

Summary of Bill of Quantities for Works

Bill No.	Description	Price
1	Preliminary and General	\$0
2	Miscellaneous Cast-In-Place Concrete	\$0
3	Greywater Tanks, Sewer, and Greywater Drain Piping	\$0
4	Water Piping, Wells, and Water Storage Tank	\$0
5	Power Supply	\$0
6	Miscellaneous Site Items	\$0
	Sub-total	\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.

Bill No. 1 Preliminary and General

Item No.	Sheet No.	Description	Unit	Qty.	Unit Price	Price
1.01		Contractor's Mobilization Compensation in full for the cost of establishing plant, equipment, materials and personnel on site to the satisfaction of the Engineer for the Contract.	LS	1		\$0
1.02		Contractor's Demobilization. Compensation in full for the cost of removing plant, equipment, facilities and personnel from the site, including restoration of the Area to a satisfactory condition as approved by the Engineer for the Contract.	LS	1		\$0
1.03	C-03	Site Demolition. <i>Including the demolition of the sidewalk and drainage channel on the south side of the school, per Dwg C-03.</i>	LS	1		\$0
1.04	C-20 - C-23	Site Clearing/ Rough Grading	LS	1		\$0
1.05	C-20 - C-23	Site Fill and Fine Grading	cu. m	3504		\$0
1.06	C-20 - C-23	Site Drainage Piping, 150 mm diameter corrugated HDPE pipe. <i>This pipe interconnects drainage basins. The inlet and outlet ends of the drain pipe are to have a cemented stone cover per detail on Dwg C-35.</i>	m	68		\$0
1.07	C-20 , C-21, C-34	<i>Drainage piping for roof drains on east side of school. 150 mm Sch 40 PVC pipe, from existing downspout pit to concrete drainage trench. Includes connecting to the downspout pit and the drainage trench.</i>	ea	7		\$0
1.08	C-20 , C-21, C-35	<i>Drainage piping for roof drains on all other sides of the school (including the drain on the north end of the school). 150 mm corrugated HDPE. Includes connecting to the existing downspout pit or existing PVC pipe stub out from the downspout pit. Includes the cemented stone cover over the pipe outlet (See Detail 1, Dwg C-35).</i>	ea	18		\$0
1.09	C-21, C-34	<i>Outlet from concrete drainage trench. 200 mm corrugated HDPE as shown on Detail on Dwg C-35. Includes the cemented stone cover over the pipe outlet.</i>	ea	1		\$0
		Total				\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.

Bill No. 2 Miscellaneous Cast-in-Place Concrete

Item No.	Sheet No.	Description	Unit	Qty.	Unit Price	Price
2.01	C-10 - C-13 and C-30, C-31	150mm Depth Reinforced Concrete Sidewalk/Walkway/Assembly Area/Bike Parking Area. Works include base material and compaction, contraction joints. The revised site layout plans show that the joint design for the Assembly/Bike Parking area has been modified to require only saw-cut contraction joints. Construction joints are required only as necessary due to Contractor's pouring schedule. Drawing C-31 shows the revised joint design for the Assembly/Bike Parking area. These changes were incorporated to reduce the cost of the sidewalk areas (Ref. USAID/Tetra Tech/FCEC meeting March 6, 2011).	sq. m	2096		\$0
2.01A	C-10, C-11 and C-34, C-35	150mm Depth Reinforced Concrete Sidewalk on the east side of school, between the concrete drainage trench and the school building. Works include base material, compaction, and contraction joints. Work also includes integrating the sidewalk with the concrete drainage trench.	sq. m	193		\$0
2.01B	C-10, C-30, C-31	150 mm depth reinforced concrete sidewalk on the north side of school (1.5 m width x 16.5 m long).	sq. m	25		\$0
2.01C	C-10, C-11 and C-34, C-35	Concrete drainage trench on east side of school, including the area adjacent to, and supporting the edge of the porch.	LS	1		\$0
2.01D	C-20, C-36	Concrete porch on east side of school. Includes the porch slab, the steps, and handrail, as shown on Dwg C-36.	LS	1		\$0
2.02	C-10 - C-13 & C-30, C-31	150mm Depth Reinforced Concrete Driveway/Parking Area. Works include base material and compaction, control joints. The revised site layout plans show that that the joint design for the driveway/pavement areas has been modified to require only saw-cut contraction joints. Construction joints are required only as necessary due to Contractor's pouring schedule. Drawing C-31 shows the revised joint design for the driveway/pavement areas. These changes were incorporated to reduce the cost of the concrete pavement areas (Ref. USAID/Tetra Tech/FCEC meeting March 6, 2011).	sq. m	1013		\$0
2.03	U-93	Reinforced Concrete Spill Pad for Water Tank - 1M x 1M x .4M	LS	1		\$0
2.04	C-10 - C-13 & C-30	150 x 150mm Reinforced Concrete Curb. Includes drain pipes through curb where shown.	m	665		\$0
2.05	E-10	2.36 x 1.55 x 0.20 m Reinforced Concrete Pad for Transformer	LS	1		\$0
Total						\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.

