

Item No	Payment Ref	Description	Unit	Qty	Rate		Amount	
					R	c	R	c
1	SABS 1200 A PSA	SECTION 1 : PRELIMINARY AND GENERAL						
1.1	8.3	FIXED CHARGE AND VALUE RELATED ITEMS:						
1.1.1	8.3.1	Contractual Requirements	Sum	1	R		R	
1.1.2	PSA 8.3.2.1 PSAB	Facilities for Engineer: a) Engineer's offices, Office Furniture and Carports as per Specifications for RE and 2 Assistants	Sum	1	R		R	
		b) Combination photocopying fax & telephone machine	Sum	1	R		R	
		c) Nameboards (2 No)	Sum	1	R		R	
		d) Survey assistant and survey materials	Sum	1	R		R	
		e) Boardroom for meetings (20 people) including conference table and chairs	Sum	1	R		R	
		f) Safety equipment, including hard hats, removable revolving orange light for vehicles & reflective vests for 3	Sum	1	R		R	
1.1.3	8.3.2.2	Facilities for Contractor:						
		a) Offices and storage sheds	Sum	1	R		R	
		b) Workshops	Sum	1	R		R	
		c) Living accommodation	Sum	1	R		R	
TOTAL CARRIED FORWARD TO NEXT PAGE							R	-

Item No	Payment Ref	Description	Unit	Qty	Rate R c	Amount R c
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R -
		d) Ablution and latrine facilities	Sum	1	R	R
		e) Tools and equipment	Sum	1	R	R
		f) Water supplies, electric power and communications	Sum	1	R	R
		g) Dealing with water	Sum	1	R	R
		h) Access	Sum	1	R	R
		i) Plant	Sum	1	R	R
1.1.4	8.3.3	Other fixed-charge obligations	Sum	1	R	R
1.1.5	8.3.3	Environmental Specification	Sum	1	R	R
1.1.6	8.3.3	Safety plan	Sum	1	R	R
1.1.7	8.3.4	Removal of site establishment	Sum	1	R	R
1.1.8	PSA 8.3.5	Security of Contractor's plant and personnel	Sum	1	R	R
1.2	PSA 8.4	TIME RELATED ITEMS				
1.2.1	8.4.1	Contractual Requirements	Month	18	R	R

1.2.2	PSA 8.4.2.1	Facilities for Engineer:					
	PSAB	a) Office and office Furniture for 3	Month	18	R		R
		b) Combination photocopying fax & telephone machine	Month	18	R		R
		c) Nameboards (2 No)	Month	18	R		R
		d) Survey assistant and survey materials	Month	18	R		R
		e) Boardroom for meetings (20 people) including conference table and chairs	Month	18	R		R
		f) Safety equipment, including hard hats, removable revolving orange lights for vehicle & reflective vests for 3	Month	18	R		R
1.2.3	8.4.2.2	Facilities for Contractor:					
		a) Offices and storage sheds	Month	18	R		R
		b) Workshops	Month	18	R		R
		c) Living accommodation	Month	18	R		R
		d) Ablution and latrine facilities	Month	18	R		R
		e) Tools and equipment	Month	18	R		R
		f) Water supplies, electric power and communications	Month	18	R		R
		g) Dealing with water	Month	18	R		R
		h) Access	Month	18	R		R
		i) Plant	Month	18	R		R
1.2.4	8.4.3	Supervision for duration of construction	Month	18	R		R
1.2.5	8.4.4	Company and head office overhead costs for the duration of the contract	Month	18	R		R
1.2.6	8.4.5	Other time-related obligations	Month	18	R		R
1.2.7	8.4.5	Environmental specification	Month	18	R		R
1.2.8	8.4.5	Implementation of Safety plan as per OHS Act	Month	18	R		R
1.2.9	8.4.5	Security of Contractor's plant and personnel	Month	18	R		R
1.2.10		Payment of CLO @ 6000.00 per month	Prov Sum	18		6 000.00	R 108 000.00
1.2.11		PSC Monthly Disbursements @ R140.00 per member sitting	Prov Sum	18		700.00	R 12 600.00
1.2.12		Handling cost for 1.2.10 & 1.2.11 above	%		R 120 600.00		R 0.00
TOTAL CARRIED FORWARD TO NEXT PAGE							R
Item No	Payment Ref	Description	Unit	Qty	Rate R c		Amount R c
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE							R
1.3	8.4.5, PSB 2.14, PSB2.24.13.1	All time related items for period covering attendance of mechanical and electrical contracts during the defects liability period of this contract- responsibility for maintaining all equipment, including controls associated with the equipment in a manner which will ensure that the equipment is ready for operation at all times- Routine Operation & Maintenance	Month	18	R		R
1.4		Posters, signs, safety boards, notifications, agreements and documentation for site office as per OHAS specifications	Sum	1	R		R
1.5		Legal Safety Appointments	Sum	1	R		R
1.6		Supply and maintain fire fighting equipment, first aid kits and visitor PPE for contract duration	Sum	1	R		R
1.7	8.5	Sums stated provisionally by the Engineer (Instruction to be issued by the Engineer)					
		Testing					
		b) Material Testing to check testing done by contractor	Prov sum	1		100 000.00	R 100 000.00

1.8	Other testing requirements				
	a) Allow for attendance to all factory inspections, such as travel expenses, accommodation and per diem.	Prov Sum	1	50 000.00	R 50 000.00
	b) Electrical - Allow to test and commission the complete installation in the presence of the engineer and the client's	Prov Sum	1	50 000.00	R 50 000.00
1.9	Training of Labourers	Prov Sum	1	50 000.00	R 50 000.00
1.10	Provisional Sum for costs hiring training venue and labour payment during training	Prov Sum	1	5 000.00	R 5 000.00
1.11	Accommodation for engineer's site personnel	Prov Sum	1	300 000.00	R 300 000.00
1.12	Additional Surveys required by Engineer	Prov Sum	1	100 000.00	R 100 000.00
1.13	Allow for all additional tests and compliance for registration of plant and WUL	PC Sum	1	200 000.00	R 200 000.00
1.14	Mechanical & Electrical Specialist (Design Approval, Quality Control, Supervision and Certification)	Prov Sum	1	500 000.00	R 500 000.00
1.15	Specialist Services as specified by Engineer and certification by professionals	Prov Sum	1	300 000.00	R 300 000.00
1.16	Handling cost for 1.3 to 1.10 above	%	R 1 655 000.00	—	R
FORWARD TO SUMMARY OF SCHEDULES					R

Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
2		SECTION 2: SITE CLEARANCE AND BULK EARTHWORKS				
2.1	SANS 1200 C	SITE CLEARANCE				
2.1.1	8.2.1	Clear site	ha	2.0	R	R
2.1.2		Remove topsoil, as designated by Engineer, to nominal depth of 100mm and stockpile	m³	1000	R	R
2.1.3	PSC3	Cutting, stockpiling, drying and burning of vegetation from sludge lagoons	m²	7300	R	R
2.2	SABS 1200 D	EARTHWORKS				
	PCS 2	Bulk earthworks for Structures				
	8.3.2 (a)	Excavate and trim in all materials to the level of blinding layer and spread and compact on site at designated area, unsuitable or excess backfill material from:				
2.2.1		Cut to stockpile	m³	1000	R	R
2.2.2		Cut to fill	m³	11000	R	R
2.2.3		Cut to spoil	m³	6600	R	R
		Extra over Items 2.2.1 to 2.2.3 for excavation in:				
2.2.4		Intermediate material	m³	10000	R	R
2.2.5		Hard Rock material	m³	4000	R	R
	PCS1	Exporatory Holes				
		Excavate exploratory holes in soft material to determine existing services:				
2.2.7		0 - 2m deep	No	6	R	R
2.2.8		2 - 4m deep	No	3	R	R
2.2.9		Backfilling and compaction of exploratory holes	m³	40	R	R
2.3	PCS 3	PREPARATION OF SLUDGE LAGOON				
		Remove sludge from Lagoon to sludge drying beds:				
2.3.1		Supply pump, generator and flexible hosing	Sum	1	R	R
2.3.2		Pump liquid sludge	hours	6	R	R
2.3.3		Remove by machines	m³	400	R	R
2.4		Miscellenous Items				
2.4.1		Provision Sum for the cost of removing certain trees, shrubs or bulbs, conserving them (established on site for this purposes or elsewhere) and replant them upon	Prov Sum	1	R	35 000.00 R 35 000.00
2.4.2		Site Landcapping and grassing (Implemented per instruction by the Engineer)	Prov Sum	1	R	300 000.00 R 300 000.00
2.43		Handling cost by contractor on item 2.4.1 and 2.4.2 above	%	—		
TOTAL SECTION 2 CARRIED FORWARD TO SUMMARY						
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
3		SECTION 3: NEW INLET WORKS				
3.1	SABS 1200 D	EARTHWORKS				
		Restricted Excavation				
3.1.1		Excavate and trim in all material and place at stockpile on site for reuse or backfill lagoon as specified	m³	130	R	R
	8.3.2(b)	Extra -over item 3.1.1:				
3.1.2		Intermediate material	m³	20	R	R
3.1.3		Hard Rock material	m³	5	R	R
		Restricted Backfill				
3.1.4		Extra over items 3.1.2 and 3.1.3 for backfill with material from stockpile	m³	40	R	R
3.1.5		Extra over items 3.1.2 and 3.1.3 for backfill and compaction in lagoon	m³	90	R	R

3.2	SANS 1200G	CONCRETE (Structural)						
3.2.1	8.4.2	Blinding layer 50mm thick in 15 Mpa/19 mm concrete	m ²	180	R		R	
3.2.2		Walkway around inlet works in 15Mpa/19mm concrete	m ³	65	R		R	
3.2.3		20mm (1:4) Cement mortar screed	m ²	2	R		R	
	8.4.3	Strength concrete : 20 Mpa/19mm						
3.2.4		Slab for screenings screw press, grit classifier, skips	m ³	12	R		R	
	8.4.3	Strength concrete : 35 Mpa/19mm						
3.2.5		Floor slab	m ³	115	R		R	
3.2.6		Walls	m ³	45	R		R	
3.2.7		Columns and footings	m ³	9	R		R	
3.2.8		Mass Concrete : 15 Mpa/19mm	m ³	1	R		R	
3.3	8.1.1	FORMWORK						
		Rough						
3.3.1	8.2.1	Walls below ground level, vertical plane	m ²	65	R		R	
TOTAL CARRIED FORWARD TO NEXT PAGE							R	-
Item No	Payment Ref	Description	Unit		Rate		Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE							R	-
3.3.2		Horizontal narrow widths up to 250mm wide	m ²	5	R		R	
3.3.3		Vertical curved: radii between 700 and 2515mm.	m ²	24	R		R	
		Smooth						
3.3.4	8.2.2	Vertical plane to walls	m ²	170	R		R	
3.3.5		Vertical curved; radii between 950-1050mm	m ²	38	R		R	
3.3.6		Conical:Radii between 150 and 1215mm	m ²	2	R		R	
3.3.7		Soffits of walkways	m ²	12	R		R	
3.3.8		Column sides for shelter roof	m ²	65	R		R	
3.3.9		Vertical narrow widths up to 200mm wide	m	21	R		R	
3.4	8.2.6	BOX OUT HOLES / FORM VOIDS						
		Circular up to 1,0m diameter for depth over and up to :						
3.4.1		0m to 0.3m	No	3	R		R	
3.4.2		Circular up to 100mm diameter for depths up to 250mm	No	2	R		R	
3.5		REINFORCEMENT						
3.5.1	8.1.2	Mild steel bars 10mm diameter	t	1	R		R	
3.5.2	8.3.1	High-tensile steel bars 10 - 32mm diameter	t	17	R		R	
3.5.3		Mesh Ref 245 in slab for screenings ,skips etc	m ²	83	R		R	
3.6	8.4.4	UNFORMED SURFACE FINISHES						
		Wood-floated finish						
3.6.1		Top of channel walls	m ²	38	R		R	
3.6.2		Top of walkways	m ²	90	R		R	
		Steel-floated finish						
3.6.3		Floors of channel and top of screeds	m ²	77	R		R	
3.6.4		Create 45° degree overflow weirs	m ²	10	R		R	
3.7	8.3.1	GROUTING						
3.7.1		Puddle flanges IW1 and IW2	No	2	R		R	
TOTAL CARRIED FORWARD TO NEXT PAGE							R	-
Item No	Payment Ref	Description	Unit		Rate		Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE							R	-
3.8		PIPEWORK						
3.8.1		Schedule IW1	No	1	R		R	

