

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		SECTION AAA: PRELIMINARY AND GENERAL				
		PRELIMINARY AND GENERAL				
	SANS 1200 A	GENERAL				
	8.3	Scheduled fixed-charge items				
AAA1	8.3.1	Contractual Requirements	Sum	-		
	8.3.2	Establishment of facilities on the Site				
AAA2	8.3.2.1	Facilities for Engineer	Sum	-		
AAA3	8.3.2.2	Facilities for Contractor	Sum	-		
AAA4	8.3.3	Environmental management	Sum	-		
AAA5	8.3.5	Provision of security measures	Sum	-		
AAA6	8.3.6	Accommodating other contractors	Sum	-		
	8.3.7	Dealing with water in areas scheduled				
AAA7		a) Pipelines	Sum	-		
AAA8		b) Reservoir	Sum	-		
AAA9	8.3.8	Quality management	Sum	-		
AAA10	8.3.9	Removal of Site establishment	Sum	-		
AAA11	8.3.12	Other fixed-charge obligations	Sum	-		
	8.4	Scheduled time-related items				
AAA12	8.4.1	Contractual Requirements	Sum	-		
	8.4.2	Operation and Maintenance of Facilities on Site, for Duration of Construction, except where otherwise stated				
AAA13	8.4.2.1	Facilities for Engineer	Sum	-		
AAA14	8.4.2.2	Facilities for Contractor	Sum	-		
AAA15	8.4.3	Environmental management	Sum	-		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
AAA16	8.4.5	Provision of security measures	Sum	-		
AAA17	8.4.6	Accommodating other contractors	Sum	-		
	8.4.7	Dealing with water in areas scheduled				
AAA18		a) Pipelines	Sum	-		
AAA19		b) Reservoir	Sum	-		
AAA20	8.4.8	Quality management	Sum	-		
AAA21	8.4.9	Supervision for duration of construction	Sum	-		
AAA22	8.4.10	Company and Head Office Overhead Costs for the Duration of the Contract	Sum	-		
AAA23	8.4.12	Provision of an SMME Manager as per project specification for duration of project	Sum	-		
AAA24	8.4.13	Other time-related obligations	Sum	-		
	8.5	Sums stated provisionally by the Engineer				
		a) For work to be executed (including plant, materials or services to be supplied) by the Contractor, and valued in terms of the variation procedure in the Conditions of Conditions				
		b) For work to be executed by a subcontractor, and/or for goods, materials, plant and/or services to be supplied to the Site				
AAA25		Employment of Community Liaison Officer	Prov Sum	-	240 000	240 000.00
AAA26		Overheads, charges and profit on item above	%	240 000		
AAA27		Employment of 2 Graduate Engineers and 2 in-service training students	Prov Sum	-	1 104 000	1 104 000.00
AAA28		Overheads, charges and profit on item above	%	1 104 000		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
AAA29		Accredited training allowance	Prov Sum	-	1 000 000	1 000 000.00
AAA30		Overheads, charges and profit on item above	%	1 000 000		
AAA31		Provisional sum allowance for land claim settlements.	Prov Sum	-	1 000 000	1 000 000.00
AAA32		Overheads, charges and profit on item above	%	1 000 000		
AAA33		Provisional sum allowance for personal armed security for the Engineer where required on a adhoc basis or area is deemed a high security risk	Prov Sum	-	480 000	480 000.00
AAA34		Overheads, charges and profit on item above	%	480 000		
AAA35		Provisional sum allowance for Engineer's accommodation and Graduate Engineer accommodation	Prov Sum	-	960 000	960 000.00
AAA36		Overheads, charges and profit on item above	%	960 000		
	8.6	Provisional items				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
AAA37		a) All costs related to the provisional delay due to the late issuing of the instruction for the Contractor to Commence Carrying out the Works, as contemplated in Clause 5.3.4 of the Contract Data (Provisional)	days	30		
AAA38		b) All costs related to the provisional delay due to any other delays causing late granting to the Contractor of access to and possession of the Site (Provisional)	days	15		
	8.7	Daywork				
		a) Labour:				
AAA39		Foreman	hr	350		
AAA40		Skilled labourer	hr	350		
AAA41		Semi-skilled labourer	hr	470		
AAA42		Unskilled labourer	hr	470		
AAA43		Electrical foreman	hr	350		
AAA44		Cable joiner	hr	350		
		b) Materials:				
AAA45		Allow for net cost of goods or materials actually used	Prov Sum	-	2 000 000	2 000 000.00
AAA46		Percentage allowance on net cost for above materials	%	2 000 000		
		c) Contractor's own plant:				
AAA47		Bulldozer, Minimum power: 220 kW (35 t)	hr	100		
AAA48		Motor grader, Minimum power: 93 kW (similar to "Cat 120B")	hr	100		
AAA49		Excavator, Minimum power: 103 kW (20 ton, similar to "Cat 302C")	hr	100		
AAA50		Excavator, Minimum power: 103 kW (40 ton, similar to "Cat 302C")	hr	100		
AAA51		T.L. Backactor, Minimum power: 50 kW (similar to "Case 580G")	hr	100		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
AAA52		Front-end loader, Minimum power: 145 kW (22	hr	100		
AAA53		Vibrating pedestrian roller, Minimum drum width: 0,39 m Minimum power: 3,7 kW	hr	50		
AAA54		Vibrating plate compactor, Minimum power: 2 kW	hr	50		
AAA55		Dump truck, Minimum load mass: 25 t Minimum load capacity: 16 m³	hr	100		
AAA56		Water tank truck, with sprinkler, Minimum capacity: 10 kl	hr	100		
AAA57		Mobile crane, Minimum capacity: 10 t	hr	100		
AAA58		Mobile crane, Minimum capacity: 30 t	hr	50		
AAA59		Sludge pump, 100 mm dia, with hoses	hr	100		
AAA60		Generating set, Minimum output power: 10 kW	hr	100		
AAA61		Water pump, 100 mm dia, with hoses, 1000l capacity	hr	100		
		d) Hired plant				
AAA62		Hired plant exclusively for dayworks	Prov Sum	-	4 500 000	4 500 000.00
AAA63		Percentage allowance on net cost for above hired plant	%	4 500 000		
	8.8	Temporary Works				
AAA64	8.8.1	Main access road to Works	Sum	-		
AAA65	8.8.2	Dealing with traffic	Sum	-		
	8.8.3	Protection of structure until construction in vicinity is complete				
AAA66		a) Existing graves	Sum	-		
AAA67		b) Existing heritage structures as identified in heritage report and EMPr	Sum	-		
AAA68		c) Existing cattle dip structure	Sum	-		
AAA69		d) Existing dwellings along access road to be upgraded / rising main pipeline route (approximately 600m linear length)	Sum	-		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
	8.9	Miscellaneous Items				
AAA70	8.9.1	As-built Survey	Sum	-		
AAA71	8.9.2	Wayleaves	Sum	-		
TOTAL OF SECTION AAA CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
	OHS SPEC	SECTION ABA: OCCUPATIONAL HEALTH AND SAFETY				
	SANS 1200 A	OCCUPATIONAL HEALTH AND SAFETY				
	8.3.4	Scheduled fixed-charge H&S items				
ABA1		Preparation of the contractors site specific health and safety plan and Safety File	Sum	-		
ABA2		Principal contractors initial obligations in respect of the occupational health and safety act and construction regulations	Sum	-		
		Provision of personal protective equipment (PPE)				
ABA3		(a) reflective vest	Sum	-		
ABA4		(b) hard hats	Sum	-		
ABA5		(c) protective foot wear	Sum	-		
ABA6		(d) earplugs	Sum	-		
ABA7		(e) dust masks	Sum	-		
ABA8		(f) gloves	Sum	-		
ABA9		(g) high visibility overalls	Sum	-		
ABA10		(h) gum boots	Sum	-		
		Cost of medical certificates and medical surveillance				
ABA11		(a) Initial (baseline) medical examinations	Sum	-		
ABA12		(b) Exit medical (End of the Project)	Sum	-		
		Method Statements				
ABA13		(a) Risk Assessments CR 9(1)	Sum	-		
ABA14		(b) Fall protection plan CR 10(1)	Sum	-		
ABA15		(c) Electrical and use of machinery CR 24	Sum	-		
ABA16		(d) Emergency Plan and Response Plan	Sum	-		
ABA17		(e) Fire precautions	Sum	-		
ABA18		(f) Construction Vehicles and Mobile Plant	Sum	-		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
ABA19		(g) Use of explosive power tools	Sum	-		
ABA20		(h) Ladders	Sum	-		