Bill No. 3 Greywater Tanks, and Sewer/Greywater Drain Piping

Item No.	Sheet No.	Description	Unit	Qty.	Unit Price	Price
3.01	U-60 - U-62	Sanitary Influent Pump Station including hatches, pumps, and controls as shown on Sheet U-60 through U-62. Includes shoring and dewatering. Depth of pump station reduced 45 cm compared to bid document design. Added a waterproof sealant to the exterior of the pump station, and an epoxy coating to the interior of the pump station.	LS	1		\$0
3.02	U-72	4.41 x 30.00 x 0.25 m Reinforced Concrete Pad for WWTP, including pumping and disposal of groundwater.	LS	1		\$0
3.03	U-70	WWTP - 100mm Schedule 40 PVC Sludge Connection, including heat tracing	LS	1		\$0
3.04	U-70	WWTP - 144 m ³ package plant, including installation and commissioning	ea	1		\$0
3.05	U-70	Operating and maintaining the WWTP for a year following commissioning of the plant (Ref. Specification 44 41 12).	LS	1		\$0
3.06	U-70	WWTP- 100mm SDR 17 HDPE pipe and Sch 80 PVC pipe for influent forcemain connection from pump station to WWTP, including 100mm influent valve and heat tracing	LS	1		\$0
3.07	U-70 - U-72	Reinforced Concrete Sanitary Effluent Pump Station including hatches, pumps, and controls as shown on Sheet U-70 through U-72. Added a waterproof sealant to the exterior of the pump station, and an epoxy coating to the interior of the pump station.	LS	1		\$0
3.08	C-30	Treated effluent forcemain, 100 HDPE, installed from effluent pump station, through perimeter wall, to the existing concrete drainage trench, per wall penetration detail on C-30.	LS	1		\$0
3.09	U-14	Treated Effluent Forcemain, 100 HDPE, Installed in existing concrete drainage trench, from the upstream end near the school to the connection with the existing drainage trench along Darul Aman Rd. Includes installing the effluent pipe in the existing casing across Darul Aman Rd.	m	288		\$0
3.10		GW-01: Reinforced Concrete Greywater Storage Tank is deleted.				\$0
3.11		GW-02: Reinforced Concrete Greywater Storage Tank is deleted.				\$0
3.12		50mm Diameter SDR 17 HDPE Pipe for drainage from Greywater Tank is deleted.				\$0
3.13	U-10 - U-11	80mm Diameter SDR 17 HDPE Pipe sewer and grey-water-service connections including fittings, installed in trench with compacted backfill. Grey water service connections have been converted to sewer connections, with the elimination of the grey water tanks. Includes the PVC/HDPE transition flanges per detail on Dwg. U-20. Total length of the connections increased with the Addendum 1 drawings.	m	41		\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.

3.14	U-10 - U-13	110mm Diameter SDR 17 HDPE sewer and grey water service connections including fittings, installed in trench with compacted backfill. Grey water service connections have been converted to sewer connections, with the elimination of the grey water tanks. Includes the PVC/HDPE transition flanges per detail on Dwg. U-20. Adjusted total length of connections per the Addendum 1 drawings.	m	30	\$0
3.14A	U-10 & U-13	80 mm and 110 mm diameter SDR 17 HDPE sewer connections on the east side of the school. Includes all piping and fittings to connect to the 160 mm sewer main as shown in the Detail on Dwg U-23. Includes the cleanout and aluminum access cover in the sidewalk above each cleanout.	ea.	4	\$0
3.15	U-10 - U-13	160mm Diameter corrugated smooth wall SDR 17 HDPE Pipe for Sewer Installed in trench with compacted backfill, depth of 1-2 meters to pipe inv elev. Corrugated HDPE pipe replaced with smooth wall HDPE pipe due to availability of fittings. 150 mm diameter changed to 160 mm diameter due to the non-availability of the 150 mm size. Adjusted quantities per the Addendum 1 drawings.	m	208	\$0
3.16	U-11 & U-13	160 mm Diameter corrugated smooth wall SDR 17 HDPE Pipe for Sewer Installed in trench with compacted backfill, trench depth greater than 2 meters to pipe inv elev. Corrugated HDPE pipe replaced with smooth wall HDPE pipe due to availability of fittings. 150 mm diameter changed to 160 mm diameter due to the non-availability of the 150 mm size. Adjusted quantities per the Addendum 1 drawings.	m	76	\$0
3.17	U-10 - U-13	150mm Diameter corrugated HDPE Pipe for Greywater Installed in trench with compacted backfill, trench depth of 1-2 meters to pipe inv elev. The greywater system has been deleted.			\$0
3.18	U-10 - U-13 & U-22	Reinforced Concrete Sewer Manhole with Frame, Grate, Ladder Rungs, and all appurtenances. 1-2 meters from top of lid to floor of MH.	ea.	6	\$0
3.19	U-10 - U-13 & U-22	Reinforced Concrete Sewer Manhole with Frame, Grate, Ladder Rungs, and all appurtenances. Greater than 2 meters from top of lid to floor of MH.	ea.	3	\$0
3.20	U-10, U-11, U-20	Sanitary Cleanout. These have been deleted with the elimination of the grey water tanks. Sanitary cleanouts for the sewer system are included in item 3.14A above.			\$0
3.21	U-10, U-11, U-20	Backflow Prevention Device. These have been deleted with the elimination of the grey water tanks.			\$0
3.22	U-50 - U-52	Wastewater Holding Tank, including access covers and interior and exterior coatings. Includes shoring and dewatering.	LS	1	\$0
3.33	U-13, U-70	Influent forcemain, 100 SDR 17 HDPE, installed from sanitary pump station to the wastewater holding tank. Includes the buried gate valve and valve box.	LS	1	\$0
Total					\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.

Bill No. 4 Water Piping, Well, and Water Storage Tank

Item No.	Description	Unit	Qty.	Unit Price	Price
4.01	U-90 - U-93 65 m ³ Potable Water Tank including internal overflow pipe, piping connections, level switches, roof hatch, ladders, and pipe supports integrated into the tank structure.	LS	1		\$0
4.02	U-90 - U-93 Water piping (steel or ductile iron) to serve the water tank. Includes pipe supports at base of tower, gate valves, heat tracing, and connections to water tank.	LS	1		\$0
4.03	U-30 - U31 Well construction including drilling, surface seal casing, casing, intake screen, filter pack, and well testing	LS	1		\$0
4.04	U-30 - U31 Well Pump and controls, discharge piping, valving, and appurtenances, including heat tracing in well enclosure.	LS	1		\$0
4.05	A-10, S-08 Well Pump security enclosure, including metal cover plate and access hatch.	LS	1		\$0
4.06	U-40 Chlorine Disinfection Unit System including the dilution water supply line and the chlorine solution feed line. The tablet chlorinator has been deleted. The revised chlorination system consists of an HDPE hypochlorite powder dissolving tank, and an HDPE chlorine solution tank with a metering pump for injecting the chlorine solution into the discharge line of the well.	ea.	1		\$0
4.07	A-02-A-10 S-3 - S-7 Well Pump house--all structural and architectural work (excluding louvers), including the sidewalk and stairs.	LS	1		\$0
4.08	E-30 Well Pump house-- all electrical and instrumentation work (excluding that provided under the well pump and chlorination system specifications) as shown on Dwg E-30. The revised chlorination system does not include a control panel. The circuit serving grey water tank GW-02 has been deleted due to the elimination of the grey water tanks.	LS	1		\$0
4.09	M-01 Well Pump house-- Mechanical equipment (heaters, fans) and louvers as shown on dwg M-01	LS	1		\$0
4.10	U-10, U-11 & U-21 Water Service Connections per detail on Dwg U-21 , including gate valve, valve box, and connecting to existing stub-out. The water service connection detail has changed. See the revised detail on Dwg U-21.	ea.	4		\$0
4.10A	U-10, U-11 & U-23 Water Service Connections on the east side of the school, per detail on Dwg U-23. Includes connection to water main, piping, transition fitting HDPE/galv steel, gate valve, valve box, and connection to existing stub-out.	ea.	4		\$0
4.10B	U-12 & U-20 Water service connection to the existing guardhouse in northwest corner of school property, per detail on Dwg U-20.	ea.	1		\$0
4.11	U-13, U-20 Non-Freeze Hose Bibb	ea.	1		\$0
4.12	U-10 - U-13 50mm Diameter SDR 17 HDPE Water Main including fittings, installed in trench with compacted backfill and all necessary thrust blocks and pipe support (thrust blocks have been deleted).	m	77		\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.

4.13	U-10 - U-13	100mm Diameter SDR 17 HDPE Water Main including fittings, installed in trench with compacted backfill and all necessary thrust blocks and pipe support. (thrust blocks have been deleