ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION A : PRELIMINARY AND GENERAL				
	SABS 1200 A	**GENERAL**				
A1	8.3 & PSA 8.3	**FIXED-CHARGE AND VALUE-RELATED ITEMS**				
A1.1	PSA 8.3.1	Contractual requirements	Sum	1		
	8.3.1	**Insurance provided by the Contractor**				
A1.2		Contract Works Insurance	Sum	1		
A1.4		Liability Insurance	Sum	1		
A1.5		All Risks Insurance	Sum	1		
A1.6		Motor Vehicle Liability Insurance	Sum	1		
A1.7		Any other insurance required	Sum	1		
	8.3.2	**Establishment of facilities on site**				
	8.3.2.1	***Facilities for the Engineer***				
A1.8	8.3.2.1 (a)	Furnished office and carport	Sum	1		
A1.9	8.3.2.1 (c)	Name board	No	1		
A1.10		Survey equipment as described in PSAB 4.3	Sum	1		
	8.3.2.2	***Facilities for the Contractor***				
A1.11	8.3.2.2 (a)	Site office and storage area	Sum	1		
A1.12	8.3.2.2 (b)	Workshops	Sum	1		
A1.13	8.3.2.2 (d)	Living acomodation	Sum	1		
A1.14	8.3.2.2 (e)	Ablution Facilities	Sum	1		
A1.15	8.3.2.2 (f)	Tools and equipment	Sum	1		
A1.16	8.3.2.2 (g)	Water supplies, electrical power and communications	Sum	1		
A1.7	8.3.2.2 (h)	Dealing with water	Sum	1		
A1.18	8.3.2.2 (i)	Access	Sum	1		
	PSA 8.3.3	**Other fixed charge obligations**				
A1.19		Quality Control and Quality Assurance System for duration of Contract	Sum	1		
	PSA 8.3.3	Other fixed charge obligations (Specify)				
A1.20		……	Sum	1		
A1.21	8.3.4	Remove Site establishment on completion	Sum	1		
		Carried forward / …				

		Brought forward / …				
	PSA 8.11	**Health and Safety**				
A1.22	8.11.1	General safety obligations	Sum	1		
A1.23	8.11.2	Risk Assessment & Management	Sum	1		
A1.24	8.11.3	Health and Safety Plan	Sum	1		
A1.25	8.11.4	Health and Safety File	Sum	1		
A1.26	8.11.6	Induction Training of Workers wrt Health & Safety Compliance	Sum	1		
A1.27	8.11.7	Medical fitness assessment & certificate of employees	Sum	1		
A2	8.4	**SCHEDULED TIME-RELATED ITEMS**				
A2.1	PSA 8.4.1	Contractual Requirements	Months	24		
	PSA 8.4.1	**Insurance provided by the Contractor**				
A2.2		Contract Works Insurance	Months	24		
A2.3		Occupational Injuries Insurance	Months	24		
A2.4		Liability Insurance	Months	24		
A2.5		All Risks Insurance	Months	24		
A2.6		Motor Vehicle Liability Insurance	Months	24		
A2.7		Any other insurance required	Months	24		
	8.4.2	**Operation and maintenance of facilities on the Site for the duration of construction**				
	8.4.2.1	***Facilities for Engineer***				
A2.8	8.4.2.1 (a)	Furnished office and carport	Months	24		
A2.9	8.4.2.1 (b)	Telephone - refer to PSAB 4.1	Months	24		
A2.10	8.4.2.1 (c)	Name board (until end of Defects Liability Period)	No	1		
	8.4.2.2	***Facilities for the Contractor***				
A2.11	8.4.2.2 (a)	Site Office and Storage Area	Months	24		
A2.12	8.4.2.2 (b)	Workshops	Months	24		
A2.13	8.4.2.2 (d)	Living accomodation	Months	24		
A2.14	8.4.2.2 (e)	Ablution facilities	Months	24		
A2.15	8.4.2.2 (f)	Tools and equipment	Months	24		
A2.16	8.4.2.2 (g)	Water supplies, electrical power and communications	Months	24		
A2.17	8.4.2.2 (h)	Dealing with water	Months	24		
A2.18	8.4.2.2 (i)	Access	Months	24		
A2.19	8.4.3	Supervision for the duration of construction	Months	24		
A2.20	8.4.4	Company and head office overheads for the duration of the Contract	Months	24		
		Carried forward / …				