ABA21		HIV/AIDS Awareness and training as per SANS 1921	Sum	-		
		Health and Safety Documents				
ABA22		(a) Submission of a health and safety file - Scanned to USB	Sum	-		
ABA23		(b) Close Out Report Electronic	Sum	-		
	8.4.4	Scheduled time-related items				
ABA24		Principal contractor's time related obligations in respect of the occupational health and safety act and construction regulations, unless scheduled separately	Sum	-		
		Provision of personal protective equipment (PPE)				
ABA25		(a) reflective vest	Sum	-		
ABA26		(b) hard hats	Sum	-		
ABA27		(c) protective foot wear	Sum	-		
ABA28		(d) earplugs	Sum	-		
ABA29		(e) dust masks	Sum	-		
ABA30		(f) gloves	Sum	-		
ABA31		(g) high visibility overalls	Sum	-		
ABA32		(h) gum boots	Sum	-		
		Health and Safety Training				
ABA33		Induction Training	Sum	-		
ABA34		Tool Box Talks	Sum	-		
ABA35		Demonstrations	Sum	-		
ABA36		Provision of first aid boxes to GSR requirements	Sum	-		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
ABA37		Provision of a part time construction health and safety Manager	month	24		
ABA38		Provision of a full time construction health and safety officer	month	24		
		Cost of medical certificates and medical surveillance				
ABA39		(a) Periodic examination	Sum	-		
		Noise Monitoring				
ABA40		(a) Establish noise zone (Plant)	Sum	-		
ABA41		(b) Audiograms (Personnel)	Sum	-		
ABA42		HIV/AIDS Awareness and training as per SANS 1921 and C3 Scope of Works	Sum	-		
TOTAL OF SECTION ABA CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
	C1.4 SMME SPEC	SECTION ASM: SMME MANAGEMENT				
		SMME MANAGEMENT				
ASM1	ASM 01	Expressions of Interest for SMME's	No.	1		
ASM2	ASM 02	Tenders for SMME's	No.	20		
		Scheduled time-related items				
ASM3	ASM 03, SANS 1200A 8.4.4	Provision of an SMME Construction Manager	Month	24		
ASM4	ASM 04, SANS 1200A 8.4.4	Administrative costs of mentoring SMME Sub Contractors	Month	24		
		Sums stated provisionally by the Engineer				
		b) For work to be executed by a subcontractor, and/or for goods, materials, plant and/or services to be supplied to the Site				
ASM5	ASM 05, SANS 1200A 8.5	Preliminary and General costs associated with SMME's and fluctuation between the Contractor's tendered rates and the rates of SMME subcontractors	Prov Sum	-	5 200 000	5 200 000.00
ASM6	ASM 06, SANS 1200A 8.5	Overheads, charges and profit on item above	%	5 200 000		
TOTAL OF SECTION ASM CARRIED TO SUMMARY					R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column		SECTION CDA: RESERVOIR SITE CLEARANCE AND BULK EARTHWORKS				
	SANS 1200C	SITE CLEARANCE				
CDA1	8.2.1	Clear and grub	ha	1		
CDA2	8.2.10	Remove topsoil to nominal depth of 150 mm and stockpile/spoil	m³	1 010		
	SANS 1200D	EARTHWORKS				
	8.3.2	Bulk excavation				
CDA3		(a) Excavate in all materials and use for embankment or backfill, as ordered				
		depth ranges below the surface level:				
CDA4		0 m up to 1 m	m³	1		
CDA5		1 m up to 2 m	m³	150		
CDA6		2 m up to 3 m	m³	1		
CDA7		3 m and up to 4 m	m³	1		
CDA8		exceeding 4 m and up to 5 m	m³	1		
		(b) Excavate in all materials and dispose of:				
CDA9		2) Hard Rock Excavation	m³	40		
CDA10		(c) Excavate in all materials and dispose of, and backfill with material from commercial sources (clean sand unless otherwise indicated)	m³	20		
	SANS 1200DK	GABIONS AND PITCHING				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDA11	8.2.1	Surface preparation for bedding of gabions.	m ³	30		
	8.2.2	Construct gabions and Reno Mattresses using double twisted hexagonal mesh type specified below with 3.4mm OD frame wire and 2.7mm OD mesh wire to SANS 1480:2005: 503081-ROAD-DRG-CC- 5300				
		Supply and install the following rock filled gabion baskets complete :				
CDA12		a) 2 x 1 x 1m with 80 x 100mm galv. mesh	m ³	120		
CDA13		b) 1,5 x 1 x 1m with 80 x 100mm galv. mesh	m ³	1		
CDA14		c) 1 x 1 x 1m with 80 x 100mm galv. mesh	m ³	1		
CDA15		d) 3 x 1 x 0,3m with 60 x 80mm galv. mesh (Reno Mattress)	m ³	30		
CDA16		f) 2 x 1 x 0,3m with 80 x 100mm galv. mesh (Reno Mattress)	m ³	20		
CDA17		Rip-Rap	m ³	180		
CDA18	8.2.3	Extra Over 8.2.2 for packing selected stone for exposed face.	m ²	60		
CDA19	8.2.4	Geotextile beneath rip-rap	m ²	290		
CDA20		Sand layer on top of geotextile layer	m ²	290		
CDA21		Filter layers beneath rip-rap	m ²	290		
CDA22	8.2.5	Pitching	m ³	10		
CDA23	8.2.5	Excavation and concrete backfill of footing trenches for pitching	m ³	10		
CDA24	8.2.8	HDPE Geocell Multicellular Geogrid (100mm)	m ²	540		
	SANS 1200DM	EARTHWORKS (ROADS, SUBGRADE)				
	8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to:				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDA25		(i) Minimum 90% of modified AASHTO maximum density	m³	60		
CDA26		(ii) Minimum 93% of modified AASHTO maximum density	m³	130		
	8.3.4	Cut to fill, borrow to fill:				
CDA27		(a) Cut to fill compacted to 93% of modified AASHTO maximum density	m³	2.20		
CDA28		(b) Borrow to fill from commercial or off site sources located by the Contractor compacted to 93% of modified AASHTO maximum density	m³	20		
	8.3.5	Selected layer compacted to 93% of modified AASHTO maximum density (a) Selected layers using material cut from the site and compacted to: excavation:				
CDA29		(i) 150mm selected subgrade (SSG), G9 lower selected layer compacted to 93% of modified AASHTO maximum density	m³	1		
CDA30		(ii) 150mm selected subgrade (SSG), G7 upper selected layer compacted to 93% of modified AASHTO maximum density (b) Selected layers using material from commercial or off site sources located by the Contractor, compacted to:	m³	1		
CDA31		(i) 150mm selected subgrade (SSG), G9 lower selected layer compacted to 93% of modified AASHTO maximum density	m³	1		
CDA32		(ii) 150mm selected subgrade (SSG), G7 upper selected layer compacted to 93% of modified AASHTO maximum density	m³	180		
CDA33	8.3.6	Extra over items 8.3.4 (a) through to 8.3.5 (b) for excavating and breaking down material in hard excavation	m³	180		
	8.3.7	Cut to spoil or stockpile from:				
CDA34		(a) Soft excavation	m³	15 010		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDA35		(c) Hard excavation	m ³	2 150		
CDA36		(d) Boulder Excavation Class A	m ³	2 150		
CDA37		(e) Boulder Excavation Class B	m ³	2 150		
CDA38	8.3.8	Removal of oversize material	m ³	6 450		
	8.3.9	Over break of excavation in:				
CDA39		(b) Hard excavation	m ²	6 330		
CDA40	8.3.10	Materials bladed to windrow	m ³	10		
CDA41	8.3.11	Extra over items 8.3.4, 8.3.5 and 8.3.7 for temporary stockpiling of material	m ³	21 660		
	8.3.13	Surface finishes:				
CDA42		(a) Top soiling (from stockpile)	m ²	6 680		
		(b) Grassing or other vegetation cover:				
CDA43		(1) Planting of Grass sods	m ²	2 680		
CDA44		(2) Hydroseeding	m ²	4 010		
CDA45		(3) Trim, shape and roll verge	m ²	6 690		
CDA46		(4) Fertilizer (2.3.2(22) at 400kg/ha)	t	1		
CDA47	8.3.15	Catchment mounds and channels and mitre banks and channels	m ³	40		
TOTAL OF SECTION CDA CARRIED TO SUMMARY					R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column		SECTION CDB: RESERVOIR PLATFORM STORMWATER				
	SANS 1200C	SITE CLEARANCE				
CDB1	8.2.1	Clear and grub	ha	1		
CDB2	8.2.10	Remove topsoil to nominal depth of 150 mm and stockpile/spoil	m³	70		
	SANS 1200DB	EARTHWORKS (PIPE TRENCHES)				
	8.3.2	Excavation (a) Excavation in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for all pipe diameters, for total trench depth: depth ranges below the surface level:				
CDB3		0 m up to 1 m	m³	130		
