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Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

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	87000	1.00	87,000.00
6		Allow for CLO to be appointed	%	87000		

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.14	Contractor's Camp Site / Store Yard	sum	1		
3	AB.5 PS.16	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)	set	0		
5	AB.7	Initial Supply of all signs, barricades and delineators	sum	1		
6	PS.13.1	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
7	PS.13.3	Additional Site Survey	PC Sum	2500	1.00	2,500.00
8	PS.13.3	Contractor's markup on item 7	%	2500		
		<u>TIME RELATED CHARGES</u>				
9	PS.AB.2	Offices for Engineer and Staff	sum	1		
10	PS.14	Contractors Camp Site/Store Yard	sum	1		

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

Part Continued PART AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
11	AB.6 PS.15	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.13.2	Setting out of works	sum	1		
15	PS.11	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	day	0		

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

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

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	600		
2	B.8.4	Removal of trees of girth exceeding 1,5 m	no.	2		
3	PS.B.8.5	Removal and re-instatement of existing fences (1.2m up to 2.4m high)	m	30		
4	B.8.9	Removal of brickwork	m3	10		
5	B.8.10	Removal of unreinforced concrete	m3	40		
6	B.8.11	Removal of reinforced concrete	m3	40		
7	B.8.14	Removal of existing asphalt roadway to tip	m3	3		
8	PS.B.8.23	Removal of informal retaining structures	m2	85		

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	25		
2	C.8.1	Grade 20MPa/19mm concrete for Handrail Post Bases and Bollard Bases	m3	1.8		
3	C.8.2	Welded fabric reinforcement - Ref Mesh 193	t	0.7		
4	C.8.3	Class 1 Formwork for concrete works	m2	250		
5	PS.C.8.4	Movement Joints for footpaths as per Standard Detail Drawing 74584 (Sheet 1 of 3)	m	22		
6	PS.C.8.5	Saw cut joints for footpaths as per Standard Detail Drawing 74584 (Sheet 1 of 3)	m	100		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

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	45		

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

Part Continued **PART DA EARTHWORKS : BULK**

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	DA.8.3	Excavate in soft 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	200		
3	DA.8.3	Extra over on item 2 for excavation in intermediate material	m3	55		
4	DA.8.3	Extra over on item 2 for excavation in hard material	m3	30		
5	DA.8.4	Import G7 material from commercial sources	m3	65		
6	DA.8.5	Compact imported G7 material to 93% Mod. AASHTO.	m3	65		
7	PS.DA.8.11	Rip and re-compact insitu material to 90% Mod AASHTO	m3	70		
8	DA.8.6	Trimming of embankments	m2	200		
9	DA.8.9	Formation	m2	300		
10	DA.8.9	Extra over item 9 above for areas of cut or where the fill layer thickness is less than 150mm(Provisional)	m2	10		
11	PS.DA.8.12	Prove existing underground services by hand excavation (Provisional)	m3	5		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

PART EF KERBS AND HAUNCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Fig.12 kerb	m	400		
2	EF.8.1	Extra over item 1 for curves of radius less than 25 m	m	60		

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 20MPa/13mm base as per Standard Details Drawing No. 74584 (Sheet 1 of 3)	no.	165		
2	PS.EG.8.8	Handrails as per Standard Detail Drawing No. 74584 (Sheet 1 of 3)	m	35		
3	PS.EG.8.9	Precast Handrail Posts as per Standard Detail Drawing No. 74584 (Sheet 1 of 3)	no.	30		

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

Part Continued **PART** EG **SIDEWALKS, FOOTPATHS and MEDIAN AREAS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	PS.EG.8.10	Precast Concrete Bollards as per Standard Detail Drawing No. 74584 (Sheet 1 of 3)	no.	3		

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	100		
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	100		

TOTAL CARRIED TO SECTION 2 SUMMARY: ROADWORKS FOOTPATHS

R

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

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	105		

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 'trapezoidal' drain.	m3	4		
2	C.8.2	Welded fabric reinforcement Ref : Mesh 193	t	0.1		
3	C.8.3	Class 1 Formwork for concrete drain	m2	4		

