

**Summary Table for Damages in Water and Waste Water Facilities
(January 2009)**

Damages Type	Estimated Cost USD\$
Water wells	318,000
Water Network Distribution	423,640
Waste water Network Distribution	683,750
Waste water Facilities	124,000
Water Tanks	600,000
Expected Un seen Damages especially in Rafah were the vibration bombs used may destroid the nearby networks	350,000
Services (Water and Waste water) to be provided for re-allocated peoples	500,000
Civil Work, Equipment and Material Damages	439,000
Contingency	250,000
Total USD \$	3,688,390

Water Wells Damages Assessment (January 2009)

Well No	Well Name	Gov	Area	Damages Details	Q (m3/hr)	Pump type	Engine HP	Reparis Details	Estimated price \$	Time Frame
R/113A	Sh. Ejleen 4 (Ashgal)	Gaza	Gaza	Submersible pump	70	Submersible	40	Supply and install a complete Submersible pump with all its accessories	5,000	45 Days
				Electrical engine				Supply and install 40hp Electrical engine with all cables to be connected to the control panel	3,500	
				4in Manifold diameter and Hydrocyclone				Supply and install a 4in Manifold diameter and a complete Hydrocyclone	8,000	
				Steel door with 140X220cm				Supply and install a complete Steel door with 140X220cm including painting	2,000	
				Steel window with 80X200cm				Supply and install a complete Steel window with 80X200cm with steel frame including steel painting	2,000	
				Chlorination room damage				Supply and install hollow block for chlorination room size 2.5X2.5m including building, plastering and painting as well as supply and install a steel window and door as required	3,000	
R/265	Sh. Ejleen 3 (Weqaai)	Gaza	Gaza	Building damages	90			Repair the eastern wall of the well building	1,000	7 Days
				Windows damages				Supply and install a complete Steel window with 80X140cm with Steel frame including steel painting	1,500	
R/277	Sh. Ejleen 5 (Barcelona)	Gaza	Gaza	Generator damage _perkins 110KVA	70	Submersible	40	Supply and install a new generator with 110KVA perkins or caterpillar including electrical cables from the generator to the electrical control panel of the well	6,000	7 Days
				Diesel Tank (3000L)				Repair the Diesel tank from the holes and test its funcionality	2,000	
Sh. Rad. Clinic	Sh. Radwan Clinic	Gaza	Gaza	Truss Damages	60	Submersible		Repair the holes in the eastern truss	1,500	3 Days
	Al Hadaba /Maslakh	Gaza	Gaza	Generator damages and batteries	70	Vertical	60	Supply and install two batteries of 105 AH and repair of damaged electrical and mechanical systems for generator	2,500	14 Days
				Well building fabric damages				Repair and rehabilitation of damaged building civil works	2,000	
				Electrical damages and cabling				Supply and install electrical cabling to connect electric drive motor and to replace damaged cables 4x70mm2	2,000	
Q/40A and Q/40	Namar	North	Jabalia	The 2 well facilities are totally damage	150	Vertical	100	Drill a complete groundwater well-18" diameter borehole with all associated 14 inches diameter screen filters and shell pipes of 90 meters depth	25,000	75 Days
								Supply and install complete vertical turbine water pumping unit of 8" diameter vertical discharge pipes, discharge head, drive shafts, bowels, impellers and all associated fittings and accessories - pumping rating of 150m3/hr & 12 bar	25,000	
								Supply and install a complete 8 inches water pumping Manifold and a complete hydrocyclone	10,000	
								Supply and install 150hp electric drive motor with all associated fittings and accessories	12,000	
								Supply and install a new generator with 250KVA perkins or caterpillar including electrical cables from the generator to the electrical control panel of the well	40,000	
								Supply and install a new and complete electrical control panel including all fittings and accessories	12,000	
								Complete building for the well including all electrical and lightning in the building (60m2 area)	10,000	
								Supply and install a 3000 diesel tank including epoxy painting and tank foundation	8,000	
								Supply and install 8 inches diameter cement lined steel pipes to connect served area	8,000	
								Supply a spare parts and tool kit to be used in the well facility	8,000	
Supply and install a chlorination tank (500L) and its dosing system including all related accessories	5,000									
C/79	Awqaf	North	Beit Hanoun	Electrical engine damage	100	Vertical	75	Supply and install 75hp Electrical engine with all cables to be connected to the control panel	7,000	7 Days
A/180	Ghaben	North	Beit Lahia	Civil work damage	120			Repair the hole (120X140cm) in the ceiling including plastering and painting	1,000	3 Days
				Batteries damages				Change 2 batteries with the 160AH	1,000	
D/67	Atatra	North	Beit Lahia	Civil work damage	140			Repair the holes in the eastern wall including plastering and painting	1,000	7 Days
								Repair the main gate door and surrounding civil work	1,000	
								Repair the bathroom civil and mechanical work	1,000	
C/155	Khadiga	North	Beit Hanoun	The well facility is totally damage	70	Vertical	60	Repair the 6 in Manifold and the hydrocyclone	7,000	45 Day
								Supply and install a new generator with 100KVA perkins or caterpillar including electrical cables from the generator to the electrical control panel of the well	25,000	
								Supply and install a new and complete electrical control panel including all fittings	8,000	
								Refurbishment , overhauling and replacement of borehole and vertical turbine water pumping set	20,000	
								Complete building for the well including all electrical and lightning in the building (100m ² area)	15,000	
								Supply and install a 3000 diesel tank including epoxy painting and tank foundation	5,000	
								Supply and install a chlorination tank (500L) and its dosing pumps including all related accessories	5,000	
Supply and install blockwork boundary wall with 60m long with 2m heigh including steel main gate with 360X200cm. All works include plastering and painting	5,000									
D/75	Zohour	North	Jabalia	Electrical engine damage	120	Vertical	100	Supply and install an electrical engine with 100 hp	9,000	7 Days
				Electrical damages				Repair the electrical network in the well facility including supply and install new cables	2,000	
Total USD\$									318,000	