CDB4		1 m up to 2 m	m³	560		
CDB5		2 m up to 3 m	m³	170		
CDB6		exceeding 3 m and up to 4 m	m³	5		
		(b) Extra over item (a) above for:				
CDB7		2) Hard Rock Excavation	m³	259.50		
CDB8		(c) Excavate and dispose of unsuitable material from trench bottom	m³	90		
	8.3.4	Particular items				
CDB9		(a) Shore trench opposite structures or services	m	5		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
		(b) Temporary Works: Control Water Inflows				
CDB10		1) Provide Equipment	sum	-		
CDB11		2) Operate and Maintain	Days	20		
CDB12		3) Remove Equipment	sum	-		
	8.3.5	Existing services that intersect or adjoin a pipe trench				
		(a) Services that intersect a trench a pipe trench				
CDB13		i) ESKOM cables	No.	1		
CDB14		ii) Telecommunication cables	No.	1		
CDB15		iii) Watermains up to 300 mm dia	No.	1		
CDB16		iv) Watermains over 300 mm dia	No.	1		
CDB17		v) Sewers up 300 mm dia	No.	1		
CDB18		vi) Stormwater up to 700 mm dia	No.	1		
		(b) Services that adjoin a trench a pipe trench				
CDB19		i) ESKOM cables	No.	1		
CDB20		ii) Telecommunication cables	No.	1		
CDB21		iii) Watermains up to 300 mm dia	No.	1		
CDB22		iv) Watermains over 300 mm dia	No.	1		
CDB23		v) Sewers up 300 mm dia	No.	1		
CDB24		vi) Stormwater up to 700 mm dia	No.	1		
	SABS 1200LB	BEDDING (Pipes)				
	8.2.1	Provision of Bedding from Trench Excavation				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDB25		(a) Selected granular material	m ³	1		
	8.2.2	Supply only of Bedding by Importation				
	8.2.2.3	From commercial source				
CDB26		(a) Selected granular material from commercial source	m ³	420		
CDB27		(b) Selected fill material from trench excavation commercial source	m ³	110		
	8.2.3	Concrete Bedding Cradle				
CDB28		a) 0 to 750 mm dia. Pipes in concrete (Class 15/19 concrete)	m ³	1		
CDB29		a) 0 to 750 mm dia. Pipes in soilcrete as per drawing (12% cement added per volume) vibrated as for concrete	m ³	420		
	8.2.4	Encasing of Pipes in Concrete				
CDB30		a) 0 to 750 mm dia. Pipes in concrete (Class 15/19 concrete)	m ³	110		
	SANS 1200LE	STORMWATER DRAINAGE				
	8.2.1	Supply and Lay Concrete Pipe Culverts				
		On Class C bedding:				
CDB31		(i) 350mm diameter Class 100D	m	130		
CDB32		(ii) 600mm diameter Class 100D	m	70		
CDB33		(iii) 750mm diameter Class 100D	m	220		
CDB34		(iv) 900mm diameter Class 100D	m	1		
CDB35		(v) 1500mm diameter Class 100D	m	1		
	8.2.8	Supply and installation of manholes, catch pits, and the like				
		(a) Manholes:				
		(i) Brickwork manholes including covers and frames (complete as per drawing):				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDB36		Depth exceeding 1.0m to 1.5m	No	16		
CDB37		Depth exceeding 1.5m to 2.0m	No	5		
CDB38		Depth exceeding 2.0m to 2.5m	No	1		
CDB39		Depth exceeding 2.5m to 3.0m	No	1		
		(ii) Brickwork double grid inlets including covers and frames (complete as per drawing 503081-ROAD-DRG-CC-5400 to 5403):				
CDB40		Depth exceeding 1.0m up to 1.5m	No	1		
CDB41		Depth exceeding 1.5m up to 2.0m	No	4		
CDB42		Depth exceeding 2.0m up to 2.5m	No	1		
CDB43		Depth exceeding 2.5m up to 3.0m	No	1		
	8.2.14	Subsurface drains				
CDB44		Supply and lay subsurface drains at 2m depths complete with bidim filter jacket, flownet drainage core, DN 150mm perforated mesh-structured drainage pipe as per drawing 503081-ROAD-DRG-CC-5404	m	120		
	8.2.15	Headwall Outlet Structures (as per drawing 503081-ROAD-DRG-CC-5404)				
CDB45		Headwall for 600mm to 750mm diameter pipes	No	1		
CDB46		Headwall for 750 mm to 1500mm diameter pipes	No	1		
	SANS 1200MK	KERBING AND CHANNELING				
	8.2.7	Trimming and compaction to 90% of modified AASHTO maximum density of surface area of unlined open drains and areas to be concrete lined:				
CDB47		(a) Soft material	m ²	30		
CDB48		(b) Hard material	m ²	30		
	8.2.8	20MPa/19mm concrete lining				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDB49		Channel - 150mm thick, 1m wide	m ²	30		
CDB50		Channel - 150mm thick, 2m wide	m ²	30		
CDB51		Channel - 150mm thick, 4m wide transition	m ²	10		
	8.2.10	Sealed joints in concrete lining				
CDB52		15mm wide expansion joint	m	10		
TOTAL OF SECTION CDB CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column						
		SECTION CDC: RESERVOIR FENCING				
	SPEC WA	FENCING				
	8.1.1	Supply and install complete fencing panels to specification, including all required material, excavations, concrete, etc. with new fencing material:				
		(a) Type 1 - 2.4m High Wire Mesh Panel Fence				
CDC1		Erect new fencing, Betafix Secure 70 x 44 x 3800mm long with vertical poles at 3020mm centres, 2.4m high wire mesh, electrified, with security underdig complete as detailed on drawing 503081-RES1-DRG-CC-3016	m	260		
	8.1.2	Supply and install new gates				
		(b) 2.4m High Mesh Panel Sliding Gate				
CDC2		Install new High Mesh Panel gate complete, (2.4m High Mesh Panel Sliding Gate) , complete as detailed on the drawings 503081-RES1-DRG-CC-3016	No	2		
TOTAL OF SECTION CDC CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column						
		SECTION CDE: RESERVOIR EARTHWORKS				
	SANS 1200D	EARTHWORKS				
	8.2.2	Bulk Excavation				
		Excavating the existing site in soft material, and prepare a flat terrace for the reservoir foundation				
CDD1		a) Terracing excavation for tank foundation in hard material	m ³	4977.46		
CDD2		b) Trim platform surface to fall to slope of surface bed for drainage (maximum fall 400mm)	m ³	1327.32		
CDD3		c) Foundation thickening excavation	m ³	804.25		
		Importing of material				
		Supply of material from excavation for the Engineered fill. Rate to include the placing and compaction of material.				
CDD4		G7 or better material backfill in 150mm thk layers compacted at OMC to density of at least 93% Mod AASHTO density.	m ³	2375.52		
	SANS 1200G	CONCRETE				
CDD5	8.4.2	Blinding concrete Grade 10/19mm in 75mm blinding layer under foundations, footings and the like.	m ³	94.25		
	8.4.3	Reinforced concrete Grade 30/19 (30 MPa, 19mm stone) as follows:				
CDD6		a) No fines concrete	m ³	180		
CDD7		b) TanK Foundations	m ³	425		
CDD8		c) Structural walls	m ³	350		
CDD9		d) Structural columns	m ³	17		
CDD10		e) Structural roof slabs	m ³	312		
	8.3	Reinforcement				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDD11	8.3.1	Mild steel bars R12 b) Medium steel - 10,12 and 16mm diameter	t	9		
CDD12		High tensile steel bars a) Medium steel - 10, 12 and 16mm diameter	t	135		
CDD13		b) Heavy steel - 20, 25 and 32mm diameter	t	140		
CDD14	8.2.1	Rough formwork for surfaces to be covered up a) Sides of foundations	m ²	160		
CDD15	8.2.2	Smooth formwork for exposed surfaces a) Sides of walls	m ²	1 420		
CDD16		b) Sides of roof slab	m ²	48		
CDD17		c) Sides of columns	m ²	210		
CDD18		d) Soffits of the slab	m ²	1 047		
CDD19		e) Roof slab upstand	m ²	25		
CDD20	8.4.4	Unformed surface finishes a) Smooth woodfloat finish on roof slab	m ²	1 047		
CDD21		b) Power float finish on floor slab	m ²	1 050		
CDD22		Damp-proof and Geofabric Damp-proof courses lapped 300mm at joints and junctions. 250 Micron USB green plastic sheeting under surface beds. (measured nett)	m ²	1 400		
CDD23		Geofabric material, kaytech u14	m ²	1 400		
CDD24	8.5	Joints (Rate to be fully inclusive of all formwork, reaming, sealing, dowels, ties ect. Foundation expansion joint	m	105		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
CDD25	SANS 1200G	Brought forward / ...				
		Joint type 1	m	280		
		MISCELLANEOUS ITEMS.				
