DBN26/02/01: DEPARTMENT OF JUSTICE: VULAMEHLO MAGISTRATE COURT: REPAIRS & RENOVATIONS OF OFFICE BUILDING: COMPLETION CONTRACT

VOLUME 2 (G): RETURNABLE DOCUMENTS

	SCREEDS				
	3:1 Cement screeds on concrete				
291	15mm Thick on tops and side of bench	m²	5		
292	30mm Thick on floors and landings in patches	m²	2		
293	50 x 50mm Triangular fillets against upstands	m	60		
	GRANOLITHIC				
	Untinted granolithic on concrete				
294	30mm Thick on floors and landings	m²	130		
	INTERNAL PLASTER				
	One coat 4:1 cement plastered finish to a smooth and even steel floated surface on brickwork				
295	On walls	m²	2 444		
296	On narrow widths	m²	56		
	Make good plaster where chased on				
297	Existing walls	m	40		
	One coat 4:1 cement plastered finish to a smooth and even steel floated surface on concrete				
298	On ceilings and beams	m²	35		
	EXTERNAL PLASTER				
	One coat 4:1 cement plaster finished to a smooth and even woad float surface on brickwork				
299	On walls	m²	17		
300	On narrow widths	m²	39		
	SPECIALIST PLASTER TYPE FLOOR COATINGS				
	"Polyflor Poly Levelmaster" or similar approved screeds on concrete				
301	Minimum 5mm thick on floors and landings	m²	1 169		
	Carried to Collection			R	

Bill No. 13
PLASTERING

	"TAL" X-Shield Vapor Stop HB applied in strict accordance with the manufacturers specifications				
302	Minimum 14mm thick on floors and landings	m²	1 169		
	1.5mm Thick "Deckshield" ID solvent free polyurethane flexible coating system by Flowcrete of similar approved applied in accordance with the manufacturers specifications				
303	On floors and landings	m²	2		
304	To treads and risers	m²	17		
	Carried to Collection			R	

Bill No. 13
PLASTERING

Section No. 2

Bill No. 13

PLASTERING

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Bill No. 13
PLASTERING

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	SECTION NO 2				
	BUILDING WORKS				
	BILL NO 14				
	TILING				
	For Preambles see "PW371 - Specification of Materials and Methods to be used"				

	SUPPLEMENTARY PREAMBLES				
	Descriptions				
	Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding				
	Descriptions of tiling shall be deemed to include for symmetrical arrangement of tiling with cutting along both sides of panels and for all straight cutting				
	Descriptions of tiling shall be deemed to include for cutting and fitting around all sanitary ware and pipes, etc not exceeding 150mm diameter				
	Descriptions of tiling shall be deemed to include for soft grouted joints at positions of joints in the substructure or at centres in both directions as recommended by the tile manufacturers or which represents good practice				
	(WORKGROUP NO. 144)				
	WALL TILING				
	"Johnson MWB4" matt white glazed ceramic wall tiles size 150 x 150 x 6mm thick fixed to adhesive on plaster (plaster elsewhere)				
305	On walls	m²	178		
306	On walls in narrow widths	m²	3		
	Carried to Collection			R	

Bill No. 14
TILING

	FLOOR TILING				
	"Kilimanjaro Mazoni Grey (code:VT1KMA20353A)" slip resistant Porcelain floor tiles of 350 x 350 x 6.5mm thick supplied by "CTM" or similar approved bedded and jointed in 3:1 cement mortar on screed (screed elsewhere) and pointed in coloured warterproof jointing compound				
307	On floors and landings	m²	22		
308	100mm High skirting formed of 400 x 400 x 12mm cut tiles to walls included mitred external and internal corners	m	62		
	SUNDRIES				
	"M-Trim"				
309	10mm "ASE100.NA" aluminium straight edge trims	m	34		
	"Kirk Marketing" or similar approved dividing strips				
310	38mm Wide aluminuim transition cover between different floor finishes (Code: ATC 380)	m	59		
	"Kirk Marketing" or similar approved edge trimming				
311	45 x 30mm Natural anodised aluminium "Retro-fit" stair nosing with ridged pvc insert fixed to stair tread (Code: APRN450R)	m	73		
	Carried to Collection			R	

Bill No. 14
TILING

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Bill No. 14

TILING

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Bill No. 14
TILING

Item No		Quantity	Rate	Amount R

SECTION NO 2

BUILDING WORKS

BILL NO 15

PLUMBING AND DRAINAGE (PROVISIONAL)

For Preambles see "PW371 - Specification of Materials and Methods to be used"

SUPPLEMENTARY PREAMBLES

Wire gratings

Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings

Laying, backfilling, bedding, etc of pipes

Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions

Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:

SANS 1200 L : Medium-pressure pipelines, SANS 1200 LD : Sewers and SANS 1200 LE : Stormwater drainage

Pipe trenches, etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SANS 1200 DB : Earthworks (Pipe trenches)

Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SANS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding

uPVC pipes and fittings

Drainage pipes and fittings shall be jointed and sealed with butyl rubber rings

Sanitary plumbing pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings

Carried to Collection R

Bill No. 15
PLUMBING AND DRAINAGE

Septic tanks

Descriptions of septic tanks shall be deemed to include concrete base slabs, jointing to drains, etc

Stainless steel basins, sinks, wash troughs, urinals, etc

Stainless steel for economy basins, domestic sinks, worktops and wash troughs shall be type 430 (17/0)

Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc shall be type 304 (18/8)

Stainless steel for laboratory sinks, photographic equipment, etc shall be type 316 (18/8)

Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable

Flush pans

Flush pans shall have straight or side outlets and "P" or "S" traps as necessary

uPVC pressure pipes and fittings

Pipes for water supply shall be of the class described

Pipes of 42mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings

Pipes of 50mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints

HDPE (high density polyethylene) pipes and fittings

Pipes shall be type 4 and of the class specified with "Plasson" or "Alprene" compression fittings

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Bill No. 15
PLUMBING AND DRAINAGE

"Polycop" polypropylene pipes

Polypropylene pipes of 54mm diameter and smaller shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings as designed for use with copper pipes, as described

Pipes shall be firmly fixed to walls, etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed

All pipe diameters are nominal external

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016

Fixing of pipes

Unless specifically otherwise stated, descriptions of pipes shall be deemed to include for :
- casting in, building in, chasing in and fixing to walls, etc, including chasing; or
- placing in ground or filling under solid floors, including necessary excavation, backfilling and ramming; or
- suspending not exceeding 1m below suspension level

Disinfection of potable water pipelines

Descriptions of all potable water pipelines shall be deemed to include for disinfection in accordance with 5.10 of SANS 1200 L

Carried to Collection R

Bill No. 15
PLUMBING AND DRAINAGE

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm, only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm, all sizes are given and no claim for extra bushes, reducers, etc will be entertained

Geyser installations

Geyser installations shall comply with SANS 10254

"Densyl" petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd

Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with relevant overlaps for specific diameters of pipes

Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions, including all mastic, tape, "Layflat" sheeting, securing of same, etc

Prices for wrapping of pipes shall include for all work as described to couplings in the length

General

Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete

Descriptions of pipes laid in and including trenches, sumps, catchpits, junction boxes, inspection chambers, french drains, septic tanks and the like shall be deemed to include for excavations, bedding of pipes, risk of collapse, keeping free of water, a dewatering system for removal of seepage water and water from other subterranean sources in the excavations designed and executed by the contractor, backfilling, compaction to a minimum of 93% modified AASHTO density and disposal of surplus material

Descriptions of sumps, catchpits, junction boxes, inspection chambers and the like shall be deemed to include reinforcement, step irons and channels where applicable

