

Bill Of Quantities
Supply of Irrigation PVC pipes and Accessories for Mafanja 1

LOT 1	Description	Units	QTY	U.P	AMOUNT
1	PVC pipe - D 500 mm. , PN 12 Bars (gaskets type)	M	1250		
2	PVC pipe – D 500 mm , PN 10 bars (gaskets type)	M	1250		
3	PVC pipe - D 500 mm. , PN 8 Bars (gaskets type)	M	2150		
4	Steel ball valve – D 3” FX F THRD	EA	10		
5	Combined air release valve – D 3” M THRD	EA	10		
6	steel Tee D 500 mm. x 3" Female threaded x D 500 mm with gaskets	EA	10		
7	Steel "S" (esse) – D 500 mm with 20” movable flanges on both ends and length 2.0m	EA	6		
8	Steel elbow – D 500 mm x 45° with gaskets	EA	10		
9	Steel elbow – D 500 mm x 90° with gaskets	EA	4		
10	Steel pipe (riser) – D 3” M X M THRD x 250 mm long	EA	12		
11	Pressure gauge with range 0 - 15 bars	EA	5		
12	Steel Flange – D 20”	EA	8		
13	Cast Iron Gate valve – D 20” Flanged	EA	4		
14	Steel Flanged Bell – D 20” Flanged x 500 mm bell for PVC pipe	EA	10		
15	Gaskets, bolts, Nuts and washers as required	Lump sum			
16	Lubricants for PVC pipes	KG	150		
	TOTAL.				

BILL OF QUANTITIES
REPLACEMENT OF STEEL PIPE IN MAFANJA 2 PROJECT

LOT	Description	Units	QTY	U.P	AMT
2					
1	PVC pipe - D 500 mm. PN 8 bars (gasket type)	M	6150		
2	Steel Ball valve – D 3“ F x F THRD	EA	10		
3	Combined air release valve - D 3” M THRD	EA	9		
4	Steel Tee - D 500 mm. x 3” F THRD x 500 mm with gaskets	EA	5		
5	Steel "S" (esse) – D 500 mm with 20” movable flanges on both ends + 3” M THRD exit for air valve and length 2.0 m	EA	4		
6	Steel Tee – D 500 mm x 280 mm x 500 mm with gaskets	EA	5		
7	Steel elbow – D 500 mm x 45° with gaskets	EA	8		
8	Steel pipe (riser) – D 3” M x M THRD x 250 mm long	EA	16		
9	Pressure gauge with range 0 – 15 bars	EA	10		
10	Steel flange – D 20”	EA	8		
11	Cast Iron gate valve – D 20” Flanged	EA	2		
12	Steel flanged bell – D 20” Flanged x 500 mm bell for PVC pipe	EA	4		
13	Gaskets, Bolts, Nuts and Washer as required	Lump sum			
14	Lubricants for PVC pipes	KG	200		
	TOTAL				

EKONA IRRIGATION NETWORK IMPROVEMENT - ESTIMATES FOR ATF 2007

LOT 3	Description	Unit	QTY	Unit Cost	Total Unit
	SPRINKLER AND PARCEL UNITS				
1	Sprinkler - Nozzle size 2.8 mm with discharge of 550 m/hr at an operating pressure of 3.0 bars ,wetted diameter of 20m and 12deg watering angle with a 1/2" male threaded base.	ea	4000		
2	Sprinkler -Discharge 1500 l/hr at 3.5 bars, 3/4" male threaded base and wetted diameter of 35m.	ea	500		
3	P.V.C. socket - diameter 1/2"	ea	4000		
4	P.V.C. pipe (riser) - diameter 1/2" M X M Thread x 60 cm long	ea	3850		
5	Galvanized Iron (G.I.) pipe (riser) Diameter 1/2" x 30 cm long and threaded at one end.	ea	3850		
6	PE double saddle - diameter 32 mm x 1/2" x 32 mm	ea	3850		
7	PE double saddle - diameter 3/4 X 90 mm x 3/4"	ea	400		
8	Pressure Regulator (2 - 5 bars) - diameter 3/4" F x F thread	ea	800		
9	P.V.C. Nipple diameter 3/4"	ea	800		
10	PE adaptor - diameter 3/4 M Thrd x 32 mm	ea	800		
11	PE end cap - diameter 32 mm	ea	800		
12	PE end cap - diameter 90 mm	ea	50		
13	PE tee - diameter 90 mm x 90 mm x 90 mm	ea	2		
14	PE elbow - diameter 90 mm x 90°	ea	4		
15	PE connector - diameter 32 mm	ea	40		
16	PE connector - diameter 90 mm	ea	10		
17	PE tee - diameter 90 mm x 4" Flanged x diameter 90 mm	ea	24	8,419	202,056
18	Galvanized Iron (G.I.) tee - diameter 6" F x 4" flanged x diameter 6" M with quick coupling and rubber ring joint	ea	25		