		Brought forward / …				
	8.4.5	**Other time-related obligations**				
A2.21	PSA 8.4.5	Provision of security personnel	Months	24		
A2.22	8.4.5	Other time-related obligations (Specify)	Months	24		
		……				
	PSA 8.11	**Health and Safety**				
A2.23	8.11.1	General safety obligations	Months	24		
A2.24	8.11.3	Health and Safety Plan	Months	24		
A2.25	8.11.5	Construction Health & Safety Officer and other appointments	Months	24		
A3	8.5	**SUMS STATED PROVISIONALLY BY ENGINEER**				
A3.1		Geotechnical Investigation	Prov Sum	1		100,000.00
A3.2		Overhead, charges, profit, etc on item A3.1	%	100,000		
A3.3		Topographical Survey	Prov Sum	1		35,000.00
A3.4		Overhead, charges, profit, etc on item A3.3	%	35,000		
A3.5	PSA 8.5.1	Additional testing required by the Engineer	Prov Sum	1		25,000.00
A3.6	PSA 8.5.2	Overhead, charges, profit, etc on item A3.5	%	25,000		
A3.7	PSA 8.5.3	Relocation of municipal services	Prov Sum	1		75,000.00
A3.8	PSA 8.5.4	Overhead, charges, profit, etc on item A3.7	%	75,000		
A3.9	PSA 8.5.5	Community Liaison Officer for duration of contract	Prov Sum	1		215,000.00
A3.10	PSA 8.5.6	Overhead, charges, profit, etc on item A3.9	%	215,000		
A4	PSA 8.7	**DAYWORK (Provisional)**				
	PSA 8.7 (a)	**Labour : Normal Time**				
A4.1		Labourers	hr	100		
A4.2		Operatives (semi-skilled)	hr	60		
A4.3		Artisans (skilled)	hr	40		
	PSA 8.7 (a)	**Labour : Overtime**				
A4.4		Labourers	hr	100		
A4.5		Operatives (semi-skilled)	hr	60		
A4.6		Artisans (skilled)	hr	40		
	PSA 8.7 (b)	**Material**				
A4.7		Allowance for materials	Prov Sum			75,000.00
A4.8		Percentage mark-up to materials	%	75,000		
		Carried forward / …				

		Brought forward / …				
	PSA 8.7 (c)	**Own Plant**				
A4.9		Tractor Loader Backhoe (TLB)	hr	20		
A4.10		Tracked excavator (20T)	hr	20		
A4.11		Compactor (vibrating plate)	hr	20		
A4.12		Truck (8 ton)	hr	20		
A4.13		Tip truck (10m^3)	hr	20		
A4.14		Crane truck (10 ton)	hr	20		
A4.15		Dewatering pump	hr	20		
A4.16		Compressor 250 CFM complete with hand tools and attachments	hr	20		
A417	PSA 8.7 (d)	Hired plant	Prov Sum	1		75,000.00
A4.18	PSA 8.7 (d)	Percentage mark-up on hired plant	%	75,000		
A5	8.8	**TEMPORARY WORKS**				
A5.1	PSA 8.8.2	Accommodation of traffic	Sum	1		
A5.1.1		**River Crossing & Access**				
A5.1.2	1200 C: 8.2.1	Clear and Grub for Road and Platform	m2	6,800		
A5.1.3	1200C: 8.2.10	Remove topsoil to nominal depth of 150mm and stockpile	m3	1,000		
A5.1.4	1200D: 8.3.3(a)	Rip, shape and recompact 150mm in-situ layer to 93% MOD AASHTO density under stormwater channel	m3	1,000		
A5.1.5	1200DM: 8.3.5	Construct gravel access road 1km long x 5m wide x 200mm thick G7 quality material, compacted to 90% Mod AASHTO	m3	1,000		
A5.1.6		**Construct River Crossing**				
A5.1.7	PSA8.8.2	Supply and Install 10No 10m long 1m dia Reinforced Concrete Class 100D pipe, complete as per Drawing AFR2309-SEW-GA-TEN-01	m	100		
A5.1.8	1200DM: 8.3.5	Construct Gravel Road Crossing 30m long, 10m wide, 3m fill G7 quality material, compacted to 90% MoD AASTHO	m3	1,500		
A5.1.9		**Working Platform for Embankment Access**				
A5.1.10	1200DM: 8.3.5	Construct gravel working platform 60m long x 25m wide x 3m fill consiting of G7 quality material, compacted to 90% MoD AASTHO, complete as per Drawing AFR2309-SEW-GA-TEN-01	m3	5,000		
A5.1.11	PSA 8.8.2	Supply and install gabion protection to road and platform, 2m x 0.5m x 0,5m	m3	200		
A5.1.12	PSA8.8.2	Dealing with river flow diversion of half widths for construction of river crossing gravel road	Sum	1		
		Carried forward / …				