Carried to Collection R

Bill No. 15
PLUMBING AND DRAINAGE

	Descriptions for jointing of new to existing pipes shall be deemed to include searching for the existing pipe, exposing if necessary, cutting into, jointing and necessary fittings Descriptions of washdown pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors measured separately) Descriptions of all sanitary fittings shall be deemed to include for silicone sealant pointing between the fittings and finished wall surfaces Descriptions of copper service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to pipes Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends Remeasurement The contractor's attention is specifically drawn to the fact that the work in this bill has not been measured provisionally but measured from the drawings and will under no circumstances be remeasured If during the execution of the contract the contractor finds that there are quantities which deviate from those in this bill of quantities, he must inform the principal agent and request that a contract instruction to this effect be issued to cover the cost thereof Claims submitted late will not be accepted for inclusion in the final account				
	(WORK GROUP 146)				
	RAINWATER DISPOSAL				
	Ogee profile Color-Tech G4 coated aluminium seamless gutter including colour-coded rivet-fixed internal and external mitres and end caps internally sealed using silicone sealant, hung by nail fixed internal aluminium hangers at 600mm centres				
312	150 x 150mm Ogee eaves gutters	m	538		
313	Extra over eaves gutter for stopped end	No	55		
314	Extra over eaves gutter for angles	No	16		
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Bill No. 15
PLUMBING AND DRAINAGE

315	Extra for outlet for 100mm x 75mm downpipe	No	33	
	Aluminium downpipes including expanded aluminium mesh leaf, fixed to walls with pre-painted downpipe cleats using nail-in anchor fixings and fixed to gutter outlets with industrial Snap Seals			
316	100 x 75mm Rainwater pipes	m	91	
317	Extra for shoe	No	20	
318	Extra over for eaves or plinth offset	No	34	
319	Extra over for spreader	No	9	
	"Saint-Gobain Full-Flow" ductile iron outlets			
320	100mm 180 Degree vertical dome roof outlet	No	13	
	(WORK GROUP 148)			
	SANITARY FITTINGS			
	'Franke (Trendline)' grade 304 (18/10) polished stainless steel sinks			
321	'Franke (Trendline) Model 721 1200 x 535mm Grade 304/10' polished steel double end bowl drop in sink (Code: 312081). Overall size 1200 x 535mm with two 343 x 410 x 140mm deep bowls, fitted onto cupboard (elsewhere measured)	No	1	
	'Vaal Sanitaryware' ceramic fireclay wash hand basins			
322	580 x 510mm "Concorde" rectangular basin with one tap hole, supplied without overflow, colour white (Code: 70207), mounted onto existing vanity slab, sealed with liberal layer of silicone sealant or equivialent between the contact area of the surface and basin self-rimming surface	No	4	
323	Vaal 'Hibiscus' close coupled 90 degree outlet open rim front single flush suite complete with lid and fitment (Code: 772654) colour white	No	6	
	WASTE UNIONS ETC			
	'Cobra Watertech' waste unions etc			
324	38mm Waste fittings and plugs	No	2	
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PLUMBING AND DRAINAGE

325	38mm Waste fittings and plugs (Code: 7050)	No	2	
326	'Cobra' 301 waste with plug, chain and stay	No	3	
	TRAPS ETC			
	"Cobra Watertech" or other approved			
327	50mm Cobra 345/50 bottle trap	No	3	
328	110mm Cast iron P-trap	No	1	
	TAPS, VALVES, ETC			
	Brass			
329	15mm Isolating valve	No	16	
330	22mm Isolating valve	No	2	
331	15 x 300mm Long braded tap connector	No	16	
332	20mm Rough Brass hose bibtap as Cobra Watertech 108.20 including hose union wall plate elbow, etc with couplings for copper	No	2	
333	32mm Fullway gate valve	No	2	
	"Cobra Watertech" or similar approved			
334	15mm "Star" heavy patterned pillar tap (111-15CP)	No	3	
335	FJ 6000 CP fulsh valve including 25mm CP flush pipe	No	1	
	'Cobra Watertech' light pattern angle regulating valves			
336	15 x 15mm Code 832-10 chrome plated angle regulating valve with flexi tube	No	6	
	"Franke" or similar approved sink mixer			
337	42mm High rise swivel mixer (Code: 305060) with overarm swivel spout	No	1	
	'Cobra Watertech' or similar approved shower sets			
338	"Cobra" shower set (Code: 431)	No	2	

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Bill No. 15
PLUMBING AND DRAINAGE

	SANITARY PLUMBING			
	Unplasticised polyvinyl chloride (uPVC) waste and vent piping conforming to SABS 967 with solvent cement jointing			
339	50mm Pipes	m	20	
340	110mm Pipes	m	25	
	Extra over uPVC pipes for fittings			
341	50 mm Bend	No	68	
342	50mm Access junction	No	5	
343	50mm BSP adaptor	No	19	
344	110mm Reducer	No	2	
345	110 mm Pan connector	No	23	
346	110 mm Bend	No	2	
347	110mm Junction	No	2	
348	100 mm Access bend	No	2	
349	110mm PVC to cast iron adaptor	No	25	
	Sundries			
350	Testing waste pipe system		Item	
	(WORK GROUP 148)			
	WATER SUPPLIES			
	Class 2 copper pipes			
351	15mm Pipe building into and including chasing into walls	m	21	
352	15mm Pipe and fixing to walls, soffits of concrete slabs and in roof space	m	42	
353	22mm Pipe building into and including chasing into walls	m	4	
354	22mm Pipe and fixing to walls, soffits of concrete slabs and in roof space	m	20	
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	Extra over class 2 copper pipes for brass compression fittings			
355	15mm Fittings	No	152	
356	22mm Fittings	No	32	
	Copper overflow and service pipes			
357	20mm Service pipe 450mm girth	No	4	
	WATER HEATERS			
	Kwikhot or other approved			
358	Prisma Classique 10 litre under basin water storage heater, wall mounted as per manufacturers specifications including pressure valve.	No	1	
359	60Kpa Safety valve	No	1	
360	400Kpa Pressure control valve	No	1	
	TESTING			
361	Testing water pipe system		Item	
	FIRE APPLIANCES ETC			
	"Chubb"			
362	"Everyway" hose reel complete with 30m hose, chromium plated stopcock, shut-off nozzle and wall bracket	No	2	
363	4.5kg Dry chemical powder fire extinguisher mounted on and including 450 x 600mm F24 ABS plastic chevron backing with consecutive numbering stamped on	No	4	
364	80 x 65mm Brass right angle hydrant valve with cap and chain	No	2	
	Fire hydrant pedestals			
365	Unreinforced concrete hydrant pedestal 1030mm high cast around vertical pipe with bottom 300mm below ground, 500 x 500 x 700mm deep concrete (grade 20/26) anchor block including necessary excavation, formwork and two coats of paint to exposed surfaces	No	2	
	FIRE APPLIANCES - WATER SUPPLIES			
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Bill No. 15
PLUMBING AND DRAINAGE

	Class 2 copper pipes			
366	25mm Pipe and fixing to walls, soffits of concrete slabs and in roof space	m	35	
367	25mm Pipe building into and including chasing into walls	m	15	
368	54mm Pipe and fixing to walls, soffits of concrete slabs and in roof space	m	25	
	Extra over class 2 copper pipes for brass compression fittings			
369	25mm Fittings	No	18	
370	54mm Elbow	No	15	
371	54mm Reducer	No	8	
372	54mm Reducing tee	No	4	
373	54mm Reducing bend	No	5	
	Sundries			
374	Testing fire water pipe system		Item	
	HOLES ETC			
	Core drilling of hole for pipe not exceeding 100mm diameter			
375	One brick wall	No	69	
	PLUMBING MAINTENANCE			
	Sundries			
376	Replace 15mm or 20mm tap washers.	No	2	

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Bill No. 15
PLUMBING AND DRAINAGE

Section No. 2

Bill No. 15

PLUMBING AND DRAINAGE

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Bill No. 15
PLUMBING AND DRAINAGE