		Supply and fix in position with all the necessary templates (rates to include for the supply and installation				
CDD26		a) 110 dia. Geopipes for drainage	m	280		
CDD27		b) 160 dia. Geopipes for drainage	m	65		
CDD28		Drainage manholes	No.	16		
CDD29		a) Roof slab manholes, including stainless steel frame, 1200x1200	No	2		
CDD30		a) Roof slab manholes, including stainless steel frame, 600x600	No	1		
CDD31		Supply, fabricate and installation of stainless steel cat ladder	m	8		
CDD32		Valve chamber Assembly (Inlet, Outlet, Scour and overflow valve chamber)	No	1		
		a) Inlet Assembly: Drawing No. 503081-RES1-DRG-CC-3012				
CDD33		i) 0.5m DN350 flanged GMS pipe	No	2		
CDD34		ii) DN350 to DN300 double flanged concentric taper	No	2		
CDD35		iii) 0.5m DN300 flanged GMS pipe	No	5		
CDD36		iv) DN300 strainer	No	1		
CDD37		v) DN300 gate valve	No	1		
CDD38		vi) DN300 reducing tee,DN300 blank flange with 300mm long, DN50 stub riser. 4 No. 50mm x 50mm x 5mm web plates to be welded equi-distant around stub to blank flange and stub. Riser flanged DN50 other end end and 25mm ventomat double orifice air valve	No	1		
CDD39		vii) 5.0mm WT, Bell & Spigot, DN350mm	m	30		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDD40		viii) DN350 flanged GMS inlet pipe	m	13		
		b) Outlet Assembly: Drawing No. 503081-RES1-DRG-CC-3012				
CDD41		i) DN350 flanged GMS pipe	No	2		
CDD42		ii) DN 350 to DN 300 double flanged concentric taper	No	2		
CDD43		iii) 0.5m DN 300 flanged GMS pipe	No	5		
CDD44		iv) DN 300 gate valve	No	1		
CDD45		v) DN 300 strainer	No	1		
CDD46		vi) DN300 reducing tee, DN300 blank flange with 300mm long, DN50 stub riser. 4 No. 50mm x 50mm x 5mm web plates to be welded equi-distant around stub to blank flange and stub. Riser flanged DN50 other end end and 25mm ventomat double orifice air valve	No	1		
CDD47		vii) DN355 mpvc pipe	m	30		
CDD48		viii) DN350 flanged GMS inlet pipe	m	13		
		auto				
CDD49		i) 1.5m DN250 flanged GMS pipe	No	2		
CDD50		ii) DN250 gate valve	No	1		
CDD51		iii) 0.5m DN250 flanged GMS pipe	No	3		
CDD52		iv) 90° DN250 double flanged short rad bend	No	1		
CDD53		v) DN250 all flanged tee	No	1		
CDD54		vi) 2.4m DN250 flanged GMS pipe	No	1		
CDD55		vii) DN250 flanged adaptor	No	1		
CDD56		viii) DN250 mpvc pipe	m	50		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
	8.2.13	Valve chamber Construct the chamber complete, as per the relevant drawings. The rate shall cover all material and effort required to construct the chamber as detailed. This shall include (but not be limited to): excavation, bedding, backfilling, formwork, joints, concrete, reinforcing (assume 150kg/m ³ concrete where none shown), finishing, brickwork, plastering, floor screeds, manhole covers, vents, step ladders/irons, Sika Cemflex with membrane to the external walls of the chamber, etc. Note: pipes, specials, meters and valves are scheduled seperately.				
CDD57		Inlet Valve Chamber	No	1		
CDD58		Outlet Valve Chamber	No	1		
CDD59		Scour and Overflow Chamber	No	1		
TOTAL OF SECTION CDD CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column		SECTION CDE: BOOSTER PUMPSTATION				
	SANS 1200G	CONCRETE (STRUCTURAL)				
	8.2	Scheduled formwork items				
	8.2.1	Rough Finish				
CDE1		Floor Edge External	m ²	11.10		
	8.2.2	Smooth Finish				
		Horizontal				
CDE2		(a) Roof (inclusive of 300mm overhang)	m ²	21		
CDE3		(b) Floor slab	m ²	14		
		Vertical				
CDE4		(a) Roof edge (Vertical - on overhang, inclusive of upstand)	m ²	3.30		
CDE5		(f) Cable trench (400mm deep)	m ²	4.20		
		Plinths:				
CDE6		(a) Pump plinth - 900mm x 600mm x 100	No.	1		
		20x20mm chamfer on concrete edges				
CDE7		(a) Top of concrete wall /top of roof slab	m	18.50		
CDE8		(b) Soffit of Roof Slab	m	18.50		
CDE9		(c) Pump plinth - 900mm x 600mm x 100	m	3		
	8.2.6	Box out holes / Form voids				
		Voids for pipework				
CDE10		(a) Inlet pipe	No.	1		
CDE11		(b) Outlet pipe	No.	1		
CDE12		(c) Scour pipe	No.	1		
	8.3	Scheduled reinforcement items				
		Mild steel				
CDE13		(a) 8 mm diameter bars	t	0.05		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
		.				
		(b) Extra-over Item 13.1.2.1 for:				
CDE14		2) 10 mm diameter bars	t	0.05		
CDE15		3) 12 mm diameter bars	t	0.38		
CDE16		4) 16 mm diameter bars	t	0.08		
		Mesh wire				
CDE17		6) Ref. 888	t	0.43		
	8.4	Schedule concrete items				
	8.4.1	Prescribed Mix Concrete				
CDE18		(a) No-fines Concrete, 13mm stone, 1 cement to 6 aggregate (by volume), maximum water to cement ratio of 2.5:1	m ³	1		
	8.4.3	Strength Concrete, Grade				
		30 MPa Concrete - 20 mm coarse aggregate in :				
CDE19		(a) Floor slab	m ³	2.60		
CDE20		(b) Roof Slab	m ³	4.20		
	8.4.4	Unformed Surface Finishes				
		(a) Wood-floated finish for the following areas:				
CDE21		1) Roof Slab	m ²	21		
	8.4.5	Aggregate				
CDE22		a) 19mm concrete stone levelling layer	m ²	26.90		
	SANS 1200G	MISCELLANEOUS ITEMS				
	8.9	Pump house supply and fix in position with all the necessary templates (rates to include for the supply and installation)				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CDE23		i) A4 Non-woven Geofabric (or similar approved): Horizontal in under-floor drainage	m ²	10		
CDE24		ii) DN50 Drainex pipe (or similar approved)	m	18		
		Structural Steel				
		a) Scheduled items				
CDE25		i) Supply and fabrication of: Gantry - 152 x 89 x 16 I-section, complete with end plates. (All materials to be hot-dipped galvanized).	t	0.10		
CDE26		ii) Delivery to site: Normal delivery	t	0.10		
CDE27		iii) Erection on site	t	0.10		
CDE28		iv) Erection bolts: M16 bolts (straight) by 100mm long with Fis V Injection mortar	No.	8		
		b) Open grid floors				
CDE29		i) Supply and install 45x45x3.0 Angle Irons to act as support frame for trench grid, 75mm long welded fishtails at 0.3m centres along the frame. (All materials to be hot-dipped galvanized).	m	8		
CDE30		ii) Supply and install Grid system comprising of 600mm wide RS40 Mentis Rectagrid (or similar approved) to fit within the angle iron frame above. (All materials to be hot-dipped galvanised).	m	6		
CDE31		iii) Hoist: 1-ton crawl Chain Hoist with Geared Trolley. (Chain to be hot-dipped galvanized).	Sum	1		
CDE32		iv) 1828mm x 1914mm x 600mm high trolley capable of 1800kg carrying capacity.	No.	1		
	8.1	Building works supply and construct in position with all the necessary templates (rates to include for the supply and installation)				
		Masonry				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
		Brickwalls in burnt clay masonry units				
		FACE BRICKWORK EXTERNALLY. Materials, sand, bricks, wire ties, brickwork reinforcement, Class II mortar, laying and bonding of brickwork, centre and turning pieces, face brickwork all to specification. Colour to match existing buildings.				
CDE33		220mm solid brickwall	m ²	37		
		Waterproofing				
CDE34		250micron Polyethylene Damp Proof Membrane Horizontal: Under floor	m ²	26.90		
CDE35		Waterproofing of flat roofs	m ²	21		
		Doors				
		Supply and fit doors complete with frame, damp damp proofing, door stop and furniture				
CDE36		Single Steel door: 2200mm x 1200mm 20mm Industrial Steel Door exterior quality, with ALU vent.	No	1		
		Ironmongery				
		Supply and fit complete ironmongery with screws, latches, lockstes and keys for the following doors				
CDE37		Single Steel door: 2200mm x 1200mm 20mm Industrial Steel Door exterior quality, with ALU vent.	No.	1		
		Plastering				
		a) Plaster				
CDE38		10mm thick plaster on walls	m ²	36.50		
		b) Screed				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
CDE39		Brought forward / ... a) 40mm Granolithic Screed on floor slab. 25% of water to be replaced with Sika CEM 810 (or similar approved) and concrete surface to be primed with Sika CEM 810 Bonding Slurry (or similar approved).	m ²	14		
CDE40		(b) Screed (min. 30mm) to fall on roof slab	m ³	6.30		
CDE41		Windows WinBlok window system WB88/260/WV (A) 88P(B) (or similar approved). Glazing and Putty to specification.	No	4		
TOTAL OF SECTION CDE CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column		SECTION CEC: EXISTING ROAD TO NDUKU RESERVOIR ACCESS ROAD EARTHWORKS				
	SANS 1200C	SITE CLEARANCE				
CEC1	8.2.1	Clear and grub	ha	1		
CEC2	8.2.2	Remove topsoil to nominal depth of 150 mm and stockpile/spoil	m³	540		
	SANS 1200DM	EARTHWORKS (ROADS, SUBGRADE)				
	8.3.3	Treatment of roadbed:				
		(a) Roadbed preparation and compaction of material to:				
CEC3		(i) Minimum 90% of modified AASHTO maximum density	m³	310		
CEC4		(ii) Minimum 93% of modified AASHTO maximum density	m³	20		
		(b) In-place treatment of roadbed in hard rock material by:				
CEC5		(i) Ripping	m³	160		
CEC6		(i) Blasting	m³	160		
	8.3.4	Cut to fill, borrow to fill:				
CEC7		(a) Cut to fill compacted to 93% of modified AASHTO maximum density	m³	24.20		
CEC8		(b) Borrow to fill from commercial or off site sources located by the Contractor compacted to 93% of modified AASHTO maximum density	m³	220		
	8.3.5	Selected layer compacted to 93% of modified AASHTO maximum density				
		(a) Selected layers using material cut from the site and compacted to: excavation:				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CEC9		(i) 150mm selected subgrade (SSG), G9	m ³	1		
CEC10		(ii) 150mm selected subgrade (SSG), G7 upper selected layer compacted to 93% of modified AASHTO maximum density	m ³	1		
		(b) Selected layers using material from commercial or off site sources located by the Contractor, compacted to:				
CEC11		(i) 150mm selected subgrade (SSG), G9 lower selected layer compacted to 93% of modified AASHTO maximum density	m ³	1		
CEC12		(ii) 150mm selected subgrade (SSG), G7 upper selected layer compacted to 93% of modified AASHTO maximum density	m ³	10		
CEC13	8.3.6	Extra over items 8.3.4 (a) through to 8.3.5 (b) for excavating and breaking down material in hard excavation	m ³	10		
	8.3.7	Cut to spoil or stockpile from:				
CEC14		(a) Soft excavation	m ³	430		
CEC15		(c) Hard excavation	m ³	570		
CEC16		(d) Boulder Excavation Class A	m ³	220		
CEC17		(e) Boulder Excavation Class B	m ³	220		
CEC18	8.3.8	Removal of oversize material	m ³	1 010		
	8.3.9	Over break of excavation in:				
CEC19		(c) Hard excavation	m ²	160		
CEC20	8.3.10	Materials bladed to windrow	m ³	170		
CEC21	8.2.7	Extra over items 8.3.4, 8.3.5 and 8.3.7 for temporary stockpiling of material	m ³	1 670		
	8.3.13	Surface finishes:				
CEC22		(a) Top soiling (from stockpile)	m ²	855		
		(b) Grassing or other vegetation cover:				
CEC23		(1) Planting of Grass sods	m ²	350		
CEC24		(2) Hydroseeding	m ²	520		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CEC25		(3) Trim, shape and roll verge	m ²	870		
CEC26		(4) Fertilizer (2.3.2(22) at 400kg/ha)	t	10		
CEC27	8.3.15	Catchment mounds and channels and mitre banks and channels	m ³	200		
	SANS 1200G	CONCRETE SMALL WORKS				
	8.1.1	Formwork				
	8.2.1	Rough formwork for surfaces to be covered up				
CEC28		Sides of foundations	m ²	11		
	8.2.2	Smooth formwork for exposed surfaces				
CEC29		Concrete pavement	m ²	10		
	8.3	Reinforcement				
CEC30	8.3.2	Welded steel fabric (Ref 617)	m ²	250		
	8.4	Concrete				
CEC31	8.4.2	Blinding concrete Grade 10/19mm in 75mm blinding layer under foundations, footings and the like.	m ³	19		
	8.4.3	Reinforced concrete Grade 25/19 (25 MPa, 19mm stone) as follows:				
CEC32		f) Concrete pavement	m ³	50		
	8.4.4	Unformed surface finishes				
CEC33		(a) Smooth wood float finish	m ²	10		
CEC34		(b) Power float finish on floor slab	m ²	10		
	8.5	JOINTS				
		(a) Construction joints				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CEC35		(i) Butt type construction joint for construction	m	80		
CEC36		(ii) Butt type construction joint with dowel between base slab and wingwall as well as between deck slab and approach slab; complete with Ø25 PVCU TUBE END CLOSED WITH ANTI-CORROSION AND SEALING TAPE; 10mm COMPRESSIBLE BITUMEN-IMPREGNATED JOINT FILLER; R16 DOWEL BARS 1200mm LONG @ 600c/c (BARS TO BE SAWN NOT CUT)	m	70		
	SANS 1200ME	ROAD SUB-BASE				
	8.3.1	Construct the subbase course/shoulders/gravel wearing course with material from commercial sources:				
CEC37		150mm natural gravel sub-base beneath roadways, crushed (G5) compacted to 95% of modified AASHTO maximum density	m³	260		
CEC38		150mm cemented natural gravel sub-base, crushed (G5), Subbase compacted to 95% of modified AASHTO maximum density (C4)	m³	80		
	8.3.5	Process subbase material by the following processes, as relevant, and use in the subbase:				
CEC39		(d) Stabilization	m³	80		
	8.3.8	Stabilizing agent:				
CEC40		(b) Portland cement (CEM II -32.5)	t	10		
	SANS 1200MF	BASE				
CEC41	8.3.3	Construct 200mm base course with material from commercial sources and compact to 95% of modified AASHTO maximum density (G5)	m³	410		
TOTAL OF SECTION CEC CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column		SECTION CED: EXISTING ROAD TO NDUKU RESERVOIR ACCESS ROAD STORMWATER				
	SANS 1200DB	EARTHWORKS (PIPE TRENCHES)				
	8.3.2	Excavation (a) Excavation in all materials for trenches backfill, compact, and dispose of surplus/ unsuitable material, for all pipe diameters, for total trench depth: depth ranges below the surface level:				
CED1		0 m up to 1 m	m ³	1		
CED2		1 m up to 2 m	m ³	490		
CED3		2 m up to 3 m	m ³	225		
CED4		exceeding 3 m and up to 4 m	m ³	5		
CED5						
		(b) Extra over item (a) above for:				
CED6		2) Hard Rock Excavation	m ³	720		
CED7		(c) Excavate and dispose of unsuitable material from trench bottom	m ³	70		
	8.3.4	Particular items				
CED8		(a) Shore trench opposite structures or services	m	10		
		(b) Temporary Works: Control Water Inflows				
CED9		1) Provide Equipment	sum	1		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CED10		2) Operate and Maintain	Days	20		
CED11		3) Remove Equipment	sum	-		
	8.3.5	Existing services that intersect or adjoin a pipe trench (a) Services that intersect a trench a pipe trench				
CED12		i) ESKOM cables	No.	1		
CED13		ii) Telecommunication cables	No.	1		
CED14		iii) Watermains up to 300 mm dia	No.	1		
CED15		iv) Watermains over 300 mm dia	No.	1		
CED16		v) Sewers up 300 mm dia	No.	1		
CED17		vi) Stormwater up to 700 mm dia	No.	1		
		(b) Services that adjoin a trench a pipe trench				
CED18		i) ESKOM cables	No.	1		
CED19		ii) Telecommunication cables	No.	1		
CED20		iii) Watermains up to 300 mm dia	No.	1		
CED21		iv) Watermains over 300 mm dia	No.	1		
CED22		v) Sewers up 300 mm dia	No.	1		
CED23		vi) Stormwater up to 700 mm dia	No.	1		
	SANS 1200D	EARTWORKS				
	8.2.2	Bulk excavation (a) Excavate in all materials and use for embankment or backfill, as ordered depth ranges below the surface level:				
CED24		0 m up to 1 m	m ³	10		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CED25		1 m up to 2 m	m ³	10		
CED26		2 m up to 3 m	m ³	10		
CED27		3 m and up to 4 m	m ³	10		
CED28		exceeding 4 m and up to 8 m	m ³	10		
		(b) Excavate in all materials and dispose of:				
CED29		2) Hard Rock Excavation	m ³	40		
CED30		(c) Excavate in all materials and dispose of, and backfill with material from commercial sources (clean sand unless otherwise indicated)	m ³	10		
	SANS 1200DK	GABIONS AND PITCHING				
CED31	8.2.1	Surface preparation for bedding of gabions.	m ³	10		
	8.2.2	Construct gabions and Reno Mattresses using double twisted hexagonal mesh type specified below with 3.4mm OD frame wire and 2.7mm OD mesh wire to SANS 1480:2005: 503081-ROAD-DRG-CC- 3000				
		Supply and install the following rock filled gabion baskets complete :				
CED32		a) 2 x 1 x 1m with 80 x 100mm galv. mesh	m ³	2		
CED33		b) 1,5 x 1 x 1m with 80 x 100mm galv. mesh	m ³	2		
CED34		c) 1 x 1 x 1m with 80 x 100mm galv. mesh	m ³	1		
CED35		d) 3 x 1 x 0,3m with 60 x 80mm galv. mesh (Reno Mattress)	m ³	1		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CED36		f) 2 x 1 x 0,3m with 80 x 100mm galv. mesh (Reno Mattress)	m ³	1		
CED37		Rip-Rap	m ³	10		
CED38	8.2.3	Extra Over 8.2.2 for packing selected stone for exposed face.	m ²	1		
CED39	8.2.4	Geotextile beneath rip-rap	m ²	8		
CED40		Sand layer on top of geotextile layer	m ²	10		
CED41		Filter layers beneath rip-rap	m ²	10		
CED42	8.2.5	Pitching	m ³	10		
CED43	8.2.5	Excavation and concrete backfill of footing trenches for pitching	m ³	10		
	SABS 1200LB	BEDDING (Pipes)				
	8.2.1	Provision of Bedding from Trench Excavation				
CED44		(a) Selected granular material	m ³	70		
	8.2.2	Supply only of Bedding by Importation				
	8.2.2.3	From commercial source				
CED45		(a) Selected granular material from commercial source	m ³	360		
CED46		(b) Selected fill material from trench excavation commercial source	m ³	80		
	8.2.3	Concrete Bedding Cradle				
CED47		a) 0 to 750 mm dia. Pipes in concrete (Class 15/19 concrete)	m ³	1		
CED48		a) 0 to 750 mm dia. Pipes in soilcrete as per drawing (12% cement added per volume) vibrated as for concrete	m ³	360		
	8.2.4	Encasing of Pipes in Concrete				
CED49		a) 0 to 750 mm dia. Pipes in concrete (Class 15/19 concrete)	m ³	80		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
	SANS 1200LE	STORMWATER DRAINAGE				
	8.2.1	Supply and Lay Concrete Pipe Culverts				
		On Class C bedding:				
CED50		(i) 450mm diameter Class 100D	m	70		
CED51		(ii) 600mm diameter Class 100D	m	10		
CED52		(iii) 750mm diameter Class 100D	m	220		
CED53		(iv) 900mm diameter Class 100D	m	10		
	8.2.8	Supply and installation of manholes, catch pits, and the like				
		(a) Manholes:				
		(i) Brickwork manholes including covers and frames (complete as per drawing):				
CED54		Depth exceeding 1.0m to 1.5m	No	1		
CED55		Depth exceeding 1.5m to 2.0m	No	1		
CED56		Depth exceeding 2.0m to 2.5m	No	1		
CED57		Depth exceeding 2.5m to 3.0m	No	1		
CED58		Depth exceeding 3.0m to 3.5m	No	1		
CED59		Depth exceeding 3.5m to 4.0m	No	1		
CED60		Depth exceeding 4.0m to 4.5m	No	1		
CED61		Depth exceeding 4.5m to 5.0m	No	1		
		(ii) Brickwork double grid inlets including covers and frames (complete as per drawing 503081-ROAD-DRG-CC-5400 to 5402):				
CED62		Depth exceeding 1.0m up to 1.5m	No	2		
CED63		Depth exceeding 1.5m up to 2.0m	No	1		
CED64		Depth exceeding 2.0m up to 2.5m	No	1		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CED65		Depth exceeding 2.5m up to 3.0m	No	1		
CED66		Depth exceeding 3.0m up to 3.5m	No	1		
CED67		Depth exceeding 3.5m up to 4.0m	No	1		
	8.2.14	Subsurface drains				
CED68		Supply and lay subsurface drains at 2m depths complete with bidim filter jacket, flownet drainage core, DN 150mm perforated mesh-structured drainage pipe as per drawing 503081-ROAD-DRG-CC-5404	m	280		
	8.2.15	Headwall Outlet Structures (as per drawing 503081-ROAD-DRG-CC-5404)				
CED69		Headwall for 600mm to 750mm diameter pipes	No	1		
CED70		Headwall for 750 mm to 1500mm diameter pipes	No	1		
	SANS 1200MK	KERBING AND CHANNELING				
	8.2.7	Trimming and compaction to 90% of modified AASHTO maximum density of surface area of unlined open drains and areas to be concrete lined:				
CED71		(a) Soft material	m ²	90		
CED72		(b) Hard material	m ²	210		
	8.2.8	20MPa/19mm concrete lining				
CED73		Channel - 150mm thick, 1m wide	m ²	300		
CED74		Channel - 150mm thick, 2m wide	m ²	10		
CED75		Channel - 150mm thick, 4m wide transition	m ²	10		
	8.2.10	Sealed joints in concrete lining				
CED76		15mm wide expansion joint	m	40		
	SANS 1200MM	ANCILLARY ROADWORKS				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
		PERMANENT ROAD SIGNS:				
	8.3.1	Sign faces with painted / galvanized background with painted symbols, characters, legend, and borders in engineering grade retroreflective material with signboards constructed from:				
		(a) Aluminium sheet (2,0mm thick), of area:				
CED77		(i) Up to 2m ²	m ²	4		
CED78		(ii) 2m ² up to 10m ²	m ²	5		
	8.3.2	Provision and application of retro-reflective material				
CED79		(a) Engineering grade retro-reflective background	m ²	9		
	8.3.3	Sign supports				
CED80		(a) Steel tubing galvanized	No	7		
	8.1.1 & 8.3.4	Excavation and backfilling for sign supports:				
CED81		(a) Backfill with grade 10 concrete	m ³	3		
	8.3.6	Statutory signs, street names, and the like, supplied and erected complete				
CED82		(a) R1 – Stop sign	No	2		
CED83		(c) W401 - Danger plate	No	1		
CED84		(d) W402 - Danger plate	No	4		
TOTAL OF SECTION CED CARRIED TO SUMMARY					R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column		SECTION CCA: HIGH-LIFT PUMPING MAIN				
		HIGH-LIFT PUMPING MAIN				
	SANS 1200 C	SITE CLEARANCE				
	8.2.1	Clear and Grub				
CCA1		Clear and grub vegetation and trees including tree stumps up to 15m wide strip (Max. tree girth 1m)	m²	58 280		
	8.2.8	Demolish and remove structures/buildings and dismantle steelwork, etc.				
CCA2		a) Pit latrine and top structure of any size and construction.	No	2		
CCA3		b) Animal Holding Pen of any size and construction.	No	2		
CCA4		c) Rondavel of any size and construction.	No	1		
CCA5		d) Brick structure up to 25m² floor area	No	1		
	8.2.11	Take down and re-erect existing fences				
CCA6		a) All Types and materials up to 0 to 0.5m high	m	291		
CCA7		b) All Types and materials up to 0 to 1.0m high	m	583		
CCA8		c) All Types and materials up to 0 to 1.5m high	m	291		
CCA9	1200 A 8.14	Temporary fencing where existing fencing has been taken down	m	175		
	SANS 1200 D	EARTHWORKS				
	8.3.3	Restricted Excavation				
		a) Excavate for restricted foundations, footings and pipe trenches in all materials and use for backfill or embankment or dispose				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CCA10		Pipeline AC Mitigation Chambers	m ³	150		
CCA11		b) Extra over sub-item 8.3.3 (a) for hand excavation	m ³	45		
CCA12	8.3.10	Topsoiling	m ²	48 955		
	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES)				
	8.3.1	Site clearance and removal of topsoil				
CCA13		a) Remove topsoil to a minimum depth of 150mm	m ²	69 936		
	8.3.2	Excavation				
	8.3.2	a) Excavate in all materials, for trenches, backfill, compact and dispose of surplus material				
		Fibre Optic Conduits				
		Pipes up to 50 mm dia for depths:				
		Over and Up to				
CCA14		0,5 m 1,5 m	m	5 245		
CCA15		1,5 m 2,5 m	m	583		
		High-Lift Pumping Main				
		Pipes over 315 mm dia and up to 400 mm dia for depths:				
		Over and Up to				
CCA16		0,5 m 1,5 m	m	4 662		
CCA17		1,5 m 2,5 m	m	874		
CCA18		2,5 m 3,5 m	m	291		
	8.3.2	b) Extra-over for items under payment reference 8.3.2(a) (SANS 1200 DB) for:				
CCA19		2) Hard rock excavation	m ³	2 355		
		3) Hand excavation and backfill by hand where ordered by the Engineer				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CCA20		a) Soft and intermediate material	m ³	589		
CCA21		b) Hard rock material	m ³	118		
CCA22		4) Stabilizing backfill with 5% cement where directed by the Engineer	m ³	367		
		5) Working within a restricted working area				
		a) 5 - 10m				
CCA23		i. Up to 1.5 m depths	m	1 399		
CCA24		ii. Over 1.5 m and up to 2.5 m depths	m	175		
CCA25		iii. Over 2.5 m and up to 3.5 m depths	m	175		
		b) 10 - 15m				
CCA26		i. Up to 1.5 m depths	m	1 865		
CCA27		ii. Over 1.5 m and up to 2.5 m depths	m	233		
CCA28		iii. Over 2.5 m and up to 3.5 m depths	m	233		
		7) Steep Slopes				
CCA29		a) Pipe trench slopes > 10% to 15%	m	1 166		
CCA30		b) Pipe trench slopes > 15% to 20%	m	932		
CCA31		c) Pipe trench slopes > 20%	m	583		
CCA32	8.3.2	d) Excavate and dispose/stockpile of unsuitable material from trench bottom (Provisional)	m ³	186		
CCA33	8.3.2	e) Excavate in all materials for stormwater inlet and outlet structures and for manholes, catchpits, valve chambers and the like, irrespective of depth, and backfill around these structures	m ³	780		
CCA34	8.3.2	f) Excavate open drains in all materials	m ³	24		
	8.3.2	g) Extra over to items (d) and (e) above for excavating in:				
CCA35		1) Hard rock material	m ³	80		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
	8.3.3	Excavation ancillaries:				
	8.3.3.1	Make up deficiency in backfill material (Provisional):				
CCA36		a) From other necessary excavations on site	m³	367		
CCA37		b) By importation from designated commercial sources selected by the Contractor	m³	367		
CCA38	8.3.3.3	Compaction in road reserves	m³	68		
	8.3.4	Particular items (Where Ordered):				
CCA39		a) Shoring : Over 0m Deep to 1m Deep	m	117		
CCA40		b) Shoring : Over 1m Deep to 2m Deep	m	58		
CCA41		c) Shoring : Over 2m Deep to 3m Deep	m	29		
	8.3.5	Existing services that intersect or adjoin a pipe trench:				
		a) Services the intersect a trench:				
CCA42		O/H Electrical or Communication lines of all kinds	No	10		
CCA43		Buried water or sewer pipes up to DN350mm	No	10		
CCA44		Buried electrical or communication cables of all kinds	No	10		
CCA45		Fences or boundary walls of all kinds	No	10		
CCA46		Stormwater pipes up to DN600mm	No	10		
CCA47		Stormwater Channels	No	20		
		b) Services that adjoin a trench:				
CCA48		O/H Electrical or Communication lines of all kinds	m	1 748		
CCA49		Buried water or sewer pipes up to DN350mm	m	291		
CCA50		Buried electrical or communication cables of all kinds	m	291		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CCA51		Fences or boundary walls of all kinds	m	1 748		
CCA52		Stormwater pipes up to DN600mm	m	291		
CCA53		Stormwater Channels	m	291		
	8.3.6	Finishing:				
	8.3.6.1	Reinstate road surfaces complete with all courses:				
CCA54		a) Gravel on shoulders	m ²	63		
CCA55		b) Subbase - 150mm G5 Material 95% of modified AASHTO	m ²	126		
CCA56		c) Base layer - 150mm G4 Material 98% of modified AASHTO	m ²	126		
CCA57		d) 150mm Gravel Wearing Course	m ²	126		
CCA58	8.3.8	Temporary stockpiling of wet material from trench excavations	m ³	262		
	8.3.10	Reinstatement of existing stormwater infrastructure				
CCA59		a) Open Earth Channels up to 600mm wide	m	100		
CCA60		b) Concrete lined Open Channels up to 600mm wide	m	50		
CCA61		c) Concrete and Brick Inlet / Outlet Headwall Structures for storm culverts up to 600mm dia.	No	10		
CCA62		d) Stormwater pipes of all materials up to 400mm Dia	m	15		
CCA63		d) Stormwater pipes of all materials up to 400mm Dia	m	7		
CCA64		e) Stormwater pipes of all materials 450mm Dia up to 700mm Dia	m	2		
	8.3.10	Stone bedding layer and geotextile filter blanket				
CCA65		19mm Stone bedding layer	m ³	350		
CCA66		Geotextile filter blanket - Grade A4 Bidim or Similar Approved	m ²	3 031		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CCA67	8.3.11	Survey and protection of surrounding structures	Prov. Sum	-	250 000	250 000.00
	SANS 1200 DK	GABIONS AND PITCHING				
CCA68	8.2.9	Rip-rap	m³	158		
CCA69	8.2.10	Geotextile beneath rip-rap - A4 Bidim or Similar Approved	m²	1 176		
	SANS 1200 LB	BEDDING (PIPES)				
	8.2.1	Provision of bedding from trench excavation				
		a) Selected granular material				
CCA70		i) Without the need for screening	m³	303		
CCA71		ii) Including for screening	m³	2 424		
	8.2.2	Supply only of bedding by importation				
	8.2.2.3	From commercial sources (Provisional)				
CCA72		a) Selected granular material	m³	121		
CCA73		b) Selected fill material	m³	121		
	8.2.2.4	From other sources on site:				
CCA74		a) Selected granular material	m³	30		
CCA75		b) Selected fill material	m³	30		
	8.2.4	Encasing of pipes in Concrete:				
		20 MPa/19 mm concrete for pipes:				
CCA76		over DN 300 up to DN 500	m³	26		
CCA77	8.2.6	Extra-over to 8.2.2 for bedding stabilised with 5% cement	m³	303		
	Specification ES01	FIBRE CIVIL WORKS				
	3,4	Supply, lay, bed and test duct				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CCA78	3,4	50mm HdPE Fibre Optic Duct (a.k.a Conduit)	m	12 000		
CCA79		Supply, lay, bed and test Rhi-node 600 (or similar approved) Fibre	No	50		
	SPE-CC-7003	LAYING & JOINTING OF MEDIUM PRESSURE STEEL PIPES & SPECIALS				
	8.2.1	Supply, lay and bed steel pipes and specials complete with couplings				
CCA80		5.0mm WT, Bell & Spigot, Externally Welded, DN350mm. Refer SPE-JJ-0003 for; - Lining PL1 : Cement-Mortar Lining - Coating PC2 : FBMDPE	m	5 828		
CCA81		6.0mm WT, Bell & Spigot, Externally Welded, DN350mm. Refer SPE-JJ-0003 for; - Lining PL1 : Cement-Mortar Lining - Coating PC2 : FBMDPE	m	Rate Only		Rate Only
	SPE-JJ-0003	GENERAL CORROSION PROTECTION				
CCA82	12.2.1	Quality Control Plan (QCP) and Documentation	Sum	-		
	SPE-CC-7003	Supply, lay and bed steel pipes and specials complete with couplings Specials : Unless specified otherwise elsewhere are manufactured from Steel Grade X52. Including lining and coating to match main pipeline and any field repairs as specified if required.				
	8.2.1	Bends to Suit Bell & Spigot - 5.0mm Wall Thickness				
CCA83		DN350 x 5° up to 22.5° bend	No	63		
CCA84		DN350 x over 22.5° up to 45° bend	No	11		
CCA85		DN350 x over 45° up to 90° bend	No	14		
CCA86		Bolt Flange, PN40. Welded On-Site. Including all necessary repairs to pipe coating / lining as specified.	No	40		
CCA87		Collar Flange, PN40. Welded to pipe On-Site. Including all necessary repairs to pipe coating / lining as specified.	No	3		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
	8.2.1	Fittings, PN40				
CCA88		DN350 Restrained Flange Adaptor	No	16		
CCA89		DN200 Restrained Flange Adaptor	No	Rate Only		Rate Only
CCA90		DN100 Restrained Flange Adaptor	No	4		
	8.2.1	Fittings, PN25				
CCA91		DN350 Restrained Flange Adaptor	No	21		
CCA92		DN200 Restrained Flange Adaptor	No	2		
CCA93		DN100 Restrained Flange Adaptor	No	Rate Only		Rate Only
	8.2.1	Fittings, PN16				
CCA94		DN350 Restrained Flange Adaptor	No	11		
CCA95		DN200 Restrained Flange Adaptor	No	Rate Only		Rate Only
CCA96		DN100 Restrained Flange Adaptor	No	2		
	8.2.3	Installation of Valves and Meters				
		Air Valve Chamber: Drawing No. 503081-PIPE-DRG-CC-2020				
	8.2.1	Pipe Specials, SS Grade 304L, WT 5.0mm				
CCA97		Item 2. DN350, 1200mm Long, Flanged, with Collar Flange 450mm from one end.	No	14		
CCA98		Item 3. DN350 Flanged Equal Tee	No	14		
CCA99		Item 3A. DN350 blank flange with 300mm long, DN50 stub riser. 4 No. 50mm x 50mm x 5mm web plates to be welded equi-distant around stub to blank flange and stub. Riser flanged DN50 other end end.	No	14		
CCA100		Item 4. DN350, 1200mm Long, Flanged one end with Collar Flange 450mm from one end.	No	14		
	8.2.3	Valves				
CCA101		Item 3B. DN50, Wedge Gate Valve, Flanged, PN40	No	4		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CCA102		Item 3B. DN50, Wedge Gate Valve, Flanged, PN25	No	7		
CCA103		Item 3B. DN50, Wedge Gate Valve, Flanged, PN16	No	3		
CCA104		Item 3C. DN50, Flanged Air Valve, Two-Stage, PN40	No	4		
CCA105		Item 3C. DN50, Flanged Air Valve, Two-Stage, PN25	No	7		
CCA106		Item 3C. DN50, Flanged Air Valve, Two-Stage, PN16	No	3		
	8.2.1	Scour Valve Chamber "TYPE 1": Drawing No. 503081-PIPE-DRG-CC-2022				
		Pipe Specials, SS Grade 304L, WT 5.0mm				
CCA107		Item 1. DN350 x DN100, Flanged Scour Tee, 890mm Long With 90 Degree Flanged Branch, 500mm CF	No	5		
CCA108		Item 3. DN100 Pipe, Flanged One End, 1000mm Long with Restraining Flange at othe end.	No	5		
CCA109		Item 5. DN100 Pipe, Flanged One End, 600mm Long with Restraining Flange at other end	No	5		
CCA110		Item 6. DN100 Pipe, Flanged one End, 1000mm Long	No	5		
	8.2.3	Valves				
CCA111		Item 4. DN100, Wedge Gate Valve, Flanged, PN40	No	6		
CCA112		Item 4. DN100, Wedge Gate Valve, Flanged, PN25	No	2		
CCA113		Item 4. DN100, Wedge Gate Valve, Flanged, PN16	No	2		
		Non-Return Valve Chamber: Drawing No. 503081-PIPE-DRG-CC-2024 & 2025				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
	8.2.1	Pipe Specials, SS Grade 304L, WT 5.0mm				
CCA114		Item 2. DN350, 1200mm Long, Flanged one end with Collar Flange 450mm from one end.	No	2		
CCA115		Item 3. DN350 to DN50 AV Assembly. To Include Items 3, 3A, 3B and 3C of DRG-CC-2020. PN25	No	4		
CCA116		Item 4. DN350 x DN200 Flanged Reducing Tee	No	4		
CCA117		Item 5. DN350 Pipe, 500mm Long, Flanged One End with restraining flange other end.	No	2		
CCA118		Item 7. DN350 Pipe, 600mm Long, Flanged.	No	2		
CCA119		Item 9. DN350 Pipe, 1500mm Long, Flanged with a Collar Flange 1000mm from plain end.	No	2		
CCA120		Item 10. DN200 Pipe, 90 Degree, Medium Radius Bend, Flanged.	No	2		
CCA121		Item 11. DN200 Pipe, 500mm Long, Flanged.	No	2		
CCA122		Item 15. DN350 Pipe, 500mm Long, Flanged One End with restraining flange other end.	No	2		
	8.2.3	Valves				
CCA123		Item 6. DN350, Non-Return Valve, Flanged, PN25	No	2		
CCA124		Item 8. DN350, Wedge Gate Valve, Flanged, PN25	No	2		
CCA125		Item 13. DN200, Wedge Gate Valve, Flanged, PN25	No	2		
CCA126		Item 12. DN200, Orifice Plate, 6mm Thick With 50mm Hole in Centre. Suited to fasten between two flanges	No	6		
	8.2.6	Anchor / thrust blocks and pedestals				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
CCA127		a). Construct Complete with concrete (Grade 25MPa/19 mm)	m³	35.20		
CCA128		b). High and Medium Tensile Steel Reinforcement	ton	2.75		
	8.2.8	Valve chambers Construct the chamber complete, as per the relevant drawings. Air Valve Chamber: Drawing No. 503081-PIPE-DRG-CC-2020 For depths to pipe invert in the range of:				
CCA129		Over 1,0 m and up to 2,0 m	No	12		
CCA130		Over 2.0 m and up to 3.0 m	No	4		
		Scour Valve Chamber "Type 1": Drawing No. 503081-PIPE-DRG-CC-2022 For depths to pipe invert in the range of:				
CCA131		Over 1,0 m and up to 2,0 m	No	3		
CCA132		Over 2.0 m and up to 3.0 m	No	2		
		Non-Return Valve Chamber: Drawing No. 503081-PIPE-DRG-CC-2024 / 2025 For depths to pipe invert in the range of:				
CCA133		Over 1,0 m and up to 2,0 m	No	2		
CCA134		Over 2.0 m and up to 3.0 m	No	Rate Only		Rate Only
	8.2.11	Items Cast or Built into Concrete				
CCA135		Up to DN100mm pipe or Special through up to 400mm thick mass	No	20		
CCA136		From DN100mm to DN350mm pipe or Special through up to 400mm thick mass	No	20		
CCA137	8.2.12	Pipe lining integrity testing	m	5 828		
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
		Brought forward / ...				
	SANS 1200 L	MEDIUM PRESSURE PIPELINES				
	8.2.16	Miscellaneous				
CCA138		Pipeline Marker-Posts as per drawing 503081-PIPE-DRG-CC-2032	No	30		
CCA139		Lay, joint, fix and test DN350 steel pipes in the pipe sleeves (Pipe supply measured elsewhere) complete with fabricated skids as detailed on Dwg No 503081-PIPE-DRG-CC-2033	m	105		
CCA140		Brick-up ends of road-crossing concrete pipe sleeves.	No	14		
CCA141		Lightning protection	Prov Sum	-	100 000	100 000.00
CCA142		Pipeline Cathodic Protection	Prov Sum	-	1 000 000	1 000 000.00
CCA143		Pipeline AC Mitigation	Prov Sum	-	1 000 000	1 000 000.00
CCA144		Overheads, charges and profit on item above	%	2 100 000		
		Erosion Protection Measures. Refer to DRG-CC-2034				
CCA145		Cross Embankments	m³	540		
CCA146		Cross Walls	m³	75		
CCA147		Anchor Blocks	m³	75		
CCA148		Grassing by means of Hydroseeding	m²	1 200		
	SANS 1200 L 8.2.16	CHAMBER DRAINAGE PIPEWORK				
		Supply and lay Concrete Pipe Culverts.				
CCA149		Road Crossing Concrete Sleeve : Class B Bedding, Pre-Cast Type SC, Grade 100D, DN 750mm	m	70		
CCA150		Drainage outlet pipes for Chambers : DN50mm, HdPE, PN16. Flexible Bedding, including all necessary Couplings	m	23		
		Headwall Outlet Structures				
Carried forward / ...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
CCA151		Brought forward / ... Supply and Install Headwall structure as detailed on Dwg No 503081-PIPE-DRG-CC-2044 at all daylight points for chamber drainage outlet pipes.	No	5		
TOTAL OF SECTION CCA CARRIED TO SUMMARY						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Column		SECTION EFA: EARTHING				
		NDUKU RESERVOIR				
	ES01 2, 4	EARTHING				
		Supply				
EFA1		Earth Electrode (70mm ² BCEC)	m	20		
EFA2		1500mm, 16mm diameter Cu earth rods	No.	4		
EFA3		Cu Earth Bar	No.	1		
		Delivery				
EFA4		All	Sum	-		
		Installation				
EFA5		Earth Electrode (70mm ² BCEC)	m	20		
EFA6		1500mm, 16mm diameter Cu earth rods	No	4		
EFA7		Cu Earth Bar	No	1		
		Pre-commissioning Tests				
EFA8		All	Sum	-		
		Provisional Sums				
EFA9		Provisional Sum for additional earthing or earth testing as directed by the engineer	Prov Sum	-	80 000	80 000.00
EFA10		Percentage adjustment on above item for Contractor's overheads and profit	%	80 000		
TOTAL OF SECTION EFA CARRIED TO SUMMARY					R	80 000.00

SIDWADWENI REGIONAL WATER SUPPLY SCHEME - CONTRACT 2		
BOQ SUMMARY		
	PnGs	
SECTION AAA	SECTION AAA: PRELIMINARY AND GENERAL	
SECTION ABA	SECTION ABA: OCCUPATIONAL HEALTH AND SAFETY	
SECTION ASM	SECTION ASM: SMME MANAGEMENT	
	RESERVOIR	
SECTION CDA	SECTION CDA: RESERVOIR SITE CLEARANCE AND BULK EARTHWORKS	
SECTION CDB	SECTION CDB: RESERVOIR PLATFORM STORMWATER	
SECTION CDC	SECTION CDC: RESERVOIR FENCING	
SECTION CDD	SECTION CDE: RESERVOIR EARTHWORKS	
SECTION CDE	SECTION CDE: BOOSTER PUMPSTATION	
	ACCESS ROAD	
SECTION CEC	SECTION CEC: EXISTING ROAD TO NDUKU RESERVOIR ACCESS ROAD EARTHWORKS	
SECTION CED	SECTION CED: EXISTING ROAD TO NDUKU RESERVOIR ACCESS ROAD STORMWATER	
	HIGH LIFT PUMPING MAIN	
SECTION CCA	SECTION CCA: HIGH-LIFT PUMPING MAIN	
	ELECTRICAL	
SECTION EFA	SECTION EFA: EARTHING	
	TOTAL OF PRICED ITEMS	
	CONTINGENCIES - 10%	
	SUBTOTAL	
	PROVISION FOR CONTRACT PRICE ADJUSTMENT - 10%	
	NET TOTAL OF TENDER	
	ADD 15% VAT	
	GROSS TOTAL OF TENDER (Carried to Tender Form)	