3.8.2		Schedule IW2	No	1	R	R
3.9	SANS 1200 HA	STRUCTURAL STEELWORK (Small Works)				
3.9.1		Handrailings as specified complete with stainless steel holding down bolts	m	26	R	R
3.9.2		Provisional sum for a shelter over the screenings area, rest room and storage building and lime storage and dosage building . PS columns measured under concrete	Prov. sum	1		250 000.00 R 250 000.00
3.9.3		Handling cost on item 3.9.2 above	%	15%		R
3.10		JOINTS				
3.10.1		Type 2: Horizontal expansion joint	m	4	R	R
3.10.2		Type 4: Vertical joint	m	4	R	R
3.11		MISCELLANEOUS				
3.11.1		Allow a provisional sum for small items omitted from this section	P.Sum	1	R	30 000.00 R 30 000.00
3.11.2		Watertightness testing	Sum	1	R	R
3.11.3		Venturi flumes with 270mm throat width	No	2	R	R
3.11.4		Temporary Works: Protection of existing structures, pipelines until completion, to enable operation of the existing Inlet Works (per instruction issued by the Engineer)	Prov Sum	1	R	250 000.00 R 250 000.00
TOTAL SECTION 3 CARRIED FORWARD TO SUMMARY						
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
4		<u>SECTION 4: 8ML BIOLOGICAL REACTOR</u>				
4.1	SABS 1200 D	EARTHWORKS				
		Restricted Excavation				
4.1.1		Excavate and trim in all material and place at stockpile on site for reuse or spread excess unused material on site	m³	960	R	R
	8.3.2(b)	Extra -over item 4.1.1 for:				
4.1.2		Intermediate material	m³	470	R	R
4.1.3		Hard Rock material	m³	150	R	R
		Restricted Backfill				
4.1.4		Extra over item 4.1.1 for backfill with material from stockpile	m³	960	R	R
4.2	SANS 1200G	CONCRETE (Structural)				
4.2.1	8.4.2	Blinding layer 50mm thick in 15 Mpa/19 mm concrete	m²	380	R	R
4.2.2		No fines concrete: 15Mpa/19mm	m³	216	R	R
	8.4.3	Strength concrete : 35 Mpa/19mm				
4.2.3		Floor slab	m³	430	R	R
4.2.4		Walls and footings	m³	650	R	R
4.2.5		Columns	m³	9	R	R
4.2.6		Pump and Division Boxes and Elevated Channels	m³	39	R	R

4.2.7		Elevated platforms, walkways and staircases	m³	85	R	R
4.2.8		Mass Concrete : 15 Mpa/19mm	m³	2	R	R
4.3	8.1.1	FORMWORK				
		Rough				
	8.2.1	Curved Walls and footings below ground at radii of between:				
4.3.1		13,2m and 28,4m	m²	2675	R	R
TOTAL CARRIED FORWARD TO NEXT PAGE						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R
4.3.2	8.2.1	Vertical Wall and footings below ground level, vertical	m²	55	R	R
4.3.3		Horizontal narrow widths up to 200mm wide:				
4.3.4		In expansion joints - Vertical plane	m²	60	R	R
4.3.5		In expansion joints - Radii between 6m and 20,8m	m²	140	R	R
		Smooth				
4.3.6		Vertical at radius of 0,15m for columns	m²	9	R	R
4.3.7		Vertical at radii of between 13,5m and 28,1m	m²	2300	R	R
4.3.8	8.2.2	Vertical plane to walls over 350mm wide	m²	780	R	R
4.3.9		Inclined formwork to underside of staircases	m²	12	R	R
4.3.10		Soffits of walkways and platforms	m²	265	R	R
4.3.11		Vertical narrow widths up to 350mm wide	m	180	R	R
4.4	8.2.6	BOX OUT HOLES / FORM VOIDS				
4.4.1		Small, circular up to 400mm diameter for depth up to 350mm for aerators and stirrers	No	9	R	R
4.4.2		Small, circular up to 600mm diameter for depth up to 350mm for manholes in platforms	No	5	R	R
4.4.3		Small, circular up to 1m diameter for depth up to 250mm for ND600 pipes	No	1	R	R
4.4.4		Small, circular up to 800mm diameter for depth up to 300mm for ND500 pipes	No	1	R	R
4.4.5		Small, circular up to 700mm diameter for depth up to 250mm for 400NB pipes	No	2	R	R
4.4.6		Small, circular up to 500mm diameter for depth up to 250mm for 80 to ND300 pipes	No	2	R	R
4.4.7		Small square pockets up to 150x250mm for 200mm depth	No	20	R	R
4.5		REINFORCEMENT				
4.5.1	8.3.1	High-tensile steel bars 10 - 32mm diameter	t	290	R	R
4.6	8.4.4	UNFORMED SURFACE FINISHES				
TOTAL CARRIED FORWARD TO NEXT PAGE						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R
		Wood-floated finish				
4.6.1		Top of walls	m²	100	R	R
4.6.2		Top of walkways, platforms and steps	m²	245	R	R
		Steel-floated finish				
4.6.3		Form overflow weirs to specified tolerances	m	25	R	R
4.7	8.3.1	GROUTING				
4.7.1		300mm diameter puddle pipe: No BR1	No	2	R	R
4.7.2		300mm diameter puddle pipe: No BR3	No	2	R	R
4.7.3		400mm diameter puddle pipe: No BC1	No	2	R	R

4.7.4		500mm diameter puddle pipe : No BI1	No	1	R	R	
4.8		PIPEWORK					
4.8.1		Schedule BI1	No	1	R	R	
4.8.2		Schedule BI2	No	1	R	R	
4.8.3		Schedule BC1	No	2	R	R	
4.8.4		Schedule BC2	No	2	R	R	
4.8.5		Schedule BC3	No	2	R	R	
4.8.6		Schedule BC4	No	2	R	R	
4.8.7		Schedule BR1	No	2	R	R	
4.8.8		Schedule BR2	No	2	R	R	
4.8.9		Schedule BR3	No	2	R	R	
4.8.10		Schedule BR4	No	2	R	R	
4.8.11		Schedule BR5	No	2	R	R	
4.9	SANS 1200 HA	STRUCTURAL STEELWORK (Small Works)					
4.9.1		Handrailing, hot dipped galvanised, complete with stainless steel HD bolts.	m	261	R	R	
TOTAL CARRIED FORWARD TO NEXT PAGE						R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R	-
4.10		JOINTS					
4.10.1		Type 2: Floor to walls expansion joints	m	520	R	R	
4.10.2		Type 3: Contraction joints in floors	m	340	R	R	
4.11		MISCELLANEOUS					
4.11.1		Allow a provisional sum for small items omitted from this section(Implemented per instruction issued by the Engineer)	P.Sum	1	400 000.00	R	400 000.00
4.11.2		Watertightness testing	Sum	1		R	
4.11.3		Provisional amount ffor bearing pads under bridge supports(Implemented per instruction issued by the Engineer)	Psum	1	650 000.00	R	650 000.00
4.11.4		75mm Diameter HDPe pipe for cable conduit with wire, placed into position	m	180	R	R	
4.12		SUB-SOIL DRAINAGE					
4.12.1		uPVC non-perforated pipes, 110mm diameter, in Class C bedding	m	315	R	R	
4.12.2		110mm Diameter Y-coupling	No	7	R	R	

TOTAL CARRIED FORWARD TO SUMMARY						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
5		SECTION 5: CLARIFIERS 2 x 26m diameter				
5.1	SABS 1200 D	EARTHWORKS				
		Restricted Excavation				
5.1.1		Excavate and trim in all material and place at stockpile on site for reuse and spread excess unused material on site or unused ponds	m³	1350	R	R
	8.3.2(b)	Extra -over item 5.1.1 for				
5.1.2		Intermediate material	m³	1500	R	R
5.1.3		Hard Rock material	m³	700	R	R
		Restricted Backfill				
5.1.4		Extra over item 5.1.1 for backfill with material from stockpile	m³	730	R	R
	SABS 1200 G	CONCRETE (Structural)				
5.2	8.1.3	CONCRETE				
5.2.1	8.4.2	Blinding layer 50mm thick in 15 Mpa/19mm concrete	m²	1182	R	R
5.2.2		No fines concrete : 15 MPa/19mm	m³	100	R	R
5.2.3		Mass concrete: 20 MPa/19mm	m³	1	R	R
	8.4.3	Strength concrete : 35 Mpa/19mm				
5.2.4	PSG3.4.4	Wall footings and centre column footing	m³	115	R	R
5.2.5		Centre Column	m³	4.5	R	R
5.2.6		Walls and effluent launder	m³	272	R	R
5.2.7		Floors	m³	206	R	R
5.2.8		Outlet boxes	m³	6.5	R	R
5.2.9		50mm (1:4) Cement mortar screed with steelfloat, shaped with mechanical scrapers	m²	1026	R	R
5.2.10		Varying depth (1:4) cement mortar screed in channel and outlet box finished with steelfloat	m³	10	R	R
TOTAL CARRIED FORWARD TO NEXT PAGE						R
						-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R
						-
5.3	8.1.1	FORMWORK				
		Rough				
	8.2.1	Walls below ground at radii of between:				
5.3.1		25,3m and 27,3m	m²	751	R	R
5.3.2		7.78m (circular expansion joint in floor)	m²	20	R	R
5.3.3		2.7m (center column footing)	m²	71	R	R
5.3.4		Vertical Wall below ground level for box	m²	17	R	R
5.3.5		In expansion joints - Vertical plane	m²	102	R	R
		Smooth				
5.3.6		Vertical at radii of between 0.45m and 0.7m for column	m²	32	R	R
5.3.7		Vertical at radii of between 12.25m and 13.3m (wall and effluent launder)	m²	1026	R	R
5.3.8		Walls vertical plane (boxes)	m²	28	R	R
5.3.9		Soffit to channel (effluent launder) and box	m²	123	R	R
5.3.10		Conical for centre sludge accumulation sump	m²	47	R	R
5.3.11		Conical for centre column head	m²	2	R	R
5.4	8.2.6	BOX OUT HOLES/FORM VOIDS				