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	SECTION NO 2				
	BUILDING WORKS				
	BILL NO 16				
	GLAZING				
	For Preambles see "PW371 - Specification of Materials and Methods to be used"				

	(WORK GROUP 150)				
	GLAZING TO CONCRETE WITH SILICONE				
	4mm Toughened safety glass				
377	Panes exceeding 0,1m2 and not exceeding 0,5m2	m²	1		
	GLAZING TO WOOD WITH PINNED-ON BEADS (BEADS ELSEWHERE)				
	4mm Toughened safety glass				
378	Panes exceeding 0,1m2 and not exceeding 0,5m2	m²	16		
	TOPS, SHELVES, DOORS, MIRRORS, ETC				
	6mm Silvered float glass copper backed mirrors with 10mm bevelled and polished edges fixed with doubled sided adhesive tape on brickwork or concrete				
379	Mirror 1000 x 700mm high	No	2		
380	Mirror 2000 x 700mm high	No	2		
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	Bill No. 16 GLAZING				

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SECTION NO 2

BUILDING WORKS

BILL NO 17

PAINTWORK

For Preambles see "PW371 - Specification of Materials and Methods to be used"

SUPPLEMENTARY PREAMBLES

DESCRIPTIONS

Descriptions of paintwork shall be deemed to include for all cutting in

PREPARATORY WORK TO EXISTING WORK

Plaster or concrete surfaces

Surfaces shall be thoroughly cleaned down by high pressure water jet and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed. All existing walls to be made good where damaged by removals, furniture, etc, and all screw and nail holes and cracks shall be opened, primed with plaster primer, filled with a suitable filler and finished smooth

Metal surfaces

Surfaces shall be thoroughly rubbed and cleaned down by means of grit blasting or wire brushing. Blistered or peeling paint, including all traces of corrosion, shall be completely removed down to bare metal

Previously painted metal surfaces

Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal

Carried to Collection R

Bill No. 17
PAINTWORK

	Previously painted wood surfaces Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth **(WORK GROUP 152)** **PAINTWORK, ETC TO NEW WORK ON** **FLOATED PLASTER SURFACES WITH** Prepare surfaces and remove all loose material and paint one coat "Dulux" trade alkali resistant plaster primer and two coats "Dulux" trade luxurious silk paint on				
381	Internal walls (LI)	m²	2 501		
	Prepare surfaces and remove all loose material and paint one coat "Dulux" trade alkali resistant primer and two coats "Dulux" wallguard paint on				
382	External walls (LI)	m²	56		
	SMOOTH CONCRETE SURFACES WITH Prepare surfaces and remove all loose material and paint one coat "Dulux" trade alkali resistant plaster primer and two coats "Dulux" trade 65 Matt PVA paint on				
383	Ceilings and beams (LI)	m²	35		
	PLASTER BOARD SURFACES WITH Prepare surfaces and remove all loose material, and paint one coat "Dulux" trade alkali resistant plaster primer and two coats "Dulux" trade 65 Matt PVA paint on				
384	Ceilings and cornices (LI)	m²	838		
	FIBRE-CEMENT SURFACES WITH Prepare surfaces and remove all loose material, and paint one coat "Dulux" trade alkali resistant plaster primer and two coats "Dulux" trade 65 Matt PVA paint on				
385	Eaves (LI)	m²	207		
	Carried to Collection			R	
	Bill No. 17 PAINTWORK				

	Prepare surfaces and remove all loose material and paint one coat "Dulux" trade alkali resistant primer and two coats "Dulux" wallguard paint on				
386	Fascias and barge boards (LI)	m²	109		
	METAL SURFACES WITH				
	Prepare surfaces and remove all loose material and paint two coats "Dulux" primer for galvanized iron, two coats "Dulux" universal undercoat and two coats "Dulux" Pearlglo solvent based satin enamel paint on				
387	Door frames (LI)	m²	37		
388	Recordroom and strongroom doors and frames (LI)	m²	46		
389	Gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area) (LI)	m²	72		
	WOOD SURFACES WITH				
	Prepare surfaces and remove all loose material and paint one coat "Dulux" primer for wood, one coat "Dulux" trade universal undercoat and two coats "Dulux" gloss enamel paint on				
390	Roof timbers at eaves and verges (LI)	m²	283		
	Two coats "Dulux" primer for wood on				
391	Backs of frames, linings, etc not exceeding 300mm wide (LI)	m	1 582		
	Stop, sand down and prepare wood surfaces and apply one coat "Dulux" primer for wood, one coat "Dulux" trade universal undercoat and two coats "Dulux" Pearlglo solvent based satin enamel paint on				
392	Doors (LI)	m²	331		
393	Door frames, etc (LI)	m²	26		
394	Timber beams (LI)	m²	318		
	Stop, sand down and prepare wood surfaces and apply three coats "Dulux" woodguard interior timber varnish				
395	On skirtings, rails, etc not exceeding 300mm girth (LI)	m	1 480		
	Carried to Collection			R	

Bill No. 17
PAINTWORK

	PAINTWORK, ETC TO PREVIOUSLY PAINTED WORK ON				
	FACEBRICK SURFACES				
	Clean down surfaces and remove all loose material, fill all mortar joints and seal with two coats "Dulux" brick dressing				
396	Existing walls (LI)	m²	1 938		
	FLOATED PLASTER SURFACES WITH				
	Remove any loose and flaking residue by means of wire brush, wash with sugar soap or weak spirits of salts, open up cracks and make good with filler sanded smooth and apply one coat "Dulux" trade alkali resistant plaster primer and two coats "Dulux" trade luxurious silk paint on				
397	Internal walls (LI)	m²	1 801		
	Remove any loose and flaking residue by means of wire brush, wash with sugar soap or weak spirits of salts, open up cracks and make good with filler sanded smooth and apply one coat "Dulux" trade alkali resistant primer and two coats "Dulux" wallguard paint on				
398	External walls (LI)	m²	563		
	Remove any loose and flaking residue by means of wire brush, wash with sugar soap or weak spirits of salts, open up cracks and make good with filler sanded smooth and apply one coat "Dulux" trade alkali resistant primer, one coat "Dulux" rainshield and two coats "Dulux" wallguard paint on				
399	External walls (LI)	m²	196		
	ON CONCRETE SURFACES				
	Remove any loose and flaking residue by means of wire brush, wash with sugar soap or weak spirits of salts, open up cracks and make good with filler sanded smooth and apply one coat "Dulux" trade alkali resistant plaster primer and two coats "Dulux" trade 65 Matt PVA paint on				
400	Ceilings and beams (LI)	m²	821		
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Bill No. 17
PAINTWORK

	Remove any loose and flaking residue by means of wire brush, wash with sugar soap or weak spirits of salts, open up cracks and make good with filler sanded smooth and apply one coat "Dulux" trade alkali resistant plaster primer, one coat "Dulux" trade universal undercoat and two coats "Dulux" gloss enamel paint on			
401	Windblocks (LI)	m^2	502	
402	Columns (LI)	m^2	135	
	METAL SURFACES WITH			
	Remove any loose and flaking residue by means of wire brush, wash with sugar soap or weak spirits of salts, rinse, apply iron cleaner to bare metal surfaces, spot prime with metal primer and apply one coat "Dulux" cleaner for galvanized iron, two coat "Dulux" primer for galvanized iron, two coat "Dulux" universal undercoat and two coats "Dulux" Pearlglo solvent based enamel paint on			
403	Burglar bars (both sides measured) (LI)	m^2	31	
404	Gates and screens (both sides measured) (LI)	m^2	45	
405	Steel grilles in holding cells (both sides measured) (LI)	m^2	250	
406	Doors (LI)	m^2	48	
407	Door frames (LI)	m^2	136	
408	Handrails not exceeding 80mm diameter	m	14	
	WOOD SURFACES WITH			
	Clean down, remove any loose and flaking residue and apply one coat "Dulux" primer for wood, one coat "Dulux" trade universal undercoat and two coats "Dulux" Pearlglo solvent based satin enamel paint on			
409	Doors (LI)	m^2	283	
410	Door frames, etc (LI)	m^2	17	
411	Window frames	m^2	4	
412	Timber benches (LI)	m^2	102	
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Bill No. 17
PAINTWORK

Section No. 2

Bill No. 17

PAINTWORK

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PAINTWORK

SECTION SUMMARY - Bill of Quantities

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SECTION NO 3

EXTERNAL WORKS (PROVISIONAL)

BILL NO 1

EARTHWORKS

For Preambles see "PW371 - Specification of Materials and Methods to be used"

SUPPLEMENTARY PREAMBLES

Nature of ground

The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "hard rock" or "soft rock".