19	Galvanized Iron (GI) end line (end cap) diameter 6" with quick coupling and rubber ring joint	ea	10		
20	Butterfly valve - diameter 4" flanged	ea	25		
21	PVC glue	kg	100		
22	2.0 LATERAL AND SECONDARY LINE PIPES				
23	PE pipe - diameter 32 mm, PN 4 bar in rolls of 200 M	M	3840		
24	PE pipe - diameter 90 mm, PN 4 bar in rolls of 100 M	M	5000		
	3.0 PUMPING UNIT SUCTION FITTINGS				
25	Steel suction foot valve - diameter 10" flanged	ea	2		
26	Steel suction pipe - diameter 10" flanged x 6 m long + 45° elbow	ea	2		
27	Steel suction pipe - diameter 10" flanged x 5 m long + 45° elbow	ea	2		
28	Steel suction cone diameter 10" flanged x 6 flanged + 1 1/4" Thrd exit	ea	2		
29	Steel ball valve diameter 1 1/4" F x F Thrd	ea	2		
30	Priming funnel diameter 1 1/4"	ea	2		
31	Flexible expansion joint diameter 10" flanged	ea	2		
32	Gaskets,bolts,nuts and washers as required	ea	1		
	DISCHARGE FITTINGS				
33	Cast iron gate valve diameter 5" flanged	ea	2		
34	Steel discharge cone diameter 5" flanged x diameter 8" flanged	ea	2		
35	Flexible expansion joint diameter 8" flanged	ea	2		
36	Non - return valve - diameter 8" flanged	ea	2		
37	Pressure gauge with range 0 - 10 bars	ea	2		
38	Combined air release valve - diameter 2"	ea	2		
39	Steel ball valve diameter 2" M x F Thrd	ea	2		
40	Galvanized Iron (G.I) socket diameter 2"	ea	2		
41	Steel elbow diameter 8" x 90°	ea	12		
42	Steel flange diameter 8"	ea	18		
43	Steel pipe diameter 8" x 6m long	ea	8		

44	Steel "S" diameter 8" Flanged x 250 mm bell + 2" M Thrd exit fo air valve	ea	2		
45	Steel flanged bell diameter 8" x 250 mm	ea	2		
46	Steel reducing cone diameter 8" flanged x 6" flanged	ea	2		
47	Steel flanged diameter 6"	ea	2		
48	Butterfly valve - diameter 8"	ea	4		
49	Steel ball valve diameter 2" F x F Thrd	ea	2		
50	Combined air release valve - diameter 2 M Thrd	ea	2		
51	Gaskets, washers, bolts and nuts as required	ea	1		
52	Complete pump with electric motor pump, radial horizontal centrifugal Pump Q = 290 m ³ /h TDH = 65, Motor: 90 kW, 380v, 50 HZ, DIGISTART (i.e. electronic controller) including a safety system for the pump and motor, 3 - pole 160 amps differential circuit breaker, 160 amps isolator, lighting arrestor ammeter, urgent stop and ventilation. All necessary accessories shall have components which are 380 V, 50 HZ and 3 phase	ea	2		
53	The unit shall have a CDC - START micro console	ea	2		
54	Electrical cable specification 3 x 120 mm ² + 70 mm ² U 1000 RO2 V	M	30		
	Linking up the panels and the motors including connection accessories				
55	Electrical cable specification 4 x 70 mm ² U 1000 RO2 V	M	50		
56	Electrical cable specification 3 x 2.5 mm ² U 1000 RO2 V	M	50		
57	Electrical cable specification 4 x 95 mm ² U 1000 RO2 V	M	50		
	FILTRATION UNIT				
58	Steel inlet manifold diameter 10" x 2m long with 1 x 8" flanged inlet and 2 x 6" 90° flanged outlets	ea	2		
59	Steel outlet manifold diameter 10" x 2m long with 2 x 6" X 90° flanged inlets and 1 x 8" flanged outlets	ea	2		

60	Diameter 6" flanged automatic back flushing Screen filter with screen mesh size of 30 MESH or 500 MICRON and maximum flow of 180 m3 /h including accessories.	ea	4		
61	Butterfly valve - diameter 6" flanged	ea	10		
62	Non - return valve - diameter 8" flanged	ea	2		
63	Propeller type flow meter diameter 8"	ea	2		
64	Flanged steel pipe diameter 8" x 2 m long with threaded outlet for a pressure gauge	ea	2		
65	Flange steel pipe - diameter 8" x 1 m long with 2" threaded outlet for quick pressure relief valve	ea	2		
66	Quick pressure relief valve set to open at 10 bar - diameter 2"	ea	2		
67	Pressure gauge with range 0 - 10 bars	ea	4		
68	Gaskets,washers,bolts and nuts as required	ea	1		
GRAND TOTAL					