5.4.1		Box out holes/form voids, large, other shapes, area 0.1 - 0.36m ² for depths over and up to 0m - 0.25m	No	20	R	R	
5.5		REINFORCEMENT					
5.5.1	8.1.2	Mild steel bars 10mm diameter	t	4	R	R	
5.5.2	8.3.1	High-tensile steel bars 10 - 32mm diameter	t	166	R	R	
5.6	8.4.4	UNFORMED SURFACE FINISHES					
		Wood floated finish					
5.6.1		To top of walls	m ²	52	R	R	
		Steel floated finish					
TOTAL CARRIED FORWARD TO NEXT PAGE						R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R	-
5.6.2		To top of screeds in outlet boxes and overflow channel	m ²	100	R	R	
5.6.3		Special finish to top of overflow weir	m	156	R	R	
5.7	8.5	JOINTS					
5.7.1		Type 3: Floor expansion joint	m	310	R	R	
5.7.2		Types 2 : Wall/floor contraction joint	m	196	R	R	
5.7.3		Cancelled	m				
5.8	8.3.1	GROUTING					
		Grout in (Pipe supply measured elsewhere):					
5.8.1		300NB pipe (CR3)	No	2	R	R	
5.8.2		400NB pipe (CF2, CF3, CF4)	No	2	R	R	
5.8.3		Cancelled	No	0			
5.9		STEEL PIPEWORK					
		Supply steel in-and outlet pipes and specials					
5.9.1		Schedule CF1	No	0			
5.9.2		Schedule CF2	No	2	R	R	
5.9.3		Schedule CF3	No	2	R	R	
5.9.4		Schedule CF4	No	2	R	R	
5.9.5		Schedule CF5	No	2	R	R	
5.9.6		Schedule CF6	No	2	R	R	
5.9.7		Schedule CF7	No	2	R	R	
5.9.8		Schedule CR1	No	2	R	R	
5.9.9		Schedule CR2	No	2	R	R	
5.9.10		Schedule CR3	No	4	R	R	
5.9.11		Schedule CR4	No	2	R	R	
5.9.12		Schedule CR5	No	2	R	R	
TOTAL CARRIED FORWARD TO NEXT PAGE						R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R	-
5.10		CABLE CONDUIT					
5.10.1		75mm Diameter HDPe pipe for cable conduit with wire, placed into position	m	45	R	R	
5.11		SUB-SOIL DRAINAGE					
5.11.1		ND100 pipe	m	32	R	R	
5.12		MISCELLANEOUS					
5.12.1		Allows a provisional sum for small items omitted from this section(Implemented per instruction issued by the Engineer)	Prov Sum	1	500 000.00	R	500 000.00

5.12.2		Watertightness testing of units	Sum	1	R	R	
5.12.3		Temporary Work: Protection of existing structures, pipelines until completion and enable the operation of the existing Works (Implemented per instruction issued by the Engineer)	Prov Sum	1	R	300 000.00	R 300 000.00
TOTAL CARRIED FORWARD TO SUMMARY						R	800 000.00
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
6		<u>SECTION 6: NEW CHLORINE CONTACT CHANNELS</u>					
6.1	SABS 1200 D	EARTHWORKS					
		Restricted Excavation					
6.1.1		Excavate and trim in all material and place at stockpile on site	m³	750	R	R	
	8.3.2(b)	Extra -over item 6.1.1					
6.1.2		Intermediate material	m³	300	R	R	
6.1.3		Hard Rock material	m³	30	R	R	
		Restricted Backfill					
6.1.4		Extra over item 6.1.1 for backfill and compaction with material from stockpile	m³	161	R	R	
6.2	SANS 1200G	CONCRETE (Structural)					
6.2.1	8.4.2	Blinding layer 50mm thick in 15 Mpa/19 mm concrete	m²	283	R	R	
6.2.2		20mm (1:4) Cement mortar screed	m²	1	R	R	
	8.4.3	Strength concrete : 35 Mpa/19mm					
6.2.3		Floor slab	m³	57	R	R	
6.2.4		Walls	m³	85	R	R	
6.2.5		Mass Concrete : 15 Mpa/19mm	m³	1	R	R	
6.3	8.1.1	FORMWORK					
		Rough					
6.3.1	8.2.1	Walls below ground level, vertical	m²	148	R	R	
6.3.2		In expansion joints up to 200 mm wide	m	50	R	R	
		Smooth					
6.3.3	8.2.2	Vertical plane to walls	m²	620	R	R	
6.3.4		Vertical narrow widths up to 200mm wide	m	15	R	R	
6.3.5		Special finish to overflow weir	m	1.5	R	R	

6.4	8.2.6	BOX OUT HOLES / FORM VOIDS					
TOTAL CARRIED FORWARD TO NEXT PAGE						R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R	-
6.4.1		Small, circular up to 1m diameter for depth over and up to 0m to 0.25m	No	3	R	R	
6.5		REINFORCEMENT					
6.5.1	8.1.2	Mild steel bars 10mm diameter	t	1	R	R	
6.5.2	8.3.1	High-tensile steel bars 10 - 32mm diameter	t	26	R	R	
6.6	8.4.4	UNFORMED SURFACE FINISHES					
		Wood-floated finish					
6.6.1		Top of walls	m ²	45	R	R	
		Steel-floated finish					
6.6.2		Floors	m ²	241	R	R	
6.6.3		Special finish to top of overflow weir	m	1.5	R	R	
6.7	8.3.1	GROUTING					
6.7.1		525mm diameter concrete pipe	No	1	R	R	
6.7.2		600mm diameter concrete pipe	No	1	R	R	
6.7.3		300mm diameter concrete pipe	No	1	R	R	
6.8		JOINTS					
6.8.1		Types 4: Expansion joints in wall	m	15	R	R	
6.8.2		Type 2: Construction joints in floor	m	50	R	R	
6.9		MISCELLANEOUS					
6.9.1		Allow a provisional sum for small items omitted from this section(Implemented per instruction issued by the Engineer)	P.Sum	1	R	R	
6.9.2		Temporary Work: Allow for temporary chlorine dosage system during the change-over and enable the operation of the existing Works (Implemented per instruction issued by the Engineer)	Prov Sum	1	R	R	
6.10	SANS 1200 HA	STRUCTURAL STEELWORK (Small Works)					
6.10.1		Handrailing, hot dipped galvanised, complete with stainless steel HD bolts.	m	67	R	R	
6	TOTAL CARRIED FORWARD TO SUMMARY					R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
7		SECTION 7: SLUDGE DRYING BEDS					
7.1	SABS 1200 D	EARTHWORKS					
		Restricted Excavation					
7.1.1		Excavate and trim in all material and place at stockpile on site for reuse and spread excess unused material on site or unused ponds	m ³	200	R	R	
		Restricted Backfill					
7.1.2		Extra over item 7.1.1 for backfill with material from stockpile	m ³	40	R	R	
7.2	SABS 1200 G	CONCRETE					
	8.1.3	25/19mm Concrete in:					
7.2.1		Floors	m ³	2700	R	R	
7.2.2		Splash slabs	m ³	50	R	R	
7.3	PSG5.1	REINFORCEMENT					
7.3.1		High tensile welded mesh reinforcement ref 395 in standard sheets	m ²	19200	R	R	

7.4	8.4.4	UNFORMED SURFACE FINISHES				
7.4.1		Steel floated finish to floors	m ²	17400	R	R
7.4.2		Wood floated finish to top of splash slabs	m ²	52	R	R
7.5		BRICKWORK				
		Supply, cut, fit and build brickwork in 14 MPa cement in 10,5 MPa cement mortar				
		Face brick/Plaster brick				
7.5.1		One brick wall inner and outer face face brick	m ²	736	R	R
7.5.2		Brick-on-edge on top of walls	m	1840	R	R
7.6		SUNDRIES				
7.6.1		Plastic sheets under floor: 250 micron USB Green	m ²	18000	R	R
TOTAL CARRIED FORWARD TO NEXT PAGE						R -
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R -
7.7		STEEL PIPEWORK				
		Supply steel pipes and specials:				
7.7.1		Schedule W1	No	86	R	R
7.7.2		Schedule W2	No	86	R	R
7.7.3		Schedule W3	No	88	R	R
7.7.4		Schedule W4	No	86	R	R
7.7.5		Schedule W5	No	172	R	R
7.7.6		Schedule W6	No	86	R	R
7.7.7		Schedule W7	No	86	R	R
TOTAL CARRIED FORWARD TO SUMMARY						R -
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
8		SECTION 8: WAS PUMP STATION				
8.1	SABS 1200 D	EARTHWORKS				
		Restricted Excavation				
8.1.1		Excavate and trim in all material and place at stockpile on site	m ³	4	R	R
	8.3.2(b)	Extra -over item 8.1.1				
8.1.2		Intermediate material	m ³	1	R	R

8.1.3		Hard Rock material	m³	0			
		Restricted Backfill					
8.1.4		Extra over item 8.1.1 for backfill and compaction with material from stockpile	m³	2	R		R
8.2	SANS 1200G	CONCRETE (Structural)					
8.2.1	8.4.2	Blinding layer 50mm thick in 15 Mpa/19 mm concrete	m²	21	R		R
	8.4.3	Strength concrete : 25 Mpa/19mm					
8.2.2		Floor slab	m³	5.5	R		R
8.2.3		Mass Concrete : 15 Mpa/19mm	m³	1	R		R
8.3	8.1.1	FORMWORK					
		Smooth					
8.3.1	8.2.2	Vertical narrow widths up to 250mm wide	m	15	R		R
8.4	8.2.6	BOX OUT HOLES / FORM VOIDS					
8.4.1		Small, circular up to 300mm diameter for depth over and up to 0m to 0.25m	No	2	R		R
8.4.2		Allowance for manhole cover (1m diameter max)	No	1	R		R
8.5		REINFORCEMENT					
8.5.1	8.3.2	High-tensile welded mesh reinforcement-Type reference 245 in standard sheets	m²	21	R		R
8.6		MISCELLANEOUS					
8.6.1		Provisional allowance for items omitted from this section	P Sum	1		50 000.00	R 50 000.00
TOTAL SECTION 8 CARRIED FORWARD TO SUMMARY							R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
9		SECTION 9: NEW CHLORINE STORAGE AND DOSAGE BUILDING					
9.1		EARTHWORKS					
9.1.1	8.3.3(a)	Restricted excavation in all materials and use excavated material to backfill or dispose within freehaul distance					
		a) Strip footings for brick walls	m³	16	R	R	
		b) Column footings	m³	0			
		c) Cable trench foundations	m³	0			
		d) Under surface beds	m³	6	R	R	
9.1.2		Backfilling in 150mm layers to 98 % MOD AASHTO min					
		a) From material stockpiled on site	m³	19	R	R	
		b) From commercial sources or from borrow pits	m³	1	R	R	
9.2	SABS 1200 G	CONCRETE (STRUCTURAL)					
9.2.1		Concrete: 15 Mpa					
		a) Apron and ramp	m³	10	R	R	
9.2.2	8.4.2	Foundations: 20 MPa/19 mm concrete					
		a) Strip footings for brick walls	m³	4	R	R	
9.2.2		Strength concrete: 25 MPa/19mm					
		a) Surface bed	m³	3	R	R	
		b) Roof Slab	m³	4	R	R	
9.2.3	8.1.1	Formwork - Smooth					
		b) Soffit of roof slab	m²	20	R	R	
9.2.4	8.1.1	Formwork - Rough					
		a) Narrow widths for sides of column and cable trench	m²	2	R	R	
9.2.5	8.1.2	Reinforcement					
		a) High tensile steel bars not greater than 20 mm dia.	t	0.5	R	R	