A soils investigation has been carried out on site by the engineer and the report is annexed to these bills of quantities. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured

Carting away of excavated material

Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site

Filling

Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any multiple handling of material

Carried to Collection R

Bill No. 1
EARTHWORKS

Site survey

Should the contractor consider that any of the excavations are more difficult in character than excavations in "earth" he shall immediately notify the principal agent in writing. Failing such notification the excavations shall be deemed to be in "earth" and shall be measured and valued accordingly

The contractor may use any method he chooses to excavate any class of material, but his chosen method of excavation shall not determine the classification of the material excavated

Subterranean water

No subterranean water is expected

Working space

Working space for formwork to sides of bases, ground beams, etc is measured with the assumption that it will be required by the principal agent in certain cases. If it is not required, it will be adjusted as such in the final account

Working space for formwork to sides of all concrete, except columns, has been measured only where the concrete face is less than 600mm from the face of the measured excavation

Working space for formwork to sides of columns has been measured for the width of the column face only where both:

- the top of the column base is more than 1.5m below the commencing level of the excavations and
- the column face is less than 600mm from the face of the measured excavations

No claim will be considered for any working space for formwork to concrete other than as above described or for working space beyond the sides of trench excavations for the building of brick or block walls

Excavation for working space in rock

Notwithstanding clause 11 on page 7 of the Standard System of Measuring Building Work, excavation for working space in rock will be measured in cubic metres to the extent executed and given as "extra over" bulk excavation or trench and hole excavation as the case may be

Carried to Collection

R

Bill No. 1
EARTHWORKS

	Disposal of excavated material			
	All excavations shall be deemed to include disposal of excavated material by setting aside for use as filling or depositing on site within 100m of the perimeter of the building and spreading and leveling			
	(WORK GROUP 102)			
	TEMPORARY BARRIERS, SCREENS, ETC			
	Temporary barriers, screens, etc including removal			
1	Shadecloth hoarding 1,8m high comprising Bonnox fence fixed to gumpoles cast into concrete bases at suitable centres all to Architect's approval including hacking up existing brick paving and making good on completion	m	80	
	DEMOLITIONS ETC			
	Taking down and removing			
2	Concrete palisade fence 2,4m high including grubbing up foundations (LI)	m	400	
3	Double vehicular gate 5 x 1.8m high overall	No	1	
	Taking up and removing			
4	60-80mm Thick precast paving bricks (LI)	m²	200	
	Breaking up and removing			
5	40mm Thick tarmac	m²	2 762	
6	Terraforce retaining wall average 1,5m high including grubbing up foundations	m	5	
7	Take out existing precast concrete kerbs, footings, etc.	m	520	
	(WORK GROUP 104)			
	SITE CLEARANCE ETC			
	Site clearance			
8	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m²	2 351	
	Carried to Collection			R
	Bill No. 1 EARTHWORKS			

9	Stripping average 100mm thick layer of top soil and stockpiling on site	m^2	2 123		
	REMOVAL OF TREES ETC				
	Taking out and removing, grubbing up roots and filling in holes				
10	Take out and remove tree with trunk exceeding 0,2m and not exceeding 0,5m girth measured 1m above ground level including excavating and removing of roots and fill hole with clean dry earth filling, watered and rammed	No	1		
11	Take out and remove tree with trunk exceeding 0,5m and not exceeding 1m girth measured 1m above ground level including excavating and removing of roots and fill hole with clean dry earth filling, watered and rammed	No	1		
	BULK EXCAVATION, FILLING, ETC				
	EXCAVATIONS, ETC				
	Open face excavation in earth over sloping site				
12	Open face excavation	m^3	139		
	Extra over all excavations for carting away				
13	Extra over all excavations for carting away surplus material from excavations and/or stockpile on site to a dumping site to be located by the Contractor	m^3	139		
	Extra over bulk excavation in earth for excavation in				
14	Soft rock	m^3	11		
15	Hard rock	m^3	4		
	Risk of collapse of excavations				
16	Sides of bulk excavations exceeding 1,5m deep	m^2	25		
	Keeping excavations free of water				
17	Allow for keeping excavations entirely free from water and mud		Item		
	FILLING, ETC				
	Carried to Collection			R	

Bill No. 1
EARTHWORKS

	Earth filling supplied by the contractor, compacted to 96% Mod AASHTO density				
18	G7 earth filling over site to form platforms	m^3	28		
	Earth filling supplied by the contractor compacted to 98% Mod AASHTO density				
19	G5 gravel filling over site to form platforms	m^3	66		
	Soil insecticide				
20	Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m^2	440		
	EXCAVATION, FILLING, ETC OTHER THAN BULK				
	LANDSCAPING				
	Ground preparation				
21	Cultivation and preparation of areas to be planted	m^2	472		
	Topsoil obtained from prescribed stock piles on site, including spreading and levelling				
22	Take from stockpile and spread topsoil 100mm thick	m^2	472		
	Grassing, ground covers, etc				
23	Take from where set aside and lay lawn	m^2	472		
	Carried to Collection			R	

Bill No. 1
EARTHWORKS

Section No. 3

Bill No. 1

EARTHWORKS

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Bill No. 1
EARTHWORKS

Item No		Quantity	Rate	Amount R

SECTION NO 3

EXTERNAL WORKS (PROVISIONAL)

BILL NO 2

PLUMBING AND DRAINAGE

For Preambles see "PW371 - Specification of Materials and Methods to be used"

SUPPLEMENTARY PREAMBLES

Wire gratings

Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings

Stormwater channels

Descriptions of channels shall be deemed to include all necessary excavation and disposal of surplus material

Rock excavations

No claim for rock excavation will be entertained unless the contractor has timeously notified the principal agent thereof prior to backfilling

"Soft rock" and "hard rock" shall be as defined in "Earthworks"

Laying, backfilling, bedding, etc of pipes

Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions

Carried to Collection R

Bill No. 2
PLUMBING AND DRAINAGE

Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:

SANS 1200 L : Medium-pressure pipelines, SANS 1200 LD : Sewers and SANS 1200 LE : Stormwater drainage

Pipe trenches, etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SANS 1200 DB : Earthworks (Pipe trenches)

Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SANS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding

Concrete pipes

Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings

Vitrified clay pipes etc

Pipes shall rest on solid ground and, where necessary, pockets of sufficient size shall be cut around joints to enable the jointing to be properly performed or, alternatively, pipes shall be bedded full length on and including concrete laid in a semi-dry state immediately before pipes are laid

uPVC pipes and fittings

Drainage pipes and fittings shall be jointed and sealed with butyl rubber rings

Sanitary plumbing pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings

Gratings, covers, etc

Gratings, covers, etc shall be as manufactured by "Saint-Gobain", unless otherwise described

Carried to Collection

R

Bill No. 2
PLUMBING AND DRAINAGE

French drains

Descriptions of french drains shall be deemed to include for battered sides and sloping bottoms with inlet chamber size 300 x 300mm internally under inlet pipe, from bottom of drain to top of pipe, formed of loosely packed, rough, hard stone walls and covered with precast concrete slab size 600 x 600 x 100mm thick and the rest of the drain filled in to the same height with similar stone graded from 300mm diameter at bottom to 50mm diameter at top, covered with galvanised corrugated iron sheets treated on both sides with bituminous paint and 300mm earthfilling over

Septic tanks

Descriptions of septic tanks shall be deemed to include concrete base slabs, jointing to drains, etc

Flush pans

Flush pans shall have straight or side outlets and "P" or "S" traps as necessary

huPVC pressure pipes and fittings

Pipes for water supply shall be of the class described

Pipes of 42mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings

Pipes of 50mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints

HDPE (high density polyethylene) pipes and fittings

Pipes shall be type 4 and of the class specified with "Plasson" or "Alprene" compression fittings

Carried to Collection R

Bill No. 2
PLUMBING AND DRAINAGE

"Polycop" polypropylene pipes

Polypropylene pipes of 54mm diameter and smaller shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings as designed for use with copper pipes, as described

Pipes shall be firmly fixed to walls, etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed

All pipe diameters are nominal external

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016

Fixing of pipes

Unless specifically otherwise stated, descriptions of pipes shall be deemed to include for :
- casting in, building in, chasing in and fixing to walls, etc, including chasing; or
- placing in ground or filling under solid floors, including necessary excavation, backfilling and ramming; or
- suspending not exceeding 1m below suspension level

Disinfection of potable water pipelines

Descriptions of all potable water pipelines shall be deemed to include for disinfection in accordance with 5.10 of SANS 1200 L

Carried to Collection

R

Bill No. 2
PLUMBING AND DRAINAGE

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm, only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm, all sizes are given and no claim for extra bushes, reducers, etc will be entertained

Steel sectional water tanks

Tanks shall comply with CKS 114

"Densyl" petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd

Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with relevant overlaps for specific diameters of pipes

Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions, including all mastic, tape, "Layflat" sheeting, securing of same, etc

Prices for wrapping of pipes shall include for all work as described to couplings in the length

General

Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete

Descriptions of pipes laid in and including trenches, sumps, catchpits, junction boxes, inspection chambers, french drains, septic tanks and the like shall be deemed to include for excavations, bedding of pipes, risk of collapse, keeping free of water, a dewatering system for removal of seepage water and water from other subterranean sources in the excavations designed and executed by the contractor, backfilling, compaction to a minimum of 93% modified AASHTO density and disposal of surplus material

Descriptions of sumps, catchpits, junction boxes, inspection chambers and the like shall be deemed to include reinforcement, step irons and channels where applicable

Carried to Collection R

Bill No. 2
PLUMBING AND DRAINAGE

	Descriptions for jointing of new to existing pipes shall be deemed to include searching for the existing pipe, exposing if necessary, cutting into, jointing and necessary fittings Descriptions of washdown pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors measured separately) Descriptions of all sanitary fittings shall be deemed to include for silicone sealant pointing between the fittings and finished wall surfaces Descriptions of copper service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to pipes Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends Remeasurement The contractor's attention is specifically drawn to the fact that the work in this bill has not been measured provisionally but measured from the drawings and will under no circumstances be remeasured If during the execution of the contract the contractor finds that there are quantities which deviate from those in this bill of quantities, he must inform the principal agent and request that a contract instruction to this effect be issued to cover the cost thereof Claims submitted late will not be accepted for inclusion in the final account				
	(WORKGROUP NO 146)				
	SUBSOIL DRAINAGE				
	"Cordrain" slotted uPVC flexible pipes				
24	150mm Pipes laid in stone encasing (encasing elsewhere)	m	728		
	Extra over "Cordrain" slotted uPVC flexible pipes for uPVC fittings				
25	150mm End cap	No	20		
	Carried to Collection			R	
	Bill No. 2 PLUMBING AND DRAINAGE				

26	150mm Rodding eye	No	5		
27	150mm Bend	No	20		
28	150mm 90 Degree tee	No	7		
29	150mm 45 Degree junction	No	5		
	Non-woven continuous filament needle punch polyester filter fabric blanket				
30	Around stone filling in sub-soil drain trenches	m^2	218		
	Stone filling of 19mm broken stone				
31	In sub-soil drain trenches around pipes	m^3	16		
	(WORKGROUP 146)				
	STORMWATER DRAINAGE				
	Spigot and Socket Class D Reinforced Concrete Pipes to SABS 677				
32	300mm Pipes laid in and including trenches, bedding and backfill not exceeding 1m deep (LI)	m	31		
33	300mm Pipes laid in and including trenches, bedding and backfill exceeding 1m and not exceeding 2m deep (LI)	m	567		
34	300mm Pipes laid in and including trenches, bedding and backfill exceeding 2m and not exceeding 3m deep (LI)	m	89		
35	450mm Pipes laid in and including trenches, bedding and backfill exceeding 1m and not exceeding 2m deep (LI)	m	23		
36	450mm Pipes laid in and including trenches, bedding and backfill exceeding 2m and not exceeding 3m deep (LI)	m	18		
	Shoring to both sides of trenches all as per Engineers detail drawing number C5604/19 to				
37	Sides of trench and hole excavations exceeding 2m and not exceeding 3m deep	m	107		
	(WORKGROUP NO. 146)				
	Carried to Collection			R	

Bill No. 2
PLUMBING AND DRAINAGE

	THE FOLLOWING IN CATCHPITS				
	Excavate for and build inlet manholes with chamber size 300 x 300mm internally formed of 150mm thick concrete Class 25/19 bottom, sides of one brick walls in extra hard burnt clay bricks including plaster rendering to inside of chamber, 100mm thick rebated slab reinforced with 14 x R16 reinforcement bars 300m long and grating (grating elsewhere) welded to frame and grid, including all benching, channels, bends, formwork, etc				
38	Catchpit not exceeding 1m internally	No	3		
39	Catchpit exceeding 1m and not exceeding 2m deep internally	No	37		
40	Catchpit exceeding 2m and not exceeding 3m deep internally	No	3		
	Excavate for and build inlet manholes with chamber size 600 x 600mm internally formed of 150mm thick concrete Class 25/19 bottom, sides of one brick walls in extra hard burnt clay bricks including plaster rendering to inside of chamber, 100mm thick rebated slab reinforced with 14 x R16 reinforcement bars 300m long and grating (grating elsewhere) welded to frame and grid, including all benching, channels, bends, formwork, etc				
41	Catchpit exceeding 1m and not exceeding 2m deep internally	No	17		
42	Catchpit exceeding 2m and not exceeding 3m deep internally	No	5		
	Excavate in earth for and build manhole size internally 400 x 400mm with one brick sides on and including a 100mm thick mass concrete class 25/26 base projecting 75mm all round, including finishing in 3:1 cement plaster on inside and mass concrete class 20/13 benching, with 100mm thick mass concrete class 25/19 slab over finished on all exposed surfaces in untinted granolithic with angles rounded with opening for 630mm diameter precast concrete cover (measured elsewhere)				
43	Manhole exceeding 1m and not exceeding 2m deep internally	No	4		
	(WORK GROUP 136)				
	Carried to Collection			R	

