SECTION 4 RETAINING STRUCTURES - CIVIL WORKS

PART B	SITE CLEARANCE	
PART C	CONCRETE WORK	
PART DA	EARTHWORKS : BULK	
PART DB	EARTHWORKS FOR PIPE TRENCHES	
PART DD	EARTHWORKS FOR STRUCTURES	
PART F	PROTECTION WORKS	
PART PG	NON PRESSURE PIPELINES and PC CULVERTS	
TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY**SECTION 5 SEWER RETICULATION**

PART	PH	MANHOLES and APPURTENANT DRAINAGE WORKS	
TOTAL CARRIED TO FINAL SUMMARY			

The Provision of Incremental Services to Informal Settlements within the Southern Region: Roads and Footpaths with Associated Stormwater Control in Ward 81 Cluster, Settlement eMlaza CX1.

SUMMARY OF BILL OF QUANTITIES

1	PRELIMINARY AND GENERAL		R	
	AA PRELIMINARIES	R		
	AB GENERAL SPECIFICATIONS	R		
	AH OCCUPATIONAL HEALTH and SAFETY	R		
2	ROADWORKS & FOOTPATHS		R	
	B SITE CLEARANCE	R		
	C CONCRETE WORK	R		
	DA EARTHWORKS : BULK	R		
	ED ROAD ASPHALT	R		
	EF KERBS AND HAUNCHES	R		
	EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS	R		
	F PROTECTION WORKS	R		
	TA ROAD SIGNS	R		
	TB ROAD MARKINGS	R		
3	STORMWATER DRAINAGE		R	
	B SITE CLEARANCE	R		
	C CONCRETE WORK	R		
	DB EARTHWORKS FOR PIPE TRENCHES	R		
	F PROTECTION WORKS	R		
	PG NON PRESSURE PIPELINES and PC CULVERTS	R		
	PH MANHOLES and APPURTENANT DRAINAGE WORKS	R		
4	RETAINING STRUCTURES - CIVIL WORKS		R	
	B SITE CLEARANCE	R		
	C CONCRETE WORK	R		
	DA EARTHWORKS : BULK	R		
	DB EARTHWORKS FOR PIPE TRENCHES	R		
	DD EARTHWORKS FOR STRUCTURES	R		
	F PROTECTION WORKS	R		
	PG NON PRESSURE PIPELINES and PC CULVERTS	R		
5	SEWER RETICULATION		R	
	PH MANHOLES and APPURTENANT DRAINAGE WORKS	R		
SUB TOTAL			R	
ADD VAT (15%) - (only if a registered VAT Vendor)			R	
TOTAL CARRIED TO FORM OF TENDER			R	