		Brought forward / …				
	8.8.4	**Existing Services**				
A5.2	PSA 8.8.4 (c)	Excavate by hand in all material to expose existing services where ordered by the Engineer	m^3	15		
A5.3	PSA 8.12	Liaison and cooperation with the other contractors	Sum	1		
A5.4	PSA 8.13	Compliance with requirements of the EMP	Sum	1		
A6		**OTHER ITEMS**				
A6.1	PMA 11.4.1	Equipment to allow WWTW to remain in operation	Sum	1		
A6.2		Temporary diversion of river and protection of construction area for reinstatement of embankment	Sum	1		
A6.3		Provide access across river during reinstatement of embankment	Sum	1		
		Carried Forward to Summary: SECTION A			**R**	

ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION B : VERULAM WWTW				
B1	**SABS 1200 C**	**SITE CLEARNANCE**				
B1.1	8.2.1	Clear and grub site for reinstatement of earth embankment	m^2	1,200		
B1.2		Clear and grub around sludge drying beds for new concrete surround	m^2	1,245		
	8.2.5	**Take down existing fences**				
B1.3		Remove damaged existing 1.8m high barbed wire fence over short sections and dispose of dismantled fence materials	m	150		
	8.2.8	**Demolish and remove structures/buildings and dismantle steelwork. etc**				
B1.4		Demolish and dispose of at Hammersdale solid waste site damaged 220mm brick wall at the sludge drying beds - approximately $62m^2$	Sum	1		
	8.2.10	Remove topsoil to nominal depth of 150mm and stockpile for:				
B1.5		New stormwater open channel	m^3	48		
B1.6		Around sludge drying beds	m^3	187		
B2	**SABS 1200 D**	**EARTHWORKS**				
	8.3.2	**Bulk Excavation**				
B2.1	8.3.2. (a)	Excavate in all material for new gabion retaining wall, and use for embankment or dispose, as ordered	m^3	135		
B2.2	8.3.2 (b)	Extra-over for 8.3.2(a) for hard rock excavation	m^3	10		
	8.3.3	**Restricted Excavation**				
	8.3.3 (a)	Excavation and shaping in all materials for:				
B2.3		Footing to new gabion retaining wall	m^3	36		
B2.4		Foundations for pipe headwalls	m^3	7.6		
B2.5		Excavate and shape new stormwater open channel	m^3	260		
B2.6	8.3.3 (b)	Extra-over for 8.3.3(a) for hard rock excavation	m^3	15		
B2.7		Scarify, water, shape and compact 150mm in-situ material to 95% MOD AASHTO density under concrete lining for new stormwater channel	m^3	52		
B2.8		Rip, shape and recompact 150mm in-situ layer to 93% MOD AASHTO density for concrete surround to sludge drying beds	m^3	187		
	8.3.4	**Importing of Materials**				
	8.3.4 (a)	Extra-over for importation from commercial sources for:				
B2.9		Rockfill under new gabion wall (provisional)	m^3	90		
B2.10		150mm G7 layer compacted to 95% MOD AASHTO density for concrete surround to sludge drying beds	m^3	187		
B2.11		150mm G5 layer compacted to 97% MOD AASHTO density for concrete surround to sludge drying beds	m^3	187		
		Carried forward / …				

		Brought forward / …				
	8.3.8	**Existing Services**				
	8.3.8.1	***Location***				
B2.12	8.3.8.1 (c)	Excavate by hand in soft material to expose any existing service	m^3	10		
	8.3.8.2	***Dealing with services that are at risk because of the construction of earthworks***				
B2.13	8.3.8.2 (a)	Cables	No	2		
	8.3.8.2 (c)	Temporary protection of existing services				
B2.14		75mm dia HDPE chlorine pipeline	Sum	1		
B2.15		700mm dia HDPE clarified effluent pipeline	Sum	1		
B2.16		750mm dia stormwater pipes	Sum	1		
B2.17		Fence	Sum	1		
		Reinstate Embankment				
B2.18		Reinstate embankment with imported G7 material compacted to 93% MOD AASHTO density in 200mm lavers	m^3	6,975		
B3	**SABS 1200 DB**	**EARTHWORKS: PIPE TRENCHES**				
	8.3.2	**Excavation**				
	8.3.2 (a)	Excavate in all materials for trenches, backfill, and dispose of surplus material for :				
		75mm dia chlorine pipeline (measured trench with - 650mm)				
		Over Up to and including				
B3.1		0,0m 1,2m	m	25		
		700mm dia clarified effluent pipeline (measured trench width - 1,000mm)				
		Over Up to and including				
B3.2		0,0m 1,5m	m	3		
B3.3		1,5m 2.0m	m	7		
B3.4		2.0m 2.5m	m	10		
	8.3.2 (b)	Extra-over items 8.3.2 (a) above for:				
B3.5	8.3.2 (b)(ii)	Hard rock excavation (Refer to PSD 3.1.2)	m^3	5		
B3.6	8.3.2 (c)	Excavate and dispose of unsuitable material from trench bottom	m^3	3		
	8.3.4	**Particular Items**				
	8.3.4 (a)	Shore trenches deeper than 1,5m where necessary for the following depths :				
		Over Up to and including				
B.7		1,5m 2,0m	m	7		
B3.8		2,0m 2.5m	m	10		
		Carried forward / …				

		Brought forward / …				
B4	**SABS 1200 DK**	**GABIONS AND PITCHING**				
	8.2.1	**Surface preparation for bedding of gabions**				
	8.2.1 (a)	Cavities filled with approved excavated material or rock				
B4.1		New retaing wall	m^2	120		
B4.2		Existing retaining wall	m^2	40		
B4.3	8.2.1 (b)	Cavities filled with 15MPa concrete (provisional)	m^2	3		
	8.2.2	**Gabions (refer to PSDK 3.1.2)**				
B4.4		Reno mattress 6,000 x 2,000 x 300mm to new wall	m^3	36		
B4.5		Gabions 2,000 x 500 x 500mm to new wall	m^3	180		
	8.2.4	**Geotextile (refer to PSDK 3.1.3)**				
B4.6		Reno mattress for new retaing wall	m^2	277		
B4.7		Reno mattress for existing retaining wall	m^2	93		
B4.8		Behind new gabion retaining wall	m^2	234		
B4.9		Behind old gabion retaining wall	m^2	60		
	8.2.5	**Pitching**				
B4.10		Grouted medium stone pitching	m^2	3		
		Reinstatement of gabions				
	PSDK 8.2.6	**Unpack damaged gabions**				
B4.11		Reno mattress	m^3	12		
B4.12		Gabions	m^3	60		
	PSDK 8.2.7	**Reinstate existing gabions**				
B4.13		Reno mattress	m^3	12		
B4.14		Gabions	m^3	60		
	PSDK 8.2.8	**Provide additional cages (provisional)**				
B4.15		Reno mattress 6,000 x 2,000 x 300mm	No	4		
B4.16		Gabions 1,000 x 1000 x 1000mm	No	5		
B4.17		Gabions 2,000 x 500 x 500mm	No	5		
B4.18	PSDK 8.2.9	Supply additional stones (provisional)	m^3	5		
B5	**SABS 1200 G**	**CONCRETE (STRUCTURAL)**				
	8.2	**Formwork**				
	8.2.5	Narrow widths				
B5.1		150mm high to sludge drying bed surround	m	805		
	8.3	**Reinforcement**				
B5.2	8.3.2	High-tensile welded mesh Ref 395	m^2	1,245		
		Carried forward / …				

		Brought forward / …				
	8.4	**Concrete**				
B5.3	8.4.3	Strength concrete 25MPa/19mm to sludge drying beds surround	m^3	187		
	8.4.4	**Unformed Surface Finishes**				
B5.4	8.4.4. (b)	Steel float finish to sludge beds surrounds	m^2	1,245		
	8.5	**Joints**				
B5.5		Construction joints	m	276		
B5.6		Expansion joints with 10mm high density closed-cell polyethylene joint filler and polysulphide sealant	m	605		
B6	**SANS 1200 L**	**MEDIUM-PRESSURE PIPELINES**				
	8.2.1	**Supply, Lay, Bed and Test Pipes Complete With Couplings**				
		HDPE 80 pipes complying with SANS ISO 4427				
B6.1		75mm PE 80 PN 10 (chlorine dosing)	m	25		
B6.2		600mm mPVC Cl 34	m	20		
	8.2.2	**Extra-over Items 8.2.1 above for the Supplying, Laying and Bedding of Specials Complete with Couplings**				
B6.3		75 x 75mm dia compression equal Tee	No	1		
B6.4		75mm x 90^o compression bends	No	2		
B6.5		75mm GMS pipe support brackets installed in manhole	No	3		
	8.2.3	**Extra-over Items 8.2.1 above for the Supplying, Fixing and Bedding of Valves Complete with all Fittings to Conect into HDPE Pipe**				
B6.6		75mm gate valve PN 10	No	2		
B6.7		Extra-over Item B5.1 for cutting into the existing 75mm HDPE pipe and installing the compression Tee-piece	Sum	1		
	8.2.14	**Manholes**				
B6.8		Construct reinforced concrete manhole complete with base and cover slab to house Tee and valves on the chlorine pipeline	No	1		
B6.9	PSL 8.2.14 (c)	Break into existing manhole, install new 600mm mPVC pipe and make good	No	1		
	PSL 8.2.16	**Supply and Install Sluice Gates in Existing Manhole**				
B6.10		650mm wall-mounted on-seating sluice gates complete with pedestals, handwheels, spindles and wall brackets installed in manhole	No	2		
B7	**SANS 1200 LB**	**BEDDING: PIPES**				
	8.2.1	**Provision of Bedding from Trench Excavation**				
B7.1	8.2.1 (a)	Selected granular material (min 200mm under pipes)	m^3	7.5		
B7.2	8.2.1 (b)	Selected fill material (min 300mm over pipe)	m^3	19.5		
		Carried forward / …				

		Brought forward / …				
	8.2.2	**Supply only of Bedding by Importation:**				
	8.2.2.3	***From commercial sources (Provisional)***				
B7.3	8.2.2.3 (a)	Selected granular material (min 200mm under pipes)	m^3	7.5		
B7.4	8.2.2.3 (b)	Selected fill material (min 300mm over pipe)	m^3	19.5		
	PSDB 8.3.8	**Crushed Stone Bedding (Provisional)**				
B7.5		19mm stone bedding	m^3	7.5		
B7.6		Geofabric	m^2	48		
B8	**SANS 1200 LE**	**STORMWATER DRAINAGE**				
B8.1	PSLE 8.2.16	Clean, shape and compact existing open stormwater channels as detailed on drawings ready to receive concrete lining	m	75		
B8.2	PSLE 8.2.17	Concrete lining to stormwater channels (25MPa/19)	m^2	700		
B8.3	PSLE 8.2.18	Construct headwalls complete as detailed on the drawings for pipe size of 600mm diameter	No	7		
B9		**REINSTATE PERIMETER SECURITY FENCE**				
B9.1		Supply and install complete, including posts at 2m centers with footing excavations and concrete, 1.8m high galvanised security fence over short sections. New fence to match existing	m	150		
B10		**BLOWER ROOM FOUNDATIONS UNDERPINNING**				
B10.1		Excavation in all materials for retaining wall footings	m^3	15		
B10.2		Imported G7 fill constructed in layers of 150mm compacted to 95% of modified ASHTO	m3	10		
B1.3		20MPa/19mm concrete to foundations	m^3	7		
	PART SPEC PMA	**REFURBISHMENT OF VERULAM WWTW**				
B11		**HEAD OF WORKS**				
		Supply and Install, Test and Commission				
B11.1	11.4.2	Inlet works channel gate as specified in PMA 4.1	No	1		
B11.2	11.4.3	Stone trap spiral conveyer as specified in PMA 4.2	No	1		
	PMA 11.4.4	**Refurbish Mechanical Screen, Conveyer and Compact Washer (refer to PMA 4.3)**				
B11.3	11.4.4.1	Remove and dispose of all existing motors and gearboxes from the mechanical screen, conveyor and compact washer	Sum	1		
	11.4.4.2	Supply, install, connect, test and commission new electric motors same as the existing for:				
B11.4		a) Mechanical screen	Sum	1		
B11.5		b) Conveyor	Sum	1		
B11.6		c) Compact washer	Sum	1		
		Carried forward / …				

		Brought forward / …				
	11.4.4.3	Supply, install, connect, test and commission new gearboxes same as the existing for:				
B11.7		a) Mechanical screen	Sum	1		
B11.8		b) Conveyor	Sum	1		
B11.9		c) Compact washer	Sum	1		
B11.10	11.4.4.4	Service mechanical screen, including replacement of all bearings	Sum	1		
	PMA 11.4.5	**Vortex Degritters (refer to PMA 4.4)**				
B11.11	11.4.5.1	Remove and dispose of all existing motors and gearboxes from all degritting equipment	Sum	1		
	11.4.5.2	Supply, install, connect, test and commission new electric motors same as the existing for:				
B11.12		a) Paddle units	No	2		
B11.13		b) Blowers	No	3		
B11.14		c) Conveyors	No	2		
B11.15		d) Grit washers	No	2		
	11.4.5.3	Supply, install, connect, test and commission new gear boxes same as the existing for:				
B11.16		a) Paddle units (primary and secondary drives)	No	2		
B11.17		b) Conveyors	No	2		
B11.18		c) Grit washers	No	2		
	11.4.5.4	Service the following equipment including replacement of all bearings and v-belts				
B11.19		Paddle units (2 No)	Sum	1		
B11.20		Blowers (3 No)	Sum	1		
B11.21		Conveyors (2 No)	Sum	1		
B11.22		Grit washers (2 No)	Sum	1		
B12	**PMA 11.4.6**	**PRIMARY SETTLING TANKS (refer to PMA 4.5)**				
B12.1	11.4.6.1	Remove sand and sludge to empty the tanks of all materials, and dispose dry sludge at Hammersdale solid waste disposal facility. Wet sludge to be disposed of at Southern WWTW	m^3	1,820		
B12.2	11.4.6.2	Remove existing asbestos cement inlet pipes including brackets, and dispose of at a registered Hazardous solid waste disposal facility selected by the Contractor - 5 No	Sum	1		
B12.3	11.4.6.3	Provision of access	Sum	1		
	11.4.6.4	Preparation of steelwork for coating				
B12.4		a) 200mm dia MS inlet pipes	No	5		
B12.5		b) Central stilling wells (internal and external)	m^2	203		
		Carried forward / …				

		Brought forward / …				
	11.4.6.5	Application of corrossion protection coating				
B12.6		a) 200mm dia MS inlet pipes	No	5		
B12.7		b) Central stilling wells (internal and external)	m^2	203		
B12.8	11.4.6.6	Supply and install 160mm dia mPVC Class 6 sludge draw-off pipes including fixing of pipe to wall of PST with stainless steel brackets and new valves with 1,700mm extended spindles with 2 x spindle brackets and making good concrete and brickwork	No	5		
B13	**PMA 11.4.7**	**4ML/DAY CLARIFIER (refer to PMA 4.6)**				
B13.1	11.4.7.1	Remove water, sand and sludge from the clarifier and dispose wet sludge at Southern WWTW. **Note:** Water may be pumped to the head of the works rather than removed from site. Contractor to price for all necessary equipmnet under item B13.1	m^3	1,360		
B13.2	11.4.7.2	Provision of access	Sum	1		
B13.3	11.4.7.3	Replace centre bearing and electrical slip ring. Old bearing and slip ring to be delivered to Municipal workshop	Sum	1		
B13.4	11.4.7.4	Test and commission centre bearing and electrical slip ring	Sum	1		
	11.4.7.5	Preparation of steelwork for coating				
B13.5		a) Inlet pipe	Sum	1		
B13.6		b) Central stilling well (internally and externally)	m^2	65		
B13.7		c) Scraper support structure	Sum	1		
	11.4.7.6	Application of corrosion protection coating to:				
B13.8		a) Inlet pipe	Sum	1		
B13.9		b) Central stilling well (internally and externally)	m^2	65		
B13.10		c) Scraper support structure	Sum	1		
B13.11	11.4.7.7	Replace scraper blades - 7 No	Sum	1		
B14	**PMA 11.4.9**	**SLUDGE DIGESTERS AND PUMPS (refer PMA 4.8)**				
B14.1	11.4.9.1	Allow for all saferty equipment and precautions when working in digesters (refer to minimum requirements specified in this document)	Sum	1		
B14.2	11.4.9.2	Remove and dispose of sludge from primary digester. Wet sludge to be disposed of at Southern WWTW	m^3	1,230		
B14.2	11.4.9.3	Remove and dispose of sludge from secondary digester. Wet sludge to be disposed of at Southern WWTW	m^3	810		
	11.4.9.4	High-pressure washing of digesters				
B14.4		a) Primary digester	m^2	400		
B14.5		b) Secondary digester	m^2	850		
B14.6	11.4.9.6	Removal of Gorman-Rupp pump	No	1		
		Carried forward / …				

		Brought forward / …				
		Supply and install complete with motors, bases, pipework and all fittings, test and commission the following pumps:				
B14.7	11.4.9.8	Gorman-Rupp T10 pump	No	1		
B15	**PMA 11.4.10**	**SLUDGE DRYING BEDS (refer to PMA 4.9)**				
B15.1	11.4.10.1	Remove sand and sludge from drying beds and dispose of at Hammersdale soilid waste site	m^3	750		
B15.2	11.4.10.2	Remove inlet valves and deilver to Municipal workshop	No	20		
B15.3	11.4.10.3	Rebuild section of damaged wall in 230mm brickwork with Brickforce every 3rd course	m^2	64		
B15.4	11.4.10.4	Supply and install filter sand 600mm deep	m^3	450		
B15.5	11.4.10.5	Supply and install stainless steel knife-gate valves	No	20		
B16		**ADDITIONAL WORKS (PROVISIONAL)**				
B16.1		Allowance for electrical refurbishment works to be spent on Engineer's instruction only	Prov Sum			100,000.00
B16.2		Overhead, charges, profit, etc on item B16.1	%	100,000		
B16.3		Allowance for additional refurbishment works to be spent on Engineer's instruction only	Prov Sum			150,000.00
B16.4		Overhead, charges, profit, etc on item B16.2	%	150,000		
		Carried Forward to Summary: SECTION B			**R**	

ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION C: UMDLOTI WWTW				
C1	**SABS 1200 C**	**SITE CLEARNANCE**				
C1.1	8.2.1	Clear and grub for pipelines (2m width)	m^2	200		
C1.2	8.2.1	Clear and grub for stormwater channel (4m width)	m^2	4,000		
C1.3	8.2.10	Remove topsoil to nominal depth of 150mm and stockpile	m^3	630		
C2	**SABS 1200 D**	**EARTHWORKS**				
	8.3.3	**Restricted Excavation**				
	8.3.3 (a)	Excavation and shaping in all materials for:				
C2.1		Stormwater channel	m^3	1,950		
C2.2		Foundations for pipe headwalls	m^3	6		
C2.3		Rip, shape and recompact 150mm in-situ layer to 93% MOD AASHTO density under stormwater channel	m^3	450		
	8.3.4	**Importing of Materials**				
	8.3.4 (a)	Extra-over for importation from commercial sources for:				
C2.4		150mm G7 layer compacted to 95% MOD AASHTO density under stormwater channel	m^3	450		
	8.3.8	**Existing Services**				
	8.3.8.1	***Location***				
C2.5	8.3.8.1 (c)	Excavate by hand in soft material to expose any existing service	m^3	20		
	8.3.8.2	***Dealing with services that are at risk because of the construction of earthworks***				
C2.6	8.3.8.2 (a)	Cables	No	2		
	8.3.8.2 (c)	Temporary protection of existing services				
C2.7		All pipelines	Sum	1		
C3	**SABS 1200 DB**	**EARTHWORKS: PIPE TRENCHES**				
	8.3.2	**Excavation**				
	8.3.2 (a)	Excavate in all materials for trenches, backfill, and dispose of surplus material for :				
		For pipes up to 650mm dia (measured trench width 950mm)				
		Over Up to and including				
C3.1		1,0m 2.0m	m	45		
C3.2		2.0m 3.0m	m	55		
	8.3.2 (b)	Extra-over items 8.3.2 (a) above for:				
C3.3	8.3.2 (b)(ii)	Hard rock excavation (Refer to PSD 3.1.2)	m^3	20		
		Carried forward / …				

		Brought forward / …				
	8.3.4	**Particular Items**				
	8.3.4 (a)	Shore trenches deeper than 1,0m where necessary for the following depths :				
		Over Up to and including				
C3.4		1,0m 2,0m	m	45		
C3.5		2,0m 3.0m	m	55		
C4	**SABS 1200 DK**	**GABIONS AND PITCHING**				
	8.2.2	**Gabions (refer to PSDK 3.1.2)**				
C4.1		Reno mattress 6,000 x 2,000 x 300mm to stormwater channel	m^3	601		
C4.2		Gabions 2,000 x 500 x 500mm to stormwater channel	m^3	500		
	8.2.4	**Geotextile (refer to PSDK 3.1.3)**				
C4.3		Under stormwater channel and 300mm up sides	m^2	3,600		
	8.2.5	**Pitching**				
C4.4		Grouted medium stone pitching	m^2	5		
C5	**SABS 1200 DM**	**EARTHWORKS (ROADS, SUBGRADE)**				
	8.3.3	**Treatment of roadbed**				
	8.3.3 (a)	Roadbed preparation and compaction of materials to				
C5.1	8.3.3 (a)(1)	Rip, shape and recompact existing gravel road to minimum 90% MOD AASHTO density	m^3	600		
	8.3.4	**Cut to fill, borrow to fill**				
C5.2		Compacted to 90 % MOD AASHTO density	m^3	100		
	8.3.5	**Selected layer compacted to 93% MOD AASHTO density**				
C5.3		G7 imported layer 150mm thick	m^3	600		
	8.3.7	**Cut to spoil or stockpile from**				
C5.4	8.3.7 (a)	Soft material	m^3	50		
	8.3.13	**Surface finishes**				
C5.5	8.3.13 (a)	Topsoiling 150mm thick	m^2	2,000		
C5.6		Trim, shape and lightly compact verges prior to placing topsoil	m^2	2,000		
	8.3.16	**Gravel surface layer**				
C5.7		G5 gravel wearing course 150mm thick with material from commercial sources (min CBR 45%, PI <10, max. stone size 63 mm), compacted to 97% Mod. AASHTO density	m^3	600		
		Carried forward / …				

		Brought forward / …				
C6	**SANS 1200 LB**	**BEDDING: PIPES**				
	8.2.1	**Provision of Bedding from Trench Excavation**				
C6.1	8.2.1 (a)	Selected granular material (min 200mm under pipes)	m^3	20		
C6.2	8.2.1 (b)	Selected fill material (min 300mm over pipe)	m^3	57		
	8.2.2	**Supply only of Bedding by Importation:**				
	8.2.2.3	***From commercial sources (Provisional)***				
C6.3	8.2.2.3 (a)	Selected granular material (min 200mm under pipes)	m^3	20		
C6.4	8.2.2.3 (b)	Selected fill material (min 300mm over pipe)	m^3	57		
	PSDB 8.3.8	**Crushed Stone Bedding (Provisional)**				
C6.5		19mm stone bedding	m^3	20		
C6.6		Geofabric	m^2	230		
C7	**SANS 1200 LE**	**STORMWATER DRAINAGE**				
	8.2.1	**Supply and Lay Concrete Pipe Culverts on Class B Bedding**				
C7.1		650mm diameter Class 100-D ogee pipes	m	100		
C7.2	PSLE 8.2.18	Construct headwalls complete as detailed on the drawings for pipe size of 675mm diameter	No	6		
		Carried Forward to Summary: SECTION C			**R**	

NORTHERN SEWER DRAINAGE CATCHMENT

VERULAM AND UMDLOTI WASTEWATER TREATMENT WORKS
STORM DAMAGE REPAIRS

BILL OF QUANTITIES - SUMMARY	AMOUNT
A : PRELIMINARY & GENERAL **B : VERULAM WWTW** **C : UMDLOTI WWTW**	
SUB TOTAL	
Add VAT @ 15%	
GROSS TOTAL	

Signed ……. Dated ..…….

Name ……. Position ……..

Tenderer ……..