Bill No. 2
PLUMBING AND DRAINAGE

	Gratings, covers, etc			
44	Saint Gobain heavy duty grating cover and frame (Code: 2934), size 300 x 300mm x 10,3kg	No	43	
45	Saint Gobain heavy duty grating cover and frame (Code: 2952), size 600 x 600mm x 50kg	No	22	
	Precast concret covers etc			
46	620mm Diameter light duty manhole cover including lifting lugs	No	4	
	(WORKGROUP NO. 146)			
	VALVE CHAMBERS, BOXES, ETC.			
	Excavate for and construct valve box comprising a type 3B cast iron valve key box with hinged lids set in 800 x 800 x 300mm thick concrete surround, above to be set on 250mm diameter PVC pipe cast into a 450 x 1000 x 150mm thick concrete base			
47	Valve box exceeding 1m and not exceeding 2m deep internally	No	38	
	Excavate in earth for and build valve box chamber size internally 450 x 450mm with one brick sides on and including a 150mm thick mass concrete class 25/26 base projecting 75mm all round, including finishing in 3:1 cement plaster on inside and mass concrete class 20/13 benching, fitted with 450 x 450mm light duty cast iron cover and frame (measured elsewhere)			
48	Chamber not exceeding 1m deep internally	No	9	
	Gratings, covers, etc			
49	Saint Gobain light duty cast iron cover and frame (Code: 2040) size 450 x 450mm x 28,5kg	No	9	
	(WORKGROUP NO 146)			
	SOIL DRAINAGE			
	Class 34 heavy duty uPVC pipes			
50	110mm Pipes vertically or ramped to cleaning eyes etc (no excavation)	m	14	
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

51	160mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep (LI)	m	193	
52	160mm Pipes laid in and including trenches exceeding 2m and not exceeding 3m deep (LI)	m	112	
53	160mm Pipes laid in and including trenches exceeding 3m and not exceeding 4m deep (LI)	m	40	
54	160mm Pipes laid in and including trenches exceeding 4m and not exceeding 5m deep (LI)	m	96	
	Extra over uPVC pipes for fittings			
55	160mm Bend	No	20	
56	160mm Acces bend	No	5	
57	160mm Rodding eye	No	10	
58	160mm Junction	No	10	
	Shoring to both sides of trenches all as per Engineers detail drawing number C5604/19 to			
59	Sides of trench and hole excavations exceeding 2m and not exceeding 3m deep	m	124	
60	Sides of trench and hole excavations exceeding 3m and not exceeding 4m deep	m	40	
61	Sides of trench and hole excavations exceeding 4m and not exceeding 5m deep	m	96	
	Excavate for and build precast concrete circular inspection chambers formed of 250mm thick concrete bottom, sides formed of 1000mm diameter precast concrete sections with starter ring on bottom including precast concrete cover slabs (covers elsewhere), with all necessary steps irons, etc. and channels in benching			
62	Manhole with invert exceeding 1m and not exceeding 1,5m deep	No	11	
63	Manhole with invert exceeding 1,5m and not exceeding 2m deep	No	7	
64	Manhole with invert exceeding 2m and not exceeding 2,5m deep	No	2	

Carried to Collection R

Bill No. 2
PLUMBING AND DRAINAGE

65	Manhole with invert exceeding 2,5m and not exceeding 3m deep	No	3	
66	Manhole with invert exceeding 3m and not exceeding 3,5m deep	No	1	
67	Manhole with invert exceeding 3,5m and not exceeding 4m deep	No	1	
68	Manhole with invert exceeding 4m and not exceeding 4,5m deep	No	8	
	(WORK GROUP 136)			
	Cast iron covers, etc			
69	Saint Gobain heavy duty cast iron double seal manhole cover and frame (Code: 2260) size 600mm diameter x 75kg type 4A	No	17	
	Precast concret covers etc			
70	620mm Diameter light duty manhole cover including lifting lugs	No	8	
	(WORKGROUP NO 110)			
	Encasing piping in concrete (Class C) including all necessary formwork			
71	Encasing to 160mm horizontal pipe with 225mm covering all round	m	234	
	(WORKGROUP NO. 146)			
	Sundries			
72	110mm 'ABC' cast iron rodding eye cover and frame and joint to UPVC pipe with and including necessary adaptor.	No	7	
73	Cutting into side of existing inspection chamber for and connecting 160mm pipe including inserting 160mm channel junction and making good concrete benching	No	1	
	THE FOLLOWING TO EXISTING SEPTIC TANK			
	(WORKGROUP NO 102)			
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

	Demolishing and removing			
74	De-sludge pit latrine to be carried out by an accredited service provider and sludge to be disposed of at an approved land fill site	m^3	96	
	Breaking out and removing brickwork etc			
75	One brick wall	m^2	9	
	Cleaning and clearing			
76	Pressure clean existing surface bed, walls and slab over with water	m^2	139	
	(WORKGROUP NO. 116)			
	Bagging of 1:3 cement and sand mixture			
77	On brick walls	m^2	103	
	(WORKGROUP 120)			
	Two coats "Brixeal" bitumen emulsion waterproof coating			
78	On bagged brick walls	m^2	103	
	THE FOLLOWING IN NEW SEPTIC TANK			
	(WORK GROUP 104)			
	Excavation in earth not exceeding 2m deep			
79	Trenches	m^3	1	
	Excavation in earth exceeding 2m and not exceeding 4m deep			
80	Holes	m^3	32	
	Risk of collapse of excavations			
81	Sides of trench and hole excavations not exceeding 1,5m deep	m^2	19	
82	Sides of trench and hole excavations exceeding 1,5m deep	m^2	25	
	Carried to Collection			R
	Bill No. 2 PLUMBING AND DRAINAGE			

	Keeping excavations free of water			
83	Keeping excavations free of water		Item	
	Earth filling obtained from the excavations (not compacted)			
84	Surplus material from excavations and/or stock piles on site to be spread over site with a haulage of not exceeding 100m	m^3	33	
	Earth filling supplied by the contractor, compacted to 98% Mod AASHTO density			
85	G5 gravel filling under solid floors, steps, pavings, etc.	m^3	4	
	Back excavation of vertical sides of excavation in earth not exceeding 500mm deep for working space, including backfilling compacted to 93% Mod AASHTO density			
86	For placing and removing formwork to walls etc against excavated face	m^2	72	
	Compaction of surfaces			
87	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 96% Mod AASHTO density	m^2	13	
	Soil insecticide			
88	Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m^2	13	
	(WORKGROUP 110)			
	25MPa/19mm Reinforced concrete			
89	Strip footing	m^3	2	
90	Surface beds	m^3	4	
91	Walls	m^3	4	
	(WORKGROUP 112)			
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

	Precast concrete left smooth from the mould including bedding, jointing and pointing			
92	3070 x 3260 x 150mm Thick pit cover slab with bevelled top edges, reinforced with high tensile steel mesh Ref. 193 and fitted with four 10mm diameter x 650mm girth U-shaped high tensile steel lifting handles, bent to detail and cast in	No	1	
93	Extra over 150mm thick pre-cast concrete slab to form 600 x 600mm opening	No	2	
	Precast concrete covers etc			
94	620mm Diameter light duty manhole cover including lifting lugs	No	2	
	(WORKGROUP 114)			
	Mild and High tensile steel reinforcement to structural concrete work			
95	Various diameter bars	t	1.02	
	(WORKGROUP 116)			
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class 1 mortar			
96	370mm Hollow wall of two half brick skins with 140mm cavity between including wire ties	m²	25	
	(WORKGROUP NO. 116)			
	Bagging of 1:3 cement and sand mixture			
97	On brick walls	m²	22	
	(WORKGROUP 120)			
	Two coats "Brixeal" bitumen emulsion waterproof coating			
98	On bagged brick walls	m²	22	
	THE FOLLOWING TO FRENCH DRAIN			
	(WORK GROUP 104)			
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

	Excavation in earth not exceeding 2m deep				
99	Trenches	m^3	26		
	Risk of collapse of excavations				
100	Sides of trench and hole excavations not exceeding 1,5m deep	m^2	86		
	Keeping excavations free of water				
101	Keeping excavations free of water		Item		
	Earth filling obtained from the excavations (not compacted)				
102	Surplus material from excavations and/or stock piles on site to be spread over site with a haulage of not exceeding 100m	m^3	26		
	Stone filling of 19mm broken stone				
103	To trenches	m^3	26		
	Stone filling of 13mm broken stone				
104	Over site to make up levels	m^3	4		
	Coarse river sand filling supplied by the contractor				
105	Over site to make up levels	m^3	4		
	(WORKGROUP 146)				
	"Cordrain" slotted uPVC flexible pipes				
106	110mm Pipes laid in stone encasing (encasing elsewhere)	m	43		
	Extra over "Cordrain" slotted uPVC flexible pipes for uPVC fittings				
107	110mm End cap	No	1		
108	110mm Rodding eye	No	2		
109	110mm Bend	No	1		
	Carried to Collection			R	

Bill No. 2
PLUMBING AND DRAINAGE

	UPVC 'Class 34' pipes			
110	110mm Diameter inspection pipe vertically in ground including excavation not exceeding 1m deep	m	4	
	Extra over UPVC pipes for fittings			
111	110mm End cap	No	2	
	THE FOLLOWING TO PUMP CHAMBER			
	(WORK GROUP 104)			
	Excavation in earth not exceeding 2m deep			
112	Holes	m^3	7	
	Risk of collapse of excavations			
113	Sides of trench and hole excavations not exceeding 1,5m deep	m^2	13	
	Keeping excavations free of water			
114	Keeping excavations free of water		Item	
	Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density			
115	Backfilling to trenches, holes, etc	m^3	4	
	Earth filling obtained from the excavations (not compacted)			
116	Surplus material from excavations and/or stock piles on site to be spread over site with a haulage of not exceeding 100m	m^3	3	
	Compaction of surfaces			
117	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density	m^2	5	
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

	Soil insecticide			
118	Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m²	5	
	(WORKGROUP NO 110)			
	20MPa/19mm Reinforced concrete			
119	Bases	m³	1	
	(WORKGROUP NO 112)			
	Precast concrete left smooth from the mould including bedding, jointing and pointing			
120	2240 x 1440 x 200mm Thick pit cover slab with bevelled top edges, reinforced with high tensile steel mesh Ref. 193 and fitted with four 10mm diameter x 650mm girth U-shaped high tensile steel lifting handles, bent to detail and cast in	No	1	
	(WORK GROUP 114)			
	Fabric reinforcement			
121	Type 345 fabric reinforcement in concrete surface beds, slabs, etc	m²	5	
	(WORKGROUP NO 116)			
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar			
122	One brick walls	m²	12	
	Brickwork reinforcement			
123	150mm Wide reinforcement built in horizontally	m	36	
	(WORKGROUP NO 142)			
	One coat 4:1 cement plastered finish to a smooth and even steel floated surface on brickwork			
124	On walls	m²	12	
	(WORKGROUP NO 148)			
	WATER SUPPLIES			
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

	Class 12 HDPE pipes			
125	32mm pipe laind in and including trenches not exceeding 1m deep	m	109	
126	50mm pipe laind in and including trenches not exceeding 1m deep	m	156	
127	75mm pipe laind in and including trenches not exceeding 1m deep	m	54	
128	100mm pipe laind in and including trenches not exceeding 1m deep	m	58	
	Extra over HDPE pipe for class 12 compression type pressure fittings			
129	32mm Elbow	No	7	
130	32mm Tee	No	8	
131	32mm HDPE to iron adaptor	No	36	
132	50mm Elbow	No	20	
133	50mm Tee	No	4	
134	50mm Reducer	No	3	
135	50mm Reducing tee	No	12	
136	50mm HDPE to iron adaptor	No	24	
137	50mm HDPE flanged adaptor complete with gasket and stainless steel bolt and nut set	No	30	
138	75mm Elbow	No	10	
139	75mm Reducing tee	No	2	
140	75mm Tee	No	2	
141	75mm Reducer	No	3	
142	75mm HDPE to iron adaptor	No	6	
143	75mm HDPE flanged adaptor complete with gasket and stainless steel bolt and nut set	No	14	

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Bill No. 2
PLUMBING AND DRAINAGE

144	110mm Elbow	No	24
145	110mm Reducing tee	No	3
146	110mm Reducer	No	9
147	110mm Tee	No	8
148	110mm HDPE to iron adaptor	No	4
149	110mm HDPE flanged adaptor complete with gasket and stainless steel bolt and nut set	No	43
	Brass fittings		
150	32mm 1090 CP Ball-O-stop with lever type handle	No	9
151	50mm 1090 CP Ball-O-stop with lever type handle	No	4
152	80mm 1090 CP Ball-O-stop with lever type handle	No	2
153	108mm 1090 CP Ball-O-stop with lever type handle	No	8
154	AVK (Code: 21-50-60) or equal approved 50mm diameter flanged gate valve drilled table D complete with a cap top extension piece 800mm long fixed onto gate valve	No	15
155	AVK (Code: 21-50-60) or equal approved 80mm diameter flanged gate valve drilled table D complete with a cap top extension piece 800mm long fixed onto gate valve	No	7
156	AVK (Code: 21-50-60) or equal approved 100mm diameter flanged gate valve drilled table D complete with a cap top extension piece 800mm long fixed onto gate valve	No	20
157	80mm Diameter bemad electronic inlet control valve	No	3
	'Cobra Watertech' light pattern angle regulating valves		
158	100mm Diamter cast iron flap type non return valve flanged both sides	No	4
	Sundries		
159	Unreinforced concrete thrust blocks at bends, tees, etc, including necessary extra excavation, formwork, etc	m^3	10

Carried to Collection R

Bill No. 2
PLUMBING AND DRAINAGE

	Black mild steel pipe				
160	100mm Pipe	m	11		
	Extra over black mild steel pipe for fittings				
161	100mm Elbows	No	8		
162	100mm Reducer	No	6		
163	100mm Tee	No	2		
164	100mm Flanged adaptor drilled table D	No	4		
165	100mm Diameter 200mm long spool piece with both ends flanged	No	2		
166	100mm Diamater 800mm long flanged pipe with one end flanged and the other welded onto bend	No	3		
167	100mm Diameter 1000mm long puddle flange pipe with one end flanged and the other welded onto bend with the puddle flange fixed 200mm below end flange	No	3		
168	100 x 80mm Threaded reducing bush	No	4		
	(WORKGROUP NO 148)				
	WATER TANK CONNECTION				
	Class 1 copper pipe with brass compression fittings				
169	76mm Diameter pipe	m	13		
170	108mm Diameter pipe	m	4		
	Extra over class 1 copper pipe for brass compression fittings				
171	76mm Reducer	No	2		
172	76mm Elbow	No	4		
173	76mm Tee	No	1		
174	76mm Brass flange drilled "Table D"	No	2		
175	76mm Copper to iron coupler	No	8		
176	108mm Reducer	No	2		
	Carried to Collection			R	

Bill No. 2
PLUMBING AND DRAINAGE

177	108mm Elbow	No	4	
178	108mm Tee	No	1	
179	108mm Brass flange drilled "Table D"	No	6	
180	108mm Copper to iron coupler	No	8	
181	Cutting into side of existing inspection chamber for and connecting 110mm pipe including inserting 110mm channel junction and making good concrete benching	No	1	
	Black mild steel pipe			
182	80mm Diameter pipe	m	6	
183	100mm Diameter pipe	m	20	
	Extra over black mild steel pipe for fittings			
184	80mm Elbows	No	2	
185	80mm Flanged adaptor drilled table D	No	2	
186	100mm Elbows	No	8	
187	100mm Reducer	No	6	
188	100mm Tee	No	2	
189	100mm Flanged adaptor drilled table D	No	4	
	TANKS ETC			
	(WORK GROUP 148)			
	Water storage tanks			
190	GMS sectional steel water tank size 4880 x 4880 x 1220mm high comprising 1220mm x 1220mm panels all bolted together complete with roof, inspection manhole, inner and outer ladders, level indicator, all inlets, overflow and outlet openings including galvanised steel support structure 12m high with a 900mm wide cat walk all around the tank, including cat ladder supplied and installed complete including all fittings, valves, pump switches and sterilisation of the tank before handover all in accordance with the manufacturer's instructions (concrete bases and holding down bolts eleswhere measured)	No	1	
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

