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THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

BILL OF QUANTITIES

SECTION 1 SECTION 1: PRELIMINARIES AND GENERAL

PART AA PRELIMINARIES

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE 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		
		<u>COMMUNITY LIAISON OFFICER</u>				
5	C.1.2.3.1	Allow for a CLO to be appointed	PC Sum	75000	1.00	75 000.00
6	C.1.2.3.1	Contractor's mark up on item 5	%	75000		

TOTAL CARRIED TO SECTION 1 SUMMARY: SECTION 1: PRELIMINARIES AND GENERAL

R

PART AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>FIXED CHARGES</u>				
1	AB.2 PS.AB.2	Offices for Engineer and Staff	sum	1		
2	AB.4 PS.12	Contractor's Camp Site / Store Yard	sum	1		
3	AB.5 PS.15	Notice Board (Refer to Notice Board drawing - Dwg No. 4137 E)	sum	1		
4	AB.7 PS.AB.7	Road Deviations	sum	1		
5	AB.7 PS.AB.7	Initial supply of all signs, barricades and delineators	sum	1		
6	PS.18	Allow for Progress Photographs (Provisional Sum)	sum	1		
7	PS.11.1	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
8	PS.11.3	Additional site survey that may be required by the Engineer	PC Sum	15000	1.00	15 000.00
9	PS.11.3	Contractor's mark up on item 8	%	15000		
10	PS.19	Site Security	sum	1		

THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

Part Continued **PART AB GENERAL SPECIFICATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
TIME RELATED CHARGES						
11	AB.2 PS.AB.2.1	Offices for Engineer and Staff	sum	1		
12	AB.4 PS.AB.4.1	Contractor's Camp Site / Store Yard	sum	1		
13	AB.7 PS.AB.7	Maintenance of all signs, barricades and delineators	sum	1		
14	AB.7 PS.AB.7	Maintenance of Pedestrian and Traffic Facilities	sum	1		
15	PS.11.2	Setting out of the works	sum	1		
16	AB.6 PS.14	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
17	PS.AB.8	Temporary protection of existing services	sum	1		
18	PS.9	Compliance with Environmental Management Plan	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: SECTION 1: PRELIMINARIES 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: SECTION 1: PRELIMINARIES AND GENERAL

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**THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS,
FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)**

SECTION 2 SECTION 2: SITE CLEARANCE

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2 PS.17	General clearance and grubbing	m2	450		
2	B.8.5 PS.17	Removal of 1.2 - 2.4 m high fence and store on site for re-use	m	50		
3	B.8.5 PS.17	Removal of 1.2 - 2.4 m high fence and spoil at tip. Rate to include all haulage	m	20		
4	B.8.4 PS.17	Removal of trees of girth exceeding 0.0m up to including 1.0m. Rate to include all haulage	no.	5		

TOTAL CARRIED TO SECTION 2 SUMMARY: SECTION 2: SITE CLEARANCE

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THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

SECTION 3 SECTION 3: CONCRETE WORK

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1 PS.C.5	Grade 20/19 concrete to footpaths , dimensions, up to 1500mm wide x 100mm thick at 2.5m alternate panels and to V-Drains, 600mm wide x 100mm thick and to edge beams to road ends.	m3	12		
2	C.8.2	Welded mesh fabric reinforcement : SMF-REF 193 mesh with 50mm spacer blocks	kg	275		
3	C.8.3	Shuttering and formwork to cast-in-situ concrete including internal panel faces and end faces	m2	125		
4	EG.8.3	Expansion Joints with 10 mm bitumen impregnated softboard and polysulphide sealant.	m	355		
5	C.8.4	Grade 13/15 concrete blinding to uneven surfaces, as required on site	m3	76		
6	C.8.1	Grade 30/26 concrete to road surfacing, dimensions, up to 3m wide x 200mm thick, cast in 2.5m long alternate panels, with a ridged finish (5mm deep @ 50mm c/c)	m3	170		
7	C.8.2	Welded mesh fabric reinforcement to road concrete surface : SMF - REF 395 mesh with 100mm spacer blocks	kg	4000		
8	AA.ED.8.1	Saw cut to tie into existing road	m	20		