	8.3.2	b) High-tensile welded mesh reinforcement-Type reference 245 in standard sheets	m ²	20	R	R
TOTAL CARRIED FORWARD TO NEXT PAGE						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R
9.3		BRICKWORK				
9.3.1		Brick Walls 220 mm facebrick outside	m ²	60	R	R
9.3.2		Brick Walls 220 mm both sides plaster brick	m ²	11	R	R
9.4		GENERAL BUILDING WORK				
9.4.1		Supply and form 20 mm thick screed to floors of building including power float finish	m ²	18	R	R
9.4.2		Supply and build in "Brickforce" brick reinforcing over openings in 270mm thick walls	m ²	6	R	R
9.4.4		Supply and install wooden doors with frames:				
		a) Type D1 as per drawing	No	1	R	R
		b) Type D2 as per drawing	No	1	R	R
9.4.5		Supply and install Winblok windows as per Drawing				
		a) Type W1	No	1	R	R
		b) Type W2	No	1	R	R
9.4.6		Supply and apply cement Plaster in single coat minimum 12mm thick to internal faces of brickwork and finishing with steel trowel	m ²	54	R	R
9.4.7		Supply and install 375µm embossed steeped DPC	m ²	24	R	R
9.5		RAINWATER GOODS				
9.5.1		125 x 100mm Chromadeck gutter	m	12	R	R
9.5.2		75mm diameter Chromadeck downpipes including bends and discharge shoes	m	4	R	R
9.6		ROOFS AND FIRE PROTECTION				
9.6.1		Supply and install prefabricated engineered timber roof trusses, including wall plates and necessary submission of inspection certificates, complete for the building as per drawings	sum	1	R	R
TOTAL CARRIED FORWARD TO NEXT PAGE						R
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R
9.6.2		Supply and install FR420 Sisalation aluminium foil insulation as specified on drawing	m ²	23	R	R
9.6.3		Supply and install Superseal 500 roof sheeting on 75/50mm SAP purlins on SAP gangnail trusses on 67 x 38mm wallplate	m ²	45	R	R
9.6.4		Fire Protection: Supply and install complete with Backing boards and signage, 4.5kg Portable Fire Extinguishers	No	2	R	R
9.7		PAINTING AND PIPEWORK				
9.7.1		All exposed internal plaster wall surfaces to be coated 1x Plascon plaster primer followed by 2x Plascon Velvagro polyurethane enamel (or similar approved) applied strictly in accordance with the manufacturer's instructions	m ²	54	R	R
9.8		MISCELLANEOUS				
9.8.1		Provisional sum for items omitted from this section (Implemented per instruction issued by the Engineer)	P sum	1	300 000.00	R 300 000.00

TOTAL SECTION 9 CARRIED FORWARD TO SUMMARY						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
10		SECTION 10: NEW MCC AND GENERATOR BUILDING				
10.1		EARTHWORKS				
10.1.1	8.3.3(a)	Restricted excavation in all materials and stockpile on site and dispose of excess material in sludge lagoon:				
		a) Strip footings for brick walls	m³	22	R	R
		b) Column footings	m³	15	R	R
		c) Cable trench foundations	m³	27	R	R
		d) Under surface beds	m³	17	R	R
10.1.2		Backfilling in 150mm layers to 98 % MOD AASHTO min density under surface beds and cable trench fillings				
		a) From material stockpiled on site	m³	45	R	R
		b) From commercial sources or from borrow pits	m³	1	R	R
10.2	SABS 1200 G	CONCRETE (STRUCTURAL)				
	8.1.3					
10.2.1	8.4.2	Foundations:15 MPa/19 mm concrete				
		a) Strip footings for brick walls	m³	7	R	R
10.2.2		Strength concrete: 25 MPa/19mm				
		a) Surface bed and ramps	m³	8.5	R	R
		b) Column footings and columns	m³	5	R	R
		c) Staircase	m³	3	R	R
		d) Beams	m³	2.5	R	R
		f) Suspended Slab	m³	13	R	R
10.2.3	8.1.1	Formwork - Smooth				
	8.2.5	a) Vertical smooth for sides of beams and columns	m²	60	R	R
		b) Soffit of roof slab	m²	52	R	R
		c) Soffits of beams	m²	11	R	R
		d) Soffit of staircase	m²	9	R	R
TOTAL CARRIED FORWARD TO NEXT PAGE						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R
		e) Narrow widths for sides of staircase	m²	4	R	R

10.2.4	8.1.1	Formwork - Rough a) Narrow widths for sides of column and cable trench footings up to 250mm wide	m²	13	R	R	
10.2.5	8.1.2	Reinforcement a) High tensile steel bars not greater than 20 mm dia.	t	2.7	R	R	
	8.3.2	b) High-tensile welded mesh reinforcement-Type reference 245 in standard sheets	m²	63	R	R	
10.3		BRICKWORK					
10.3.1		Brick Walls 220 mm facebrick outside	m²	160	R	R	
10.3.2		Brick Walls 220 mm both sides plaster brick	m²	55	R	R	
10.3.3		Brick walls 110mm single plaster brick	m²	14	R	R	
10.4		GENERAL BUILDING WORK					
10.4.1		Supply and form 20 mm thick screed to floors of building including power float finish	m²	98	R	R	
10.4.2		Supply and build in "Brickforce" brick reinforcing over openings in 270mm thick walls	m²	5	R	R	
10.4.3		Supply and install steel frame windows with 3mm glazing: Ref: C22H	No	2	R	R	
10.4.4		Supply and install transformer styl doors in steel frames a) D2:1524mm wide x 2438mm high double steel doors with louvres in bottom half b) D3: Single 813mm wide x 2032mm high single steel door.	No	1	R	R	
			No	1	R	R	
10.4.5		Supply and apply cement Plaster in single coat minimum 12mm thick to internal faces of brickwork and finishing with steel trowel	m²	186	R	R	
10.4.6		Waterproof plaster to internal and external faces of cable trenches	m²	55	R	R	
10.4.7		Supply and install 375µm embossed steeped DPC	m²	55	R	R	
TOTAL CARRIED FORWARD TO NEXT PAGE						R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R	-
10.5		RAINWATER GOODS					
10.5.1		125 x 100mm Chromadeck gutter	m	17	R	R	
10.5.2		75mm diameter Chromadeck downpipes including bends and discharge shoes	m	12	R	R	
10.6		ROOFS AND FIRE PROTECTION					
10.6.1		Supply and install prefabricated engineered timber roof trusses, including wall plates and necessary submission of inspection certificates, complete for the building as per drawings	sum	1	R	R	
10.6.2		Supply and install FR430 Sisalation aluminium foil insulation as specified on drawing	m²	65	R	R	
10.6.3		Supply and install superseal 500 roof sheeting on 75/50mm SAP purlins on SAP gangnail trusses on 76/38mm wall plate	m²	65	R	R	
10.6.4		Supply and install 225x10mm FC (Nutec) fascia board	m	30	R	R	
10.6.5		Fire Protection: Supply and install complete with Backing boards and signage, 4.5kg Portable Fire Extinguishers	No	2	R	R	
10.7		PAINTING AND PIPEWORK					
10.7.1		All exposed internal plastered wall surfaces to be coated 1x Plascon plaster primer followed by 2x Plascon Velvagro polyurethane enamel (or similar approved) applied strictly in accordance with the manufacturer's instruction	m²	186	R	R	

10.8		STEELWORK					
10.8.1		Supply and install galvanized handrailings as specified	m	21	R	R	
10.9		MISCELLANEOUS					
10.9.1		Provisional sum for items omitted from this section (Implemented per instruction issued by the Engineer)	P sum	1		100 000.00 R	100 000.00
10.9.2		Provisional sum for sealing deck area and surface finish as instructed on site	P sum	1		75 000.00 R	75 000.00
TOTAL SECTION 10 CARRIED FORWARD TO SUMMARY						R	
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
11		SECTION 11: REST ROOM AND STORAGE BUILDING AND LIME DOSING BUILDING AT INLET WORKS					
		REST ROOM AND STORAGE BUILDING <u>Note that concrete columns, footings, ramp and roof has been measured under Inlet Works</u>					
11.1		EARTHWORKS					
11.1.1	8.3.3(a)	Restricted excavation in all materials and use excavated material to backfill or dispose within freehaul distance					
		a) Strip footings for brick walls	m³	15	R	R	
		d) Under surface beds	m³	6	R	R	
11.1.2		Backfilling in 150mm layers to 98 % MOD AASHTO min					
		a) From material stockpiled on site	m³	11	R	R	
		b) From commercial sources or from borrow pits	m³	5	R	R	
11.2	SABS 1200 G	CONCRETE (STRUCTURAL)					
11.2.1	8.4.2	Foundations: 20 MPa/19 mm concrete					
		a) Strip footings for brick walls	m³	4	R	R	
11.2.2		Strength concrete: 25 MPa/19mm					
		a) Surface bed	m³	3	R	R	
11.2.3	8.1.2	Reinforcement					
	8.3.2	a) High-tensile welded mesh reinforcement-Type reference 245 in standard sheets	m²	19	R	R	
11.3		BRICKWORK					
11.3.1		Brick Walls 220 mm facebrick outside	m²	75	R	R	
11.3.2		Brick Walls 220 mm both sides plaster brick	m²	7	R	R	
11.3.3		Brick Walls 110mm plaster brick	m²	13	R	R	
11.4		GENERAL BUILDING WORK					
11.4.1		Supply and form 20 mm thick screed to floors of building including power float finish	m²	19	R	R	
11.4.2		Supply and build in "Brickforce" brick reinforcing over openings in 270mm thick walls	m²	2	R	R	
TOTAL CARRIED FORWARD TO NEXT PAGE						R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R	-
11.4.3		Supply and install wooden doors with frames:					
		a) Type D1 as per drawing	No	2	R	R	
		b) Type D2 as per drawing	No	1	R	R	
11.4.4		Supply and instasteel frame windows as per Drawing with 3mm glazing					
		a) Type W2	No	1	R	R	
		b) Type W3	No	1	R	R	
		c) Type W4	No	1	R	R	

		d) Type W5	No	1	R	R	
11.4.5		Supply and apply cement Plaster in single coat minimum 12mm thick to internal faces of brickwork and finishing with steel trowel	m ²	100	R	R	
11.4.6		Supply and install 375µm embossed steeped DPC	m ²	19	R	R	
11.5		PAINTING AND PIPEWORK					
11.5.1		All exposed internal plastered wall surfaces to be coated 1x Plascon plaster primer followed by 2x Plascon Velvagio polyurethane enamel (or similar approved) applied strictly in accordance with the manufacturer's instructions	m ²	100	R	R	
11.6		MISCELLANEOUS					
11.6.1		Provisional sum for items omitted from this section (Implemented per instruction issued by the Engineer)	Prov sum	1		150 000.00 R	150 000.00
11.7		LIME STORAGE AND DOSAGE BUILDING					
11.7.1		Allow a provisional sum for this building	Prov sum	1		300 000.00 R	300 000.00
TOTAL SECTION 11 CARRIED FORWARD TO SUMMARY							
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
SECTION 12: NIGHTSOIL DISPOSAL POINT							
12.1	SABS 1200 D	EARTHWORKS					
Restricted Excavation							
12.1.1		Excavate and trim in all material and place at stockpile on site	m ³	3	R	R	
Restricted Backfill							
12.1.2		Extra over item 12.1.1 for backfill and compaction with material from stockpile	m ³	2	R	R	
12.2	SANS 1200G	CONCRETE (Structural)					
12.2.1	8.4.2	Blinding layer 50mm thick in 15 Mpa/19 mm concrete	m ²	2	R	R	
	8.4.3	Strength concrete : 25 Mpa/19mm					
12.2.2		Floor slab and walls and stairs	m ³	10	R	R	
12.2.3		Mass Concrete : 15 Mpa/19mm	m ³	1	R	R	
12.3	8.1.1	FORMWORK					
Rough							
12.3.1		Vertical plane	m ²	10	R	R	
Smooth							
12.3.2		Vertical plane	m ²	7	R	R	
12.3.3		Circular within Radius 2 of 3m	m ²	8	R	R	
12.4		REINFORCEMENT					
12.4.1	8.3.2	High-tensile welded mesh reinforcement-Type reference 245 in standard sheets	m ²	4.0	R	R	
12.5		BRICKWORK					
12.5.1		Brick Walls 220 mm both sides plaster brick	m ²	4	R	R	
12.5.2		Supply and apply cement Plaster in single coat minimum 12mm thick to internal faces of brickwork and finishing with steel trowel	m ²	4	R	R	
12.5.3		Form stairs in brickwork as per drawing	Sum				