191	GMS sectional water tank size 7320 x 7320 x 4880mm high to be built at ground level on foundations (elsewhere) comprising 1220 x 1220mm sectional panels bolted together complete with roof, two inspection manholes, inner and outer ladders, level indicator, all inlets, overflow and outlet openings supplied and installed complete including all fittings, valves, pump switches and sterilisation of the tank before handover all in accordance with the manufacturer's instructions (concrete bases and holding down bolts elsewhere measured)	No	1		
	Temporary Septic Tanks				
192	12500 Litre septic tank by "Roto Tank" supplied and installed as per manufacturers instructions including removal on completion		Item		
193	Emptying of tank per week	No	16		
	"Jo-Jo" Plastic water tanks etc				
194	1500mm diameter x 1700mm high 5 500 litre rotomoulded polyethylene rainwater storage tank complete with access lid, seated on top of pedestal (elsewhere measured) and tying down with hoop iron folded and bolted to hoop iron strap around tank to receive 8-guage wire tied around 10mm eye-bolt bent and cast into concrete tank stand	No	5		
	THE FOLLOWING IN BASES TO SECTIONAL WATER TANKS (EARTHWORKS ELSEWHERE)				
	Excavation in earth not exceeding 2m deep				
195	To reduce levels under platforms	m^3	35		
196	Trenches	m^3	6		
197	Holes	m^3	13		
	Risk of collapse of excavations				
198	Sides of trench and hole excavations not exceeding 1,5m deep	m^2	50		
	Keeping excavations free of water				
199	Keeping excavations free of water		Item		
	Carried to Collection			R	

Bill No. 2
PLUMBING AND DRAINAGE

	Earth filling obtained from the excavations (not compacted)				
200	Surplus material from excavations and/or stock piles on site to be spread over site with a haulage of not exceeding 100m	m^3	54		
	Earth filling supplied by the contractor, compacted to 93% Mod AASHTO density				
201	G7 earth filling under solid floors, steps, pavings, etc.	m^3	35		
	Earth filling supplied by the contractor, compacted to 98% Mod AASHTO density				
202	G5 gravel filling under solid floors, steps, pavings, etc.	m^3	7		
	Compaction of surfaces				
203	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 96% Mod AASHTO density	m^2	281		
	Soil insecticide				
204	Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m^2	284		
	(WORKGROUP NO 110)				
	15MPa/19mm concrete				
205	Blinding	m^3	2		
	25MPa/19mm Reinforced concrete				
206	Stub Columns	m^3	0.3		
207	Ground beams	m^3	6		
208	Surface beds	m^3	12		
209	Plinth beams	m^3	8		
	30MPa/19mm Reinforced concrete				
210	Bases	m^3	13		
	Carried to Collection			R	
	Bill No. 2 PLUMBING AND DRAINAGE				

	35Mpa Non-shrink grout		
211	Bedding approximately 50mm thick under 350 x 350mm base plate, including chamfered edges all round	No	4
	(WORKGROUP NO 111)		
	Formwork to sides		
212	Rectangular stub columns	m²	3
213	Inverted beams above concrete	m²	79
214	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	30
	Boxing in rough formwork to form		
215	50 x 150mm Chamfer along top edge	m	105
	(WORK GROUP 114)		
	Steel reinforcement to structural concrete work		
216	Various diameter bars	t	3.90
	(WORKGROUP 148)		
	FIRE APPLIANCES - WATER SUPPLIES		
	Class 12 HDPE pipes		
217	32mm Pipes laid in and including trenches (LI)	m	46
218	50mm Pipes laid in and including trenches (LI)	m	141
219	110mm Pipes laid in and including trenches (LI)	m	332
	Extra over HDPE pipe for class 12 compression type pressure fittings		
220	32mm End cap	No	6
221	32mm Bend	No	8
222	32mm Tee	No	4
223	50mm Bend	No	14

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Bill No. 2
PLUMBING AND DRAINAGE

224	50mm Junction	No	12	
225	50mm Tee	No	8	
226	110mm Bend	No	25	
227	110mm Tee	No	18	
228	110mm Reducer	No	9	
	"Chubb" or other approved			
229	65mm Right angle fire hydrant with removable wheel head hand	No	2	
230	Twin booster connection with cap and chain and fitted with 1000mm diameter pressure guage, pet cock and 15mm u-tube welded on	No	1	
	Encasing piping in concrete (Class C) including all necessary formwork			
231	Encasing to 110mm horizontal pipe with 225mm covering all round	m	127	
	Valve markers			
232	Pre-cast concrete valve marker as per Engineers detail drawing number C5604/11	No	1	
	TESTING			
233	Testing water pipe system		Item	
	SUNDRIES			
234	Excavate for and locate existing water supply feeds in ground, disconnect from existing supply and connect onto new supply inclusive of all necessary fittings	No	18	
235	Uplift existing paving and riversand bedding 1m wide for new water pipes and reinstate on completion	m	150	
	Terminate services			
236	Blank off existing inlets with mass concrete filling	m^3	38	
	Soilcrete			
237	Filling to existing sewer and stormwater pipes	m^3	83	

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Bill No. 2
PLUMBING AND DRAINAGE

	Earth filling supplied by the contractor (not compacted)			
238	G7 Earth filling to manholes	m^3	76	
	REMOVE EXISTING SERVICES			
	(WORKGROUP 112)			
	Carefully take up and remove existing sewer pipes from grassed areas, including excavations 1m wide, backfilling and re-laying of grass (re-laying of grass elsewhere)			
239	100mm Diameter pipes from trenches not exceeding 1m deep	m	55	
240	100mm Diameter pipes from trenches exceeding 1m and not 2m deep	m	52	
241	100mm Diameter pipes from trenches exceeding 2m and not 3m deep	m	40	
	Break up and demolish existing sewer manholes for a maximum depth of 500mm (filling elsewhere) including removal of cover and frame			
242	Manholes size 450 x 600mm	No	14	
	Carefully take up and remove existing stormwater pipes from grassed areas, including excavations 1m wide, backfilling and re-laying of grass (re-laying of grass elsewhere)			
243	100mm Diameter pipes from trenches not exceeding 1m deep	m	80	
244	100mm Diameter pipes from trenches exceeding 1m and not exceeding 2m deep	m	35	
245	100mm Diameter pipes from trenches exceeding 2m and not exceeding 3m deep	m	20	
246	100mm Diameter pipes from trenches exceeding 3m and not exceeding 4m deep	m	10	
247	150mm Diameter pipes from trenches not exceeding 1m deep	m	30	
248	150mm Diameter pipes from trenches exceeding 1m and not exceeding 2m deep	m	25	
	Carried to Collection			R

Bill No. 2
PLUMBING AND DRAINAGE

249	150mm Diameter pipes from trenches exceeding 2m and not exceeding 3m deep	m	20	
250	300mm Diameter pipes from trenches exceeding 1m and not exceeding 2m deep	m	30	
251	300mm Diameter pipes from trenches exceeding 2m and not exceeding 3m deep	m	25	
252	375mm Diameter pipes from trenches exceeding 1m and not exceeding 2m deep	m	40	
253	375mm Diameter pipes from trenches exceeding 2m and not exceeding 3m deep	m	30	
	Break up and demolish existing stormwater manholes and catchpits not exceeding 500mm deep (filling elsewhere) including removal of cover and frame			
254	Manholes size 450 x 600mm	No	25	
255	Catchpit size 600 x 600mm	No	38	

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PLUMBING AND DRAINAGE

Section No. 3

Bill No. 2

PLUMBING AND DRAINAGE

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Section No. 3

Bill No. 2

PLUMBING AND DRAINAGE

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