TOTAL CARRIED TO SECTION 3 SUMMARY: SECTION 3: CONCRETE WORK

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THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

SECTION 4 SECTION 4: EARTHWORKS

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.2 PS.17	Excavate 100mm topsoil to stockpile	m3	20		
2	DA.8.3 PS.17	Excavate soft material and place directly into fill as directed by the Engineer on site	m3	80		
3	DA.8.3 PS.17	Extra over above for excavation in intermediate material to fill (for item 2 above)	m3	5		
4	DA.8.3 PS.17	Extra over above for excavation in rock material to fill (for item 2 above)	m3	10		
5	DA.8.3 PS.17	Excavate soft material to spoil. Rate to include all haulage	m3	45		
6	DA.8.3 PS.17	Extra over above for the excavation of intermediate material to spoil (for item 5 above). Rate to include all haulage	m3	5		
7	DA.8.3 PS.17	Extra over above for excavation of rock material to spoil (for item 5 above). Rate to include all haulage	m3	95		
8	DA.8.3 PS.17	Excavate unsuitable material below embankments or formation and spoil at tip. Rate to include all haulage	m3	5		
9	DA.8.4	Import suitable fill material of G7 quality	m3	75		
10	DA.8.4	Import suitable fill material of G5 quality	m3	5		
11	DA.8.5	Compact imported fill material (G7) to 93% Mod A.A.S.H.T.O	m3	75		
12	DA.8.5	Compact imported fill material (G5) to 97% Mod A.A.S.H.T.O	m3	5		
13	PS.DA.12	Trimming of embankments	m2	750		
14	DA.8.9	Formation	m2	600		
15	PS.DA.8.11	Rip and recompact In-situ subgrade material to DN 3.7 - 5.7 density, TRH 14 Classification for G5	m3	50		

TOTAL CARRIED TO SECTION 4 SUMMARY: SECTION 4: EARTHWORKS

R

PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.19 PS.2.2	Prove existing services by hand excavation (provisional), where depth is over 0.0 m and not exceeding 1.5m	m3	5		

TOTAL CARRIED TO SECTION 4 SUMMARY: SECTION 4: EARTHWORKS

R

**THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS,
FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)**

PART DD EARTHWORKS FOR STRUCTURES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2 PS.17	Excavate in all material for Kerb and Channel: over 0.0m and not exceeding 1.5m	m3	20		
2	DD.8.2 PS.17	Excavate in all material for Reno Mattresses and gabion baskets: over 0.0m and not exceeding 1.5m	m3	15		
3	DD.8.2 PS.17	Excavate in all material for stormwater pipe: over 0.0m and not exceeding 1.5m in depth	m3	25		
4	DD.8.2	Excavate in rock material for stormwater pipe: over 0.0m and not exceeding 1.5m in depth	m3	95		

TOTAL CARRIED TO SECTION 4 SUMMARY: SECTION 4: EARTHWORKS

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THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

SECTION 5 SECTION 5: ROADWORKS

PART EF KERBS AND HAUNCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Fig. 6 mountable kerb as per typical details. Including 20mm mortar base (3 sand :1 cement), rough face	m	250		
2	EF.8.1	Extra over item 1 for curves of radius less than 25 m	m	20		
3	EF.8.1	Supply and lay Fig.6 barrier kerbs both sides, as shutter to new footpaths, as per Detail , to include 20mm 1:3 (1 cement : 3 riversand) mortar bedding and 10mm expansion joint every 10m	m	352		
4	EF.8.1	Fig. 6 kerb including concrete channel/fillet as per typical details. Including 20 mm motar(3 sand : 1 cement)	m	302		
5	EF.8.1	Extra over item 3 or curves of radius less than 25 m	m	20		
6	EF.8.1	Cast in-situ concrete Grade 20/19 for haunching - continuous	m3	8		

TOTAL CARRIED TO SECTION 5 SUMMARY: SECTION 5: ROADWORKS

R

PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.13.2	Supply and lay pre-cast concrete 1m wide garden steps, including bedding and laying.	no.	255		