TOTAL CARRIED FORWARD TO NEXT PAGE							R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount		
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE							R	-
12.6		MISCELLANEOUS						
12.6.1		Provisional allowance for items omitted from this section (implemented per instruction issued by the Engineer)	Prov Sum	1	R 100 000.00	R	100 000.00	
TOTAL SECTION 12 CARRIED FORWARD TO SUMMARY							R	
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount		
13		SECTION 13: INTERCONNECTING PIPEWORK						
13.1		EXCAVATION						
	8.3.2(a)	Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes: From 40 up to 200mm Diameter for total trench depth (trench width 600mm)						
13.1.1		0.0 - 1.0m	m	160	R	R		
13.1.2		1.0 - 2.0m	m	200	R	R		
		From 250mm up to 450mm diameter for total trench depth (trench width 900mm) :						
13.1.3		0.0 - 1.0m	m	20	R	R		
13.1.4		1.0 - 2.0m	m	68	R	R		
		From 525mm up to 750mm diameter for trench depth (trench width 1300mm)						
13.1.5		0.0 - 1.0m	m	80	R	R		
13.1.6		1.0 - 2.0m	m	138	R	R		
	8.3.2(b)	Extra-over items 13.1.1 to 13.1.6 incl. for:						

13.1.7		Intermediate excavation	m³	300	R	R
13.1.8		Hard rock excavation	m³	50	R	R
13.2		EXCAVATION ANCILLARIES				
13.2.1	8.3.3.3	Compaction in road reserves	m³	100	R	R
13.3	SABS 1200G	PROVISION OF BEDDING				
		Available from trench or within 2.0km freehaul				
13.3.1	8.2.1	Selected granular material	m³	67	R	R
13.3.2		Selected fill material	m³	421	R	R
13.4	SABS 1200L	MEDIUM PRESSURE PIPELINE				
		Supply, handle, lay and bed and test with uPVC couplings:				
TOTAL CARRIED FORWARD TO NEXT PAGE						R -
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R -
13.4.1		50mm diameter uPVC Class 9 (pipe 9)	m	10	R	R
13.4.2		75mm diameter uPVC Class 9 (pipe 8)	m	100	R	R
13.4.3		110mm diameter uPVC Class 9 (pipe 7)	m	225	R	R
13.4.4		375mm diameter uPVC Class 9 (pipe 3D)	m	4	R	R
13.4.5		525mm diameter uPVC Class 9 (pipe 2)	m	80	R	R
		50mm Diameter uPVC fittings:				
13.4.6		90 degree bend	No	1	R	R
		75mm Diameter uPVC fittings:				
13.4.7		90 degree bend	No	1	R	R
13.4.8		T pieces 75 x 75mm	No	6	R	R
		110mm Diameter uPVC fittings :				
13.4.9		45 degree bend	No	3	R	R
13.4.10		90 degree bend	No	1	R	R
13.4.11		110 x 110mm T-piece	No	1	R	R
		ANCILLARIES				
13.4.12	8.2.11	Anchor/thrust blocks and pedestals including class 20/19 Mpa concrete and formwork	m³	4	R	R
13.5		SEWERS				
		Supply, handle, lay and bed uPVC Class 51 sewers				
		110mm diameter (pipes 12, 13)	m	27	R	R
		Supply, handle, lay and bed and test, Spigot and Socket Concrete Class 100D sewers with rubber rings				
		300mm diameter (pipe 11D)	m	41	R	R
		525mm diameter (pipe 6)	m	80	R	R
		600mm diameter (pipes 1 and 14)	m	58	R	R
13.6		MANHOLES				
TOTAL CARRIED FORWARD TO NEXT PAGE						R -
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED FORWARD FROM PREVIOUS PAGE						R -
13.6.1		Precast 1000mm diameter concrete manhole as per drawing, complete with excavation and backfill, base, channel and concrete lid	No	2	R	R
13.6.2			No	1	R	R

13.6.3		6.0 to 7.0m (Subsoil drainage sump) Precast 1500mm diameter concrete manhole as per drawing, complete with excavation and backfill, base, channel and concrete lid	No	1	R		R
13.6.4		1.0 - 2.0m (Scum pump box)	No	1	R		R
13.7		MISCELLANEOUS					
13.7.1		Allow a provisional sum for small items omitted from this section (implemented per instruction issued by the Engineer)	P.Sum	1	R	100 000.00	R 100 000.00
TOTAL SECTION 13 CARRIED FORWARD TO SUMMARY							
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
14		SECTION 14: ROADS AND STORMWATER MANAGEMENT AND MISCELLANEOUS WORK					
14.1		Provisional sum for roads and stormwater to meet WUL conditions, Implemented as per the instructions of the Client/Engineer	Prov Sum	1	R	6 500 000.00	R 6 500 000.00
14.2		Relocation and/or protection of existing services to allow uninterrupted operation of the plant. Implemented as per the instructions of the Engineer	Prov Sum	1	R	3 000 000.00	R 3 000 000.00
14.3		Reimbursement for any other specialist work required by the Employer identified during construction	Prov Sum	1	R	3 000 000.00	R 3 000 000.00
14.4		Provisional sum for provision of a galvanised steel mobile hoist system for removal of reactor equipment	Prov Sum	1	R	500 000.00	R 500 000.00

TOTAL SECTION 14 CARRIED FORWARD TO SUMMARY						
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
15		SECTION 15: SCREENS, SCREENINGS CONVEYOR AND COMPACTOR				
15.1		MECHANICAL SCREENS <u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>				
15.1.1		Front rake screen with drive mechanism	No	2	R	R
15.1.2		Discharge chute/conveyor	No	1	R	R
15.1.3		Screenings washer/ compactor	No	1	R	R
15.2		HAND RAKED SCREENS <u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>				
15.2.1		Hand raked coarse screen	No	1	R	R
15.2.2		Hand raked fine screen in overflow channel	No	1	R	R
15.3		INSTALLATION AND COMMISSIONING				
15.3.1		Erection & installation of plant & materials supplied under items 15.1 and 15.2	Sum	1	R	R
15.3.2		Commissioning of plant & equipment supplied under items 15.1 and 15.2	Sum	1	R	R
15.3.2		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant.	Prov Sum	1	R60 000.00	R60 000.00
		Period for complete delivery of all plant and material from date of order.....weeks				
15		TOTAL CARRIED FORWARD TO SUMMARY				R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
16		SECTION 16: MECHANICAL GRIT REMOVAL				
16.1		MECHANICAL GRIT REMOVAL <u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>				
16.1.1		Grit Classifier	No	1	R	R
16.1.2		Grit removal Pumps, complete with pipework	No	2	R	R
16.2		INSTALLATION AND COMMISSIONING				
16.2.1		Erection & installation of plant & materials supplied under items 16.1	Sum	1	R	R
16.2.2		Commissioning of plant & equipment supplied under items 16.1	Sum	1	R	R

16.2.3		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant. Period for complete delivery of all plant and material from date of order.....weeks Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks	Prov Sum	1	20 000.00	R	20 000.00
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16	TOTAL CARRIED FORWARD TO SUMMARY						R	
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Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
19		<u>SECTION 19: MIXERS (STIRRERS)</u>					
19.1		MIXERS					
		<u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>					
		Vertical shaft mixers on platforms:					
19.1.1		Anaerobic Basin	No	2	R	R	
19.1.2		Anoxic Basin	No	2	R	R	
19.2		INSTALLATION AND COMMISSIONING					
19.2.1		Produce mechanical drawings for all plant supplied under items 19.1.1 to 19.1.2	Sum	1	R	R	
19.2.2		Erection & installation of plant & materials supplied under items 19.1.1 to 19.1.2	Sum	1	R	R	
19.2.3		Commissioning of plant & equipment supplied under items 19.1.1 to 19.1.2	Sum	1	R	R	
19.2.4		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant. Period for complete delivery of all plant and material from date of order.....weeks Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks	Prov Sum	1	20 000.00	R	20 000.00

19	TOTAL CARRIED FORWARD TO SUMMARY						R	20 000.00
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Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
20	PSB2.6	<u>SECTION 20: SURFACE AERATORS</u>				

20.1		<u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>				
	PSB2.6	AERATORS Vertical slow speed aerators complete with motors and gearboxes, couplings, base plates, splash guards and draft tubes, all corrosion protected as specified				
20.1.1		Aerators: 55kW each.	No	5	R	R
20.2		INSTALLATION AND COMMISSIONING				
20.2.1		Design and produce mechanical drawings for all plant supplied under items 20.1.1	Sum	1	R	R
20.2.2		Erection & installation of plant & materials supplied under items 20.1.1	Sum	1	R	R
20.2.3		Commissioning of plant & equipment supplied under items 20.1.1	Sum	1	R	R
20.2.4		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant.	Sum	1		50 000.00 R
		Period for complete delivery of all plant and material from date of order.....weeks				
		Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks				
20 TOTAL CARRIED FORWARD TO SUMMARY						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
19		<u>SECTION 19: CLARIFIERS</u>				
		<u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>				
19.1		CLARIFIER EQUIPMENT				
19.1.1		Rotating bridge, handrailings, sludge scraper equipment mounted to bridge, scum removal equipment, corrosion protection, driving motor and electrical connections as specified.	No	2	R	R
19.1.2		Weir plate each 82m long	No	2	R	R
19.1.3		Stilling chambers	No	2	R	R
19.2		INSTALLATION AND COMMISSIONING				
19.2.1		Design and produce mechanical drawings for all plant supplied under items 19.1	Sum	1	R	R
21.2.2		Erection & installation of plant & materials supplied under items 19.1	Sum	1	R	R
21.2.3		Commissioning of plant & equipment supplied under items 19.1	Sum	1	R	R
21.2.4		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant.	Prov Sum	1		20 000.00 R
		Period for complete delivery of all plant and material from date of order.....weeks				

		Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks				
21 TOTAL CARRIED FORWARD TO SUMMARY						
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
20		SECTION 20: PUMPS AND ASSOCIATED PIPEWORK				
		<u>Supply of the following pumps (belt driven) and motors with pump stand, mounting plates and bolts as specified, including the storage, quality assurance and painting where applicable</u>				
20.1		WAS PUMPS				
20.1.1		Pump Gorman Rupp or Cornell or similar approved,	No	2	R	R
20.2		DEWATERING AND SCUM REMOVAL PUMPS				
		<u>Supply and installation of the following submersible pumps and motors</u>				
20.2.1		Grundfos SV014BL (S-Peller) or similar approved,	No	2	R	R
		50mm Diameter flexible hose with quick release couplings:				
20.2.2		6m long	No	1	R	R
20.2.3		1,5m long	No	1	R	R
20.3		DESIGN STEEL PIPE WORK AND SPECIALS				
		Design and produce mechanical drawings for all pump sets with steel pipework as required.				
20.3.1		WAS pumps	Sum	1	R	R
20.3.2		Submersible pumps	Sum	1	R	R
20.4		INSTALLATION AND COMMISSIONING				
20.4.1		Erection & installation of plant & materials supplied under items 20.2 and 20.3	Sum	1	R	R
20.4.2		Commissioning of plant & equipment supplied under items 20.2 and 20.3	Sum	1	R	R
20.4.3		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant.	Prov Sum	1	20 000.00	R 20 000.00
		Period for complete delivery of all plant and material from date of order.....weeks				
20 TOTAL CARRIED FORWARD TO SUMMARY						
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
21		SECTION 21: AXIAL FLOW MIXED LIQUOR RECYCLE PUMPS				
		<u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>				
21.1		MIXED LIQUOR RECYCLE PUMPS				
		Belt driven axial flow mixed liquor recycle pumps, complete with motors, mounting plates plates and bolts and any other required equipment, all corrosion protected as specified				
21.1.1		RAS Pumps	No	3	R	R
21.1.2		a - Recycle pumps	No	3	R	R