**Water Networks Damages Assessment
(January 2009)**

Damaged Pipes Material Type	Length (m)	Estimated Price \$
50mm MDPE	300	3,000
50mm PE	1,600	16,000
110mm Upvc	1,400	33,432
160mm Upvc	700	26,723
225mm Upvc	100	5,184
280mm Upvc	100	6,000
315mm Upvc	100	17,500
3" Steel	180	2,700
4" Steel	120	2,640
6" Steel	800	24,286
8" Steel	60	9,000
10" Steel	150	15,000
12" Steel	600	90,000
Sub Total USD\$		251,465

Damaged Fittings Material Type	Unit	Estimated Price \$
Gate Valve 6"	25	15000
Gate Valve 4"	30	13500
Gate Valve 10"	10	9000
Gate Valve 12"	20	24000
Complete manholes 1.25m	10	6000
Complete manholes 1.0m	20	9000
Manhole slab with cover 1.25m	10	1200
Manhole slab with cover 1.0m	15	2250
House connections	600	30000
Repair collars S.Steel 4"	60	4200
Repair collars S.Steel 6"	60	6000
Repair collars S.Steel 8"	50	6000
Repair collars S.Steel 10"	30	4500
Repair collars S.Steel 12"	20	3600
Straight Coupling (dresser) 4"	50	3500
Straight Coupling (dresser) 6"	30	3000
Straight Coupling (dresser) 8"	15	2250
Straight Coupling (dresser) 10"	15	2700
Straight Coupling (dresser) 12"	15	3000
Flanged Dresser 4"	50	4000
Flanged Dresser 6"	30	3300
Flanged Dresser 8"	15	2400
Flanged Dresser 10"	15	3000
Flanged Dresser 12"	15	3300
Bolts and nuts 5/8" 6-10cm	2500	6250
Gaskets 4"	250	250
Gaskets 6"	250	375
Gaskets 8"	100	150
Gaskets 10"	100	200
Gaskets 12"	100	250
Sub Total USD\$		172,175

Total USD\$		423,640
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Water Network Damages By Governorates (January 2009)

Gov.	Damaged Material Type	Length (m)	Time Frame
North	160mm Upvc	360	60 Days
	110mm Upvc	870	
	50mm PE	780	
	3" Steel	180	
	225mm Upvc	30	
	50mm MDPE	300	
	12" Steel	100	
	6" Steel	800	
	4" Steel	120	
Gaza	280mm Upvc	50	7 Days
	110mm Upvc	120	
	50mm PE	150	
Middle	160mm Upvc	80	7 Days
	10" Steel	100	
	280mm Upvc	50	
Khan Younis	160mm Upvc	100	14 Days
	110mm Upvc	250	
	10" Steel	50	
	225mm Upvc	20	
	50mm PE	670	
Rafah	225mm Upvc	50	30 Days
	160mm Upvc	40	
	110mm Upvc	50	
	8" Steel	60	
	12" Steel	500	
	110mm Upvc	60	
	315mm Upvc	100	
	160mm Upvc	120	
	110mm Upvc	50	

**Water and Waste water Civil Work Damages
(January 2009)**

Facility Name	Facility Location	Damage Details	Repair details	Estimated price \$	Time Frame
CMWU main store	Gaza	Truss ceiling and frame damages including hollow block walls as well	Repair the truss ceiling and frames as well as building the damaged walls, all works include plastering and painting	50,000	15 Day
		Water and waste water equipment and material damages in the store	Supply the materials	350,000	
CMWU head quarter office	Gaza	All the windows glasses has been broken	Replace the damaged window glasses with a total of about 30m2 area	3,000	7 Days
Civil works	all over the water facilities	20 window glasses size 65X85cm has been damaged	Supply and install the damaged facility	3,000	20 Days
		70 slice of window glasses size 50X8cm has been damaged	Supply and install the damaged facility	4,000	
		10 Wooden door size 200X80cm has been damaged	Supply and install the damaged facility	5,000	
		2 steel windows size 100X100cm has been damaged in Maslakh	Supply and install the damaged facility	2,000	
		5 wooden frame has been damaged with heigh 200cm and width of 13cm	Supply and install the damaged facility	1,500	
		120 aluminum slice windows size 40X10cm has been damaged	Supply and install the damaged facility	1,500	
		10 window glasses size 250X60cm has been damaged	Supply and install the damaged facility	1,000	
		10 window glasses size 200X60cm has been damaged	Supply and install the damaged facility	1,000	
		Rafah offices has damages	Repair and fixed the civil work damages in the offices, the work includes painting and plastering	4,000	
		Maslakh well room is damage	Fix and repair the well room including plastering and painting	4,000	
		15 plastic tanks with a capacity of 2000L in Maslakh well and Rafah Offices	Supply and install the damaged facility	9,000	
Total USD\$				439,000	

Waste Water Facilities Damages (January 2009)

Gov	Area	Damage Details	Repair details	Estimated price \$	Time Frame
North	Beit Lahia	Generator Electrical Control Panel damage in Sewage pumping Station	Repair the generator (160KVA Perkins) and its control panel	4,000	7 Days
		Civil work damage in Sewage pumping Station	Repair the civil work in the operation room including plastering and painting	5,000	
	Beit Hanon	Destruction of service room at north Beit Hanon small pumping station (7.5 kW)	Repair the destruction	10,000	7 Days
	Beit Lahia	Mahader P S, the bar screen space is damaged	Repair the destruction	5,000	4 Days
El Mashroo P S generator's control panel destruction in Bait Lahia		Repair the destruction	10,000	14 Day	
Gaza	Gaza	Montada P S No. 1 partial destruction of the building and the manifold, the pump room is full of debris	Repair the destruction	20,000	14 Day
		Adam P S No. 2, same as P S No. 1	Repair the destruction	20,000	14 Day
		El Fawayda P S No. 9 the pump station is full of debris and the wet pit needs cleaning, and the manifold needs repairing	Repair the destruction	50,000	14 Day
Total USD\$				124,000	

**Water Tank Damages Assessment
(January 2009)**

Tank Name	Gov	Area	Type	Capacity (m3)	Damage Detials	Repair details	Estimated price \$	Time Frame
	North	Jabaila	Circular Ground concrete tank	5000	Totally damage	Supply and install a circular concrete ground tank with a capacity of 5000 m3 including the water network from the tank to the main water network feeders	600,000	90 Days