TOTAL CARRIED TO SECTION 5 SUMMARY: SECTION 5: ROADWORKS

R

PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH 8.1	Straight steel guardrails inclusive of bolts and reflective plates	m	42.72		
2	EH 8.1	End wings	no.	6		
3	EH 8.1	Precast concrete posts inclusive of base excavation and concrete	no.	12		

TOTAL CARRIED TO SECTION 5 SUMMARY: SECTION 5: ROADWORKS

R

THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

SECTION 6 SECTION 6: PROTECTION WORKS

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1 PS.17	Topsoiling from stockpile	m2	200		
2	F.8.3	Planting of vegetation to match existing	m2	1100		
3	F.8.6	Install PVC coated reno mattress (No. 1 = 2m x 1m x 0.3m) As per typical details	no.	30		
4	F.8.8	Install new 1.2 - 2.4 m high fence to match existing	m	50		
5	F.8.8	Re-erect 1.2 - 2.4 m high fence using materials stored on site	m	10		
6	F.8.6	Install PVC coated Gabion boxes (No. 1 = 2m x 1m x 1m) As per typical details	m3	30		
7	F.8.1	Topsoiling from commercial sources.	m2	750		
8	F.8.4	Stone pitching	m2	20		
9	F.8.5	Catchwater banks with grass sod lining sod lining	m	20		
10	DD.8.2	Excavation for footing to retaining wall	m3	20		
11	DA.8.5	Backfilling and compaction to 93% Mod A.A.S.H.T.O	m3	35		
12	C.8.1	Retaining wall concrete footing grade 20/19	m3	20		
13	PS.F.8	Interlocking earth retaining system / wall - Geolok 400 or similar approved	m2	145		
14	PS.13.2	Handrails, to include all fastners and washers and tools for fixing to post, complete, as per detail on Annexure C.3.6.2	m	143		
15	PS.13.2	Posts, to include excavation, plumbing and fixing with Grade 20/19 concrete, as per detail on Annexure C.3.6.2	no.	80		

TOTAL CARRIED TO SECTION 6 SUMMARY: SECTION 6: PROTECTION WORKS

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THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

SECTION 7 SECTION 7: DRAINAGE

PART PG NON PRESSURE PIPELINES and PC CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.4 PS.PG.3	Import sand from within site for Class C bedding and backfill to stormwater pipe	m ³	45		
2	C.8.1 PS.PG.3	Grade 20/19 concrete encasement to stormwater pipe	m ³	15		
3	PG.8.11 PS.PG.3	Drainage grade geofabric blanket as surround to Reno mattresses and gabion basket.	m ²	100		
4	PG.8.2 PS.PG.3	Supply and lay 450mm diameter, Spigot and Socket, concrete stormwater pipe, complete with rubber seals, on Class C bedding	m	107		

TOTAL CARRIED TO SECTION 7 SUMMARY: SECTION 7: DRAINAGE

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PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH 8.2	Standard Inlet Type S2. Depth 0.0m and not exceeding 1.5m, as per standard details	no.	1		
2	PH 8.2	Standard Inlet Type S3. Depth 0.0m and not exceeding 1.5m, as per standard details	no.	1		
3	PH 8.2	Standard Inlet Type D4, Depth 0.0m and not exceeding 1.5m, as per standard details	no.	1		
4	PH 8.2	Standard Manhole, 1200mm x 1200mm external dimensions, including LD cover and lid and benching, Depth 0.0m and not exceeding 1.5m, as per standard details	no.	2		
5	PH 8.2	Construct standard outlet headwall for 450mm diameter pipes, as per standard details	no.	3		

TOTAL CARRIED TO SECTION 7 SUMMARY: SECTION 7: DRAINAGE

R

THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

SECTION 8 SECTION 8: ANCILLARY WORKS

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	m2	4		
2	TA.8.2	Supply and erect standard 76mm diameter hotted dipped galvanised road name sign supports. Rate to include haulage.	no.	6		
3	TA.8.3	Excavate and backfill for road sign supports	m3	0.25		
4	TA.8.4	Concrete grade 20/19 for road sign footings	m3	0.25		

TOTAL CARRIED TO SECTION 8 SUMMARY: SECTION 8: ANCILLARY WORKS

R

PART TB ROAD MARKINGS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TB.8.1.1 AA.TB.1 AA.TB.1	Painted road lines 150mm wide (white), including setting out and premarking - reflective	m	10		
2	TB.8.1.1 AA.TB.1	Painted road lines 300mm wide (white), including setting out and premarking	m	10		
3	TB.8.1.2	Road Marking for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings- reflective.	m2	5		

TOTAL CARRIED TO SECTION 8 SUMMARY: SECTION 8: ANCILLARY WORKS

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SECTION 1 SECTION 1: PRELIMINARIES AND GENERAL

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

SECTION 2 SECTION 2: SITE CLEARANCE

PART B SITE CLEARANCE	
TOTAL CARRIED TO FINAL SUMMARY	

SECTION 3 SECTION 3: CONCRETE WORK

PART C	CONCRETE WORK	
TOTAL CARRIED TO FINAL SUMMARY		

SECTION 4 SECTION 4: EARTHWORKS

PART DA	EARTHWORKS : BULK	
PART DB	EARTHWORKS FOR PIPE TRENCHES	
PART DD	EARTHWORKS FOR STRUCTURES	
TOTAL CARRIED TO FINAL SUMMARY		

SECTION 5 SECTION 5: ROADWORKS

PART ED	ROAD ASPHALT	
PART EF	KERBS AND HAUNCHES	
PART EG	SIDEWALKS, FOOTPATHS and MEDIAN AREAS	
PART EH	STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	
TOTAL CARRIED TO FINAL SUMMARY		

SECTION 6 SECTION 6: PROTECTION WORKS

PART F	PROTECTION WORKS	
TOTAL CARRIED TO FINAL SUMMARY		

SECTION 7 SECTION 7: DRAINAGE

PART PG	NON PRESSURE PIPELINES and PC CULVERTS	
PART PH	MANHOLES and APPURTENANT DRAINAGE WORKS	
TOTAL CARRIED TO FINAL SUMMARY		

SECTION 8 SECTION 8: ANCILLARY WORKS

PART TA	ROAD SIGNS	
PART TB	ROAD MARKINGS	
TOTAL CARRIED TO FINAL SUMMARY		

THE PROVISION OF INCREMENTAL SERVICES TO SETTLEMENTS WITHIN THE WESTERN REGION: ROADS, FOOTPATHS AND ASSOCIATED STORMWATER IN-MPOLA PH3 EXT (WARD 15)

SUMMARY OF BILL OF QUANTITIES

1	SECTION 1: PRELIMINARIES AND GENERAL		R	_____
	AA PRELIMINARIES	R	_____	
	AB GENERAL SPECIFICATIONS	R	_____	
	AH OCCUPATIONAL HEALTH and SAFETY	R	_____	
2	SECTION 2: SITE CLEARANCE		R	_____
	B SITE CLEARANCE	R	_____	
3	SECTION 3: CONCRETE WORK		R	_____
	C CONCRETE WORK	R	_____	
4	SECTION 4: EARTHWORKS		R	_____
	DA EARTHWORKS : BULK	R	_____	
	DB EARTHWORKS FOR PIPE TRENCHES	R	_____	
	DD EARTHWORKS FOR STRUCTURES	R	_____	
5	SECTION 5: ROADWORKS		R	_____
	ED ROAD ASPHALT	R	_____	
	EF KERBS AND HAUNCHES	R	_____	
	EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS	R	_____	
	EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	R	_____	
6	SECTION 6: PROTECTION WORKS		R	_____
	F PROTECTION WORKS	R	_____	
7	SECTION 7: DRAINAGE		R	_____
	PG NON PRESSURE PIPELINES and PC CULVERTS	R	_____	
	PH MANHOLES and APPURTENANT DRAINAGE WORKS	R	_____	
8	SECTION 8: ANCILLARY WORKS		R	_____
	TA ROAD SIGNS	R	_____	
	TB ROAD MARKINGS	R	_____	
SUB TOTAL			R	_____
ADD VAT (15%) - (only if a registered VAT Vendor)			R	_____
TOTAL CARRIED TO FORM OF TENDER			R	_____