21.2		INSTALLATION AND COMMISSIONING						
21.2.1		Design and produce mechanical drawings for all plant supplied under items 21.1	Sum	1	R		R	
21.2.2		Erection & installation of plant & materials supplied under item 21.1	Sum	1	R		R	
21.2.3		Commissioning of plant & equipment supplied under item 21.1	Sum	1	R		R	
21.2.4		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant.	Prov Sum	1		20 000.00	R 20 000.00	
		Period for complete delivery of all plant and material from date of order.....weeks						
		Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks						
21	TOTAL CARRIED FORWARD TO SUMMARY						R	20 000.00
Item No	Payment Ref	Description	Unit	Qty	Rate		Amount	
22		SECTION 22: WEIRS AND SLUICE GATES						
		<u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>						
22.1		PENSTOCKS AT INLET WORKS						
22.1.1		No A: Rising channel gate	No	4	R		R	
22.2		PENSTOCKS AT FLOW DIVISION BOX						
22.2.1		No B: Wall mounted rising sluice gate with extended spindles and flush invert	No	2	R		R	
22.3		PENSTOCKS AT BIOLOGICAL REACTOR OUTLET						
22.3.1		No C: Wall mounted rising sluice gate with extended spindles and flush invert	No	2	R		R	
22.4		WEIRS IN STAINLESS STEEL						
		Flow Division Box at Inlet Works						
22.4.1	PSB2.9.1	4m Long rectangular as specified	No	2	R		R	
22.4.2	PSB2.9.1	2m Long rectangular as specified	No	1	R		R	
		Biological Reactor						
22.4.3	PSB2.9.1	10m Long rectangular as specified	No	1	R		R	
22.4.4		3m Long rectangular as specified	No	1	R		R	
		Chlorine Contact Channels						
22.4.6	PSB2.9.1	1.5m Long rectangular as specified	No	1	R		R	
22.5		INSTALLATION AND COMMISSIONING						
22.5.1		Design and produce mechanical drawings for all plant supplied under items 22,1 to 22,4	Sum	1	R		R	
22.5.2		Erection & installation of plant & materials supplied under items 22,1 to 22,4	Prov Sum	1		100 000.00	R 100 000.00	
TOTAL CARRIED OVER TO NEXT PAGE						R		

Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
TOTAL CARRIED OVER FROM PREVIOUS PAGE						R
22.5.3		Commissioning of plant & equipment supplied under items 22,1 to 22.4 Period for complete delivery of all plant and material from date of order.....weeks Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks	Sum	1	R	R
22 TOTAL CARRIED FORWARD TO SUMMARY						R -
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
23		<u>SECTION 23: LIME DOSAGE AND STORAGE EQUIPMENT</u> <u>Supply of the following material, including the storage, quality assurance and painting where applicable</u>				
23.1		MIXING EQUIPMENT				
23.1.1		Mixer with motor	Sum	1	R	R
23.2		DOSING EQUIPMENT				
23.1.2		Lime dosing equipment complete as offered in data sheets	Sum	1	R	R
23.3		DESIGN OF LAYOUT				
23.1.1		Design of layout of equipment and pipework under item 23.1 and 23.2	Sum	1	R	R
23.4		INSTALLATION AND COMMISSIONING				
23.4.1		Installation of plant and materials supplied under items 23.1 and 23.2	Sum	1	R	R
23.4.2		Commissioning of materials and equipment supplied under items 23.1 and 23.2 Period for complete delivery of all plant and material from date of order.....weeks Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks	Sum	1	R	R

23 TOTAL CARRIED FORWARD TO SUMMARY						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
24	PSB2.12	SECTION 24: CHLORINATION EQUIPMENT				
24.1		Chlorination dosing equipment as specified, complete with standby chlorinator, installed and 4-20mA signal connection to effluent flow meter	Sum	1	R	R
24.2		Balance scale for 70kg cylinder	No	1	R	R
24.3		Gas Leak detector	Sum	1	R	R
24.4		Vent van system	Sum	1	R	R
24.5		<u>Supply and install safety equipment as specified:</u>				
24.5.1		Spanners to allow cylinder changes	Set	1	R	R
24.5.2		Full gas mask (canister type)	No	2	R	R
24.5.3		Canister for gas mask (chlorine gas use)	No	4	R	R
24.5.4		Chemical glove sets	No	2	R	R
24.5.5		Set of safety signs (in English)	No	2	R	R
24.5.6		Gas mask box with breakable glass and key	No	1	R	R
24.5.7		Test ammonia kit	No	1	R	R
24.5.8		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant.	P.Sum	1	100 000.00	R 100 000.00
		Period for complete delivery of all plant and material from date of order.....weeks				
		Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks				
24 TOTAL CARRIED FORWARD TO SUMMARY						R
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount
25		SECTION 25: FLOW MEASUREMENT AND PARSHALL FLUME				
		<u>Supply of the following plant, including the storage, quality assurance and painting where applicable</u>				
25.1		ULTRASONIC FLOW METER IN CHANNELS/BOXES WITH DATA LOGGER				
25.1.1	PSB2.4.2.1	At Inlet Works	No	1	R	R
25.2		PIPE FLOW MEASUREMENT				
		Enclosed pipe magnetic flow meter to fit onto :				
25.2.1	PSB2.4.2.2	RAS lines	No	2	R	R

25.2.2		WAS line	No	1	R	R	
25.3		FLOW CONTROL					
25.3.1	PSB2.4.1	Parshall Flume with a throat width of 305mm	No	1	R	R	
25.4		INSTALLATION AND COMMISSIONING					
25.4.1		Erection & installation of plant & materials supplied under items 25.1 to 25.3	Sum	1	R	R	
25.4.2		Commissioning of plant & equipment supplied under items 25.1 to 25.3	Sum	1	R	R	
25.4.3		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant.	Prov Sum	1		R	20 000.00
		Period for complete delivery of all plant and material from date of order.....weeks					
		Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks					
25 TOTAL CARRIED FORWARD TO SUMMARY						R	
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount	
26	PSB2.13	SECTION 26: MISCELLANEOUS					
		<u>Supply and installation of the following plant, including the storage, quality assurance and painting where applicable</u>					
26.1		SKIPS					
26.1.1	PSB2.13.1	Skips 6m³ each	No	3	R	R	
26.1.2	PSB2.13.1	Trailer with hoist equipment for 6m³ skips	No	1	R	R	
26.2		GRP GRATINGS AND SUPPORT					
26.2.1	PSB2.13.4	GRP Grating with SS supports as specified	m²	12	R	R	
		Period for complete delivery of all plant and material from date of order.....weeks					
		Period in which complete erection will be affected and plant handed over to the satisfaction of the Engineer, from the date of delivery or receipt of order with erection, whichever is later.....weeks					

26 TOTAL CARRIED FORWARD TO SUMMARY							R	-
Item No	Payment Ref	Description	Unit	Qty	Rate	Amount		
					R c	R c		
		SECTION: E1 BULK SUPPLY Allow for all the costs and expenses in connection with the following: General Liaison with Supply Authority for switching and electrical integration Eskom Application for supply upgrade Liaison with Local Authorities for wayleave applications Liaison with Civil Contractor for route planning on site Decommissioning and removal off site of existing MV equipment Excavations, etc. Excavate and set excavated material aside for re-use as filling for cable or sleeve trench not exceeding 1m deep In earth In soft rock In rock Selected and approved material for backfilling, bedding and cover Surplus excavated material spread and levelled on site as directed Danger tape - 400mm wide overlapping Cable marker, with engraved aluminium plate 110 mmΦ sleeve (internal diameter) 160 mmΦ sleeves (internal diameter) Testing and Commissioning	Sum	1	R	R		
E1.1								
			Sum	1	R	R		
E1.2			Sum	1	R	R		
E3			Sum	1	R	R		
.4			Sum	1	R	R		
.5			m³	50	R	R		
.6			m³	50	R	R		
.7			m³	50	R	R		
.8			m³	100	R	R		
.9			m³	50	R	R		
.10			m	300	R	R		
.11			No	25	R	R		
.12			m	20	R	R		
.13			m	20	R	R		
.14			Sum	1	R	R		
		All other items not included above, but which are nevertheless necessary to meet the Specification and/or required for the proper, safe and effective operation of the plant (Specify) 						
		TOTAL SECTION: E1 Carried to Summary			R	R		-
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount		
					R c	R c		

		SECTION: E2 Back-up Generator				
		Allow for all the costs and expenses in connection with the design, manufacture, routine testing, factory acceptance testing (if indicated), supply, delivery, offloading and storage of the following materials and equipment:				
		Diesel Generator Outdoor Set				
.15		Canopy or containerised Diesel generator and base mounted diesel tank	No	1	R	R
.16		Modified Exhaust System for generator	No	1	R	R
.17		Electrical fuel transfer pump (with fuel sensor)	Sum	1	R	R
.18		Control panel complete with controller	Sum	1	R	R
.19		Control cabling and incorporation of controller to fibre optic network and PLC	Sum	1	R	R
.20		Service and Maintenance Contract	Month	12	R	R
		Fuel				
.21		Free standing diesel storage tank	Sum	1	R	R
.22		Fuel (enough for testing and commissioning and a full tank with handover)	litre	2 000	R	R
.23		Earthing and bonding of the installation	Sum	1	R	R
		Allow for all the costs and expenses in connection with the delivery, offloading and storage of the following:				
.24		All materials and equipment summarized in Section E2 complete	Sum	1	R	R
		Other:				
E2.11		All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant. Implemeneted per instruction by the Engineer	Prov. Sum	1	R	100 000.00
					
					
					
					
					
					
					
		TOTAL SECTION: E2 Carried to Summary			R	R 100 000.00
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount
					R c	R c
		SECTION: E3				
		LV SWITCHGEAR AND CONTROL ASSEMBLIES				
		Switchgear Assemblies				

		New MAIN Motor Control Centre - MCC-MAIN complete. Factory acceptance testing for two persons included.				
.26		Supply	Sum	1	R	R
.27		Install	Sum	1	R	R
.28		Testing and Commissioning	Sum	1	R	R
		Chlorine Dosing Control Panel LCP-CL complete. Factory acceptance testing for two persons included.				
.29		Supply	Sum	1	R	R
.30		Install	Sum	1	R	R
.31		Testing and Commissioning	Sum	1	R	R
		Motor Field Control Stations				
.32		Supply	No	40	R	R
.33		Install	No	40	R	R
.34		Testing and Commissioning	No	40	R	R
.35		Allow for all costs and expenses in connection with the Site Delivery of items in this section	Sum	1	R	R
E3.11		Cost associated with the connection of new MCC to the old Works. Implemented per instruction by the Engineer	Prov Sum	1	R	200 000.00
						200 000.00
		TOTAL SECTION: E3 Carried to Summary				R
						R
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c
		SECTION: E4 LV CABLES				
		Allow for all the costs and expenses in connection with the design, manufacture, routine testing, factory acceptance testing (if indicated), supply, delivery, offloading and storage of the following materials and equipment and installation:				
		SUPPLY and INSTALLATION				
		Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore cable with stranded conductors.				
.37		2.5mm ² x 4 core	m	700	R	R