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	55		
2	DB.8.8	Excavation of unsuitable material from trench bottom (provisional)	m3	5		
3	DB.8.5	Restricted excavation and backfilling	m3	120		
4	PS.DB.8.5	Excavate and backfill in soft material for 450 mm diameter pipe where depth is :- Over 0,0 m and not exceeding 1,5 m	m3	15		
5	PS.DB.8.5	Excavate and backfill in soft material for 450 mm diameter pipe where depth is :- Over 1.5m and not exceeding 2,0m	m3	35		
6	DB.8.6	Extra over items 4-5 for hard material	m3	5		
7	DB.8.6	Extra over items 4-5 for rock	m3	5		
8	DB.8.9	Provision of selected fill for pipe bedding from scheduled excavation.	m3	5		
9	DB.8.9	Provision of selected fill for pipe bedding from a commercial or off- site source	m3	10		
10	DB.8.9	Provision of clean coarse sand for pipe bedding from commercial or off-site source	m3	6		
11	DB.8.10	Placing and compacting of Class C bedding for 450mm diameter pipe	m3	6		

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

Part Continued PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
12	DB.8.9	Provision of 19 mm stone chippings for trench bottom from commercial or offsite source	m3	3		
13	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	105		
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	105		
3	F.8.6	Reno Mattresses: 300mm thick	m3	1		

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	450mm diameter Weholite stormwater pipe with rubber seal joint or similar approved. (Pressure rating = 1.5bar, Ring Stiffness = 4KN/m2)	m	55		
2	PG.8.5	Grade 20MPa/26mm concrete for anchor blocks as per Standard Detail No. 38575	no.	3		

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.	1		
2	PS.PH.8.3	Standard inlet manhole type S1. Depth as per standard detail drawing No. 38572. Depth :- Over 0,0m and not exceeding 1,5m	no.	4		
3	PH.8.2	Extra over item 1-2 for type B benching	no.	1		
4	PH.8.2	Extra over item 1-2 for type A channel with 450 x 450mm junction including any change in direction.	no.	1		

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

Part Continued PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	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

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

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	370		

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	35		

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/G9 material from commercial sources	m3	120		

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	35		

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 soft material, load, haul, deposit, stockpile or surplus to requirements, spoil in an approved dump site.	m3	200		
2	DD.8.2	Extra-over item 1 above for hard material.	m3	30		
3	DD.8.2	Extra-over item 1 above for rock	m3	25		
4	DD.8.5	Backfill G7/G9 material and compact to 93% Mod AASHTO	m3	300		

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

R

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

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	400		
2	PS.F.9.10	Soilcrete backfill to walls, to achieve a minimum UCS (Unconfined Compressive Strength) of 2 Mpa	m3	98		
3	PS.F.8.11	50mm dia. uPVC Pipe for retaining wall	no.	210		

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
1	PG.8.12.1	Geotextile blanket for gabion baskets(2.3mm thick, Penetration load = 2.5KN, Porosity = 93%)	m2	700		
2	PG.8.12.1	Geotextile blanket as surround to Subsoil Drains (1.6mm thick, Penetration load = 1.7KN, Porosity = 93%)	m2	650		
3	PG.8.12.2	110 mm diameter pitch fibre sub-soil pipes	m	210		
4	PG.8.12	Sub-soil drains and outlets	no.	14		

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

R

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

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 footpath profile	no.	1		
2	PS.PH.8.7	Extra over item 1 for precast concrete heavy duty manhole cover and frame as per standard drawing 38570 and dispose of existing covers and frames	no.	1		

TOTAL CARRIED TO SECTION 5 SUMMARY: SEWER RETICULATION

R

BILL OF QUANTITIES SECTION SUMMARY

SECTION 1 PRELIMINARY AND GENERAL

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BILL OF QUANTITIES SECTION SUMMARY**SECTION 2 ROADWORKS & FOOTPATHS**

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

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TOTAL CARRIED TO FINAL SUMMARY		

BILL OF QUANTITIES SECTION SUMMARY

SECTION 4 RETAINING STRUCTURES - CIVIL WORKS

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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			

Provision of Incremental Services to Informal Settlements within the Southern Region: Footpaths and Associated Stormwater Control in Umlazi L-L2 Settlement (Ward 78)

SUMMARY OF BILL OF QUANTITIES

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