.38		4.0mm ² x 4 core	m	350	R	R		
.39		6mm ² x 4 core	m	200	R	R		
.40		10mm ² x 4 core	m	200	R	R		
.41		16mm ² x 4 core	m	100	R	R		
.42		25mm ² x 4 core	m	100	R	R		
.43		35mm ² x 4 core	m	100	R	R		
.44		50mm ² x 4 core	m	-		6 000.00	Rate Only	
.45		70mm ² x 4 core	m	-		1 100.00	Rate Only	
.46		95mm ² x 4 core	m	100	R	R		
.47		120mm ² x 4 core	m	100	R	R		
.48		150mm ² x 4 core	m	100		2 150.00	Rate Only	
.49		185mm ² x 4 core	m	-		2 600.00	Rate Only	
.50		240mm ² x 4 core	m	1000	R	R		
.51		300mm ² x 4 core	m	-		4 400.00	Rate Only	
.52		400mm ² x 4 core	m	-		5 000.00	Rate Only	
		Cable terminations for Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore cables, complete, including gland shroud, lugs, number tags, etc and connection.						
.53		2.5mm ² x 4 core	No	30	R	R		
.54		4.0mm ² x 4 core	No	10	R	R		
.55		6mm ² x 4 core	No	10	R	R		
.56		10mm ² x 4 core	No	10	R	R		
.57		16mm ² x 4 core	No	10	R	R		
.58		25mm ² x 4 core	No	10	R	R		
.59		35mm ² x 4 core	No	10	R	R		
.60		50mm ² x 4 core	No	-		1 150.00	Rate Only	
.61		70mm ² x 4 core	No	-		1 350.00	Rate Only	
		TOTAL SECTION: Carried to Next Page					R	R
							-	
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount		
		Carried From Previous Page			R	R		
					R	R		
.62		95mm ² x 4 core	No	100		1 980.00	R 198 000.00	
.63		120mm ² x 4 core	No	10	R		R	
.64		150mm ² x 4 core	No	-		2 250.00	Rate Only	
.65		185mm ² x 4 core	No	-		2 500.00	Rate Only	
.66		240mm ² x 4 core	No	10	R		R	
.67		300mm ² x 4 core	No	-		2 700.00	Rate Only	
.68		400mm ² x 4 core	No	-		3 000.00	Rate Only	
		Cu/PVC Insulated/PVC Bedded/AWA/PVC Sheathed 600/1000V single core cable with stranded conductors. Cable fixed to cable tray, drawn into sleeves or laid into trenches.						
.69		150mm ² x 1 core	m	-		380.00	Rate Only	
.70		185mm ² x 1 core	m	-		450.00	Rate Only	
.71		240mm ² x 1 core	m	-		580.00	Rate Only	

.72		300mm ² x 1 core	m	-		710.00	Rate Only	
.73		400mm ² x 1 core	m	-		910.00	Rate Only	
.74		500mm ² x 1 core	m	-		1 200.00	Rate Only	
		Cable terminations for Cu/PVC Insulated/PVC Bedded/AWA/PVC Sheathed 600/1000V single core cables, complete, including gland shroud, lugs, number tags, etc and connection.						
.75		150mm ² x 1 core	No	-		300.00	Rate Only	
.76		185mm ² x 1 core	No	-		400.00	Rate Only	
.77		240mm ² x 1 core	No	-		500.00	Rate Only	
.78		300mm ² x 1 core	No	-		590.00	Rate Only	
.79		400mm ² x 1 core	No	-		850.00	Rate Only	
.80		500mm ² x 1 core	No	-		1 000.00	Rate Only	
		Bare Copper Earth cable with stranded conductors.						
.81		2.5mm ²	m	500	R		R	
.82		4mm ²	m	500	R		R	
.83		6mm ²	m	100	R		R	
.84		10mm ²	m	100	R		R	
.85		16mm ²	m	100	R		R	
.86		25mm ²	m	100	R		R	
.87		35mm ²	m	-		100.00	Rate Only	
.88		50mm ²	m	-		120.00	Rate Only	
.89		70mm ²	m	-		220.00	Rate Only	
		TOTAL SECTION: Carried to Next Page				R	R	198 000.00
Item No	Payment Clause	Short Description	Unit	Quantity		Rate R c		Amount R c
		Carried From Previous Page				R	R	198 000.00
.90		95mm ²	m	100	R		R	
.91		120mm ²	m	1000	R		R	
.92		150mm ²	m	-		450.00		Rate Only
.93		240mm ²	m	-		700.00		Rate Only
		Cable terminations for bare copper earth cables, complete, including gland shroud, lugs, number tags, etc and connection.						
.94		2.5mm ²	No	20	R		R	
.95		4mm ²	No	20	R		R	
.96		6mm ²	No	20	R		R	
.97		10mm ²	No	20	R		R	
.98		16mm ²	No	20	R		R	
.99				20	R		R	
.100		25mm ²	No	100	R		R	
.101		35mm ²	No	-		150.00		Rate Only
.102		50mm ²	No	-		170.00		Rate Only
.103		70mm ²	No	-		190.00		Rate Only
.104		95mm ²	No	10	R		R	

.105		120mm²	No	10	R	R
.106		150mm²	No	-		330.00 Rate Only
.107		240mm²	No	-		400.00 Rate Only
EARTHWORKS (CABLE AND DUCT TRENCHES)						
Excavate and set excavated material aside for re-use as filling for cable or sleeve trench not exceeding 1m deep						
.108		In earth	m³	400	R	R
.109		In soft rock	m³	150	R	R
.110		In rock	m³	50	R	R
.111		Bedding material imported from off-site source (provisional)	m³	300	R	R
.112		Danger tape - 400mm wide overlapping	m	1000	R	R
.113		Cable marker with engraved steel plate	No	20	R	R
.114		Allow for all costs and expenses in connection with the Site Delivery of items in this section	Sum	1	R	R
All other items not included above, but which are nevertheless necessary to meet the Specification and/or required for the proper, safe and effective operation of the plant (Specify)						
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.....						
.....						
TOTAL SECTION: E4					R	R
Carried to Summary						
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c
SECTION: E5						
CABLE SUPPORTS						
Allow for all costs and expenses in connection with design, manufacture, routine testing, factory acceptance testing (if indicated), supply, delivery, offloading and storage of the following materials and equipment and installation:						
SUPPLY AND INSTALLATION						
Cable Ladder - Stainless steel welded cable ladder, 3mm thick side rails, channel cross rungs at 300mm centres, complete with couplers, clamps, threaded rods, hangers, cantilevers, brackets etc. to fix to trusses, walls.						
100 x 100mm (W x H)						
.115		Straight length	m	100	R	R
.116		Bends for cable ladder above	No	10	R	R
200 x 100mm (W x H)						
.117		Straight length	m	100	R	R
.118		Bends for cable ladder above	No	10	R	R
300 x 100mm (W x H)						
.119		Straight length	m	100	R	R
.120		Bends for cable ladder above	No	10	R	R
600 x 100mm (W x H)						

TOTAL SECTION: E5 Carried to Summary							R	-
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c		
		SECTION: E6 BUILDING ELECTRICAL						
		Allow for all the costs and expenses in connection with the design, manufacture, routine testing, factory acceptance testing (if indicated), supply, delivery, offloading and storage of the following materials and equipment:						
		Power Distribution Panels						
		Distribution Board						
.133		Supply	No	3	R	R		
.134		Installation	No	3	R	R		
.135		Testing and Commissioning	No	3	R	R		
		Area lighting Kiosk						
.136		Supply	No	1	R	R		
.137		Installation	No	1	R	R		
.138		Testing and Commissioning	No	1	R	R		
		Lighting						
		Photometric Cell						
.139		Supply	No	4	R	R		
.140		Installation	No	4	R	R		
		Type B: LED Tube vapour proof Fitting,						
.141		Supply	No	25	R	R		
.142		Installation	No	25	R	R		
		Type B: LED Tube vapour proof Fitting, (Emergency)						
.143		Supply	No	12	R	R		
.144		Installation	No	12	R	R		
		Type C: LED outdoor bulkhead						
.145		Supply	No	6	R	R		
.146		Installation	No	6	R	R		
		Type SL: 55W LED pole mounted streetlight						
.147		Supply	No	10	R	R		

.148		Installation 7m high GRP Poles	No	10	R	R
.149		Supply	No	10	R	R
.150		Installation Light Switches 1 lever 1 way, 20A, flush mounted switch	No	10	R	R
.151		Supply	No	10	R	R
.152		Installation	No	10	R	R
TOTAL SECTION: Carried to Next Page						R
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c
Carried From Previous Page						R
.153		1 lever 2 way, 20A, flush mounted switch Supply	No	6	R	R
.154		Installation Wall power outlets and switch disconnectors Double pole 20A Switch Disconnectors	No	6	R	R
.155		Supply	No	6	R	R
.156		Installation 3-pin 250V double switched socket outlet	No	6	R	R
.157		Supply	No	15	R	R
.158		Installation 5-pin 400V socket outlet	No	15	R	R
.159		Supply	No	5	R	R
.160		Installation Power Trunking P1000 power trunking	No	5	R	R
.161		Supply	m	30	R	R
.162		Installation Wireways Double compartment power skirting - outside dimensions 55 x 160mm minimum complete with elbows, tees and end caps.	m	30	R	R
.163		Supply	m	30	R	R
.164		Install Supply PVC Conduit cast into concrete or built/chased into brickwork or concrete. Complete with bends, couplings, glue, PVC Round conduit boxes placed in position etc.	m	30	R	R
.165		20mm Diameter	m	100	R	R
.166		25mm Diameter	m	100	R	R
.167		32mm Diameter	m	100	R	R
.168		20mm Diameter Install PVC Conduit cast into concrete or built/chased into brickwork or concrete. Complete with bends, couplings, glue, PVC Round conduit boxes placed in position etc.	m	100	R	R
.169		25mm Diameter	m	100	R	R
.170		32mm Diameter Wiring	m	100	R	R

		Supply Single core PVC insulated house wire						
.171		1.5mm ²	m	100	R		R	
.172		2.5mm ²	m	250	R		R	
.173		4mm ²	m	150	R		R	
.174		6mm ²	m	150	R		R	
TOTAL SECTION: Carried to Next Page							R	-
Item No	Payment Clause	Short Description	Unit	Quantity	Rate		Amount	
		Carried From Previous Page			R	c	R	c
		Install Single core PVC insulated house wire						
.175		1.5mm ²	m	100	R		R	
.176		2.5mm ²	m	250	R		R	
.177		4mm ²	m	150	R		R	
.178		6mm ²	m	150	R		R	
		Supply Single core PVC insulated earth wire						
.179		1.5mm ²	m	50	R		R	
.180		2.5mm ²	m	200	R		R	
.181		4mm ²	m	100	R		R	
.182		6mm ²	m	50	R		R	
		Install Single core PVC insulated earth wire						
.183		1.5mm ²	m	50	R		R	
.184		2.5mm ²	m	200	R		R	
.185		4mm ²	m	100	R		R	
.186		6mm ²	m	50	R		R	
		Supply Twin and Earth PVC insulated wire						
.187		2.5mm ²	m	100	R		R	
.188		4mm ²	m	-		18.00		Rate only
.189		6mm ²	m	-		22.00		Rate only
		Install Twin and Earth PVC insulated wire						
.190		2.5mm ²	m	100	R		R	
.191		4mm ²	m	-	R		R	
.192		6mm ²	m	-		11.00		Rate only
		Earthing and Bonding of Electrical System (Refer to Lightning Protection and Earthing bill for additional Earthing and building LPS system)						
.193		Ensure earthing & bonding of entire electrical system to main building earth (including all cable racking)	Sum	1	R		R	
.194		Labeling of Conductors and Equipment	Sum	1	R		R	
0.195		Additional Electrical Works as directed by the Engineer	Prov Sum	1		500 000.00	R	500 000.00
			%	—	R		R	
		All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-						
							
							
							
							

TOTAL SECTION: E6 Carried to Summary							R
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c	
SECTION: I1							
INSTRUMENTATION, CONTROL AND DATA CABLES							
Allow for all the costs and expenses in connection with the design, manufacture, routine testing, factory acceptance testing (if indicated), supply, delivery, offloading and storage of the following materials and equipment:							
SUPPLY AND INSTALLATION							
Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore control cables with stranded conductors. Cable fixed to cable tray, drawn into sleeves or laid into trenches.							
.195		2.5mm ² x 4 core	m	500	R	R	
.196		2.5mm ² x 7 core	m	500	R	R	
.197		1.5mm ² x 12 core	m	-	70.00	Rate Only	
.198		1.5mm ² x 19 core	m	-	100.00	Rate Only	
.199		1.5mm ² x 24 core	m	-	120.00	Rate Only	
.200		1.5mm ² x 30 core	m	-	180.00	Rate Only	
.201		1.5mm ² x 37 core	m	-	250.00	Rate Only	
.202		CAT6 Cable	m	500	R	R	
.203		Armoured Multimode Fibre optic Cable (6C)	m	-		Rate Only	
.204		Fieldbus Cables	m	-		Rate Only	
Cable terminations for multicore control cable complete, including gland shroud, lugs, number tags, etc and connection.							
.205		2.5mm ² x 4 core	No	20	R	R	
.206		2.5mm ² x 7 core	No	20	R	R	
.207		1.5mm ² x 12 core	No	-	550.00	Rate Only	
.208		1.5mm ² x 19 core	No	-	650.00	Rate Only	
.209		1.5mm ² x 24 core	No	-	700.00	Rate Only	
.210		1.5mm ² x 30 core	No	-	900.00	Rate Only	
.211		1.5mm ² x 37 core	No	-	1600.00	Rate Only	
.212		CAT6 Cable	No	10	R	R	
.213		Armoured Multimode Fibre optic Cable (6C)	No	-	800.00	Rate Only	
.214		Fieldbus Cables	No	-	500.00	Rate Only	
Extra low voltage instrumentation cable fixed to cable tray, drawn into sleeves or power skirting.							
.215		1.5mm ² 1-pair	m	250	R	R	
.216		1.5mm ² 2-pair	m	250	R	R	
TOTAL SECTION: Carried to Next Page							R

Item No	Payment Clause	Short Description	Unit	Quantity	Rate		Amount	
					R	c	R	c
Carried From Previous Page							R	-
.217		1.5mm ² 4-pair	m	-	25.00			Rate Only
.218		1.5mm ² 12-pair	m	-	40.00			Rate Only
.219		1.5mm ² 19-pair	m	-	65.00			Rate Only
.220		1.5mm ² 30-pair	m	-	90.00			Rate Only
.221		1.5mm ² 1-triad	m	-	30.00			Rate Only
.222		1.5mm ² 2-triad	m	-	40.00			Rate Only
		Terminations for Extra low voltage instrumentation cable						
.223		1.5mm ² 1-pair	No	20	R		R	
.224		1.5mm ² 2-pair	No	20	R		R	
.225		1.5mm ² 4-pair	No	-	250.00			Rate Only
.226		1.5mm ² 12-pair	No	-	300.00			Rate Only
.227		1.5mm ² 19-pair	No	-	330.00			Rate Only
.228		1.5mm ² 30-pair	No	-	380.00			Rate Only
.229		1.5mm ² 1-triad	No	-	250.00			Rate Only
.230		1.5mm ² 2-triad	No	-	350.00			Rate Only
		Instrumentation Power cable Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore with stranded conductors. Cable fixed to cable tray, drawn into sleeves or laid into trenches.						
.231		2.5mm ² x 3 core	m	500	R		R	
.232		2.5mm ² x 4 core	m	-	40.00			Rate Only
		Terminations for Instrumentation Power cable Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore with stranded conductors.						
.233		2.5mm ² x 3 core	No	20	R		R	
.234		2.5mm ² x 4 core	No	-	350.00			Rate Only
.235		Allow for all costs and expenses in connection with the Site Delivery of items in this section	Sum	1		50 000.00	R	50 000.00
		All other items not included above, but which are nevertheless necessary to meet the Specification and/or required for the proper, safe and effective operation of the plant (Specify)						
							
							
							
TOTAL SECTION: I1							R	
Carried to Summary								
Item No	Payment Clause	Short Description	Unit	Quantity	Rate		Amount	
					R	c	R	c
		SECTION: I2						
		PROGRAMMABLE LOGIC CONTROLLERS						

		MAIN Programmable Logic Controller - PLC-IW complete with hardware, software and programming. Factory acceptance testing for two persons included				
		PLC Panel				
.236		Supply	Sum	1	R	R
.237		Install	Sum	1	R	R
		PLC hardware complete				
.238		Supply	Sum	1	R	R
.239		Install	Sum	1	R	R
.240		Supply and Install PLC Software Complete	Sum	1	R	R
.241		Programming of PLC	Sum	1	R	R
.242		Simulation Testing of PLC Programming	Sum	1	R	R
.243		Testing and Commissioning	Sum	1	R	R
		UPS for PLC, HMI and other control accessories				
.244		Supply	No	1	R	R
.245		Install	No	1	R	R
		Human Machine Interface - HMI				
.246		Supply	Sum	1	R	R
.247		Install	Sum	1	R	R
.248		Supply and Install HMI Software Complete	Sum	1	R	R
.249		Development of mimics, programming of HMI	Sum	1	R	R
.250		Testing and Commissioning	sum	1	R	R
		General				
.251		Involvement of PLC OEM for consultation, specification of architecture and commissioning assistance	Sum	1	R	R
.252		Allow for all costs and expenses in connection with the Site Delivery of items in this section	Sum	1	R	R
		All other items not included above, but which are nevertheless necessary to meet the Specification and/or required for the proper, safe and effective operation of the plant (<i>Specify</i>)				
					
					
					
TOTAL SECTION: I2					R	R
Carried to Summary						-
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c
		SECTION: I3				
		INDUSTRIAL NETWORK				
		Functional Design Specification				
.253		Compile control system FDS as per specifications. Allow for 5 iterations	Sum	1	R	R
		All other items not included above, but which are nevertheless necessary to meet the Specification and/or required for the proper, safe and effective operation of the plant (<i>Specify</i>)				

					
					
TOTAL SECTION: I3 Carried to Summary						R -
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c
		SECTION: I4 TELEMETRY				
		Allow for all the costs and expenses in connection with the design, manufacture, with hardware and software. Factory acceptance testing for two persons included				
		Telemetry RTU				
.254		Supply	Sum	1	R	R
.255		Install	Sum	1	R	R
.256		Testing and Commissioning	Sum	1	R	R
		Other:-				
.257		Programming and configuration of Radio Telemetry INLCUDING link to Municipal Offices (by nominated supplier)	Prov Sum	1	2 000 000.00	R 2 000 000.00

.258		Allow for all the costs and expenses in connection with the delivery, offloading and storage of the following:	Sum	1	R	R
		All other items not included above, but which are nevertheless necessary to meet the Specification and/or required for the proper, safe and effective operation of the plant (<i>Specify</i>)				
258.00		Allow for the cost of returning to site if necessary and if ordered, in order to carry out tests on the plant or reconfigurations.	P.Sum	1	100 000.00	R 100 000.00
259.00		Allow a provisional sum for small items omitted from this section	P.Sum	1	300 000.00	R 300 000.00
TOTAL SECTION: I4 Carried to Summary						R
Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c
		SECTION: I5 SCADA, REMOTE MONITORING AND REPORTING				
		Allow for all costs and expenses in connection with the following items:				
		New WWTW SCADA Hardware				
		SCADA Operator & Engineering all-in-one computer (workstation) complete with all accessories				
.260		Supply	No	1	R	R
.261		Install	No	1	R	R
		23" LED Backlit LCD Displays				
.262		Supply	No	4	R	R
.263		Install	No	4	R	R
		50" LED Backlit LCD Display				
.264		Supply	No	2	R	R
.265		Install	No	2	R	R

		KVM media switch complete with all accessories				
.266		Supply	No	1	R	R
.267		Install	No	1	R	R
		SCADA Server, rack mounted hot standby configuration complete with all accessories				
.268		Supply	No	2	R	R
.269		Install	No	2	R	R
		Historin Server				
.270		Supply	No	1	R	R
.271		Install	No	1	R	R
		Main Supervisory Layer Ethernet Switch complete				
.272		Supply	No	1	R	R
.273		Install	No	1	R	R
		SCADA Administrative rack-mounted, withdrawable KVM (Keyboard Video Mouse) complete with all accessories				
.274		Supply	No	1	R	R
.275		Install	No	1	R	R
		42U, 19" rack cabinet for all network and computer equipment				
.276		Supply	No	1	R	R
.277		Install	No	1	R	R
		TOTAL SECTION: Carried to Next Page				R -
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount
		Carried From Previous Page			R c	R c
		SCADA computer UPS				R -
.278		Supply	No	1	R	R
.279		Install	No	1	R	R
		SCADA printer				
.280		Supply	No	1	R	R
.281		Install	No	1	R	R
.282		Other network accessories, switches, routers etc. necessary for a complete SCADA system	Sum	1	R	R
		Workstation furniture				
.283		Supply	Sum	1	R	R
.284		Install	Sum	1	R	R
		New WWTW SCADA Software				
.285		SCADA software for WWTW SCADA	Sum	1	R	R
.286		Mimics Configuration	Sum	1	R	R
.287		Alarm Management Software Licence	Sum	1	R	R
.288		Alarms and Events Configuration	Sum	1	R	R
.289		Report Configuration	Sum	1	R	R
.290		Data logging and trends display configuration	Sum	1	R	R

Item No	Payment Clause	Short Description	Unit	Quantity	Rate R c	Amount R c
TOTAL SECTION: I5 Carried to Summary						R
SECTION: I6 INSTRUMENTATION						
Allow for all the costs and expenses in connection with the design, manufacture, painting, supplying, delivery, offloading and storage of the following materials and equipment:						
Ultrasonic Flow Meter complete including sensors, transmitters, mounting materials and stands as required.						
.311		Supply	No	1	R	R
.312		Install	No	1	R	R
Electromagnetic Flow Meter complete including sensors, transmitters, mounting materials and stands as required.						
.313		Supply	No	2	R	R
.314		Install	No	2	R	R
Ultrasonic Level Transmitter complete including sensors, transmitters, mounting materials and stands as required.						
.315		Supply	No	1	R	R
.316		Install	No	1	R	R
Fow Switch complete including mounting materials.						
.317		Supply	No	1	R	R
.318		Install	No	1	R	R
Pressure Switch complete including mounting materials.						
.319		Supply	No	1	R	R
.320		Install	No	1	R	R

	<p>All other items not included above, but which are nevertheless necessary to meet the Specification and/or required for the proper, safe and effective operation of the plant (<i>Specify</i>)</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>				
	<p>TOTAL SECTION: I6 Carried to Summary</p>				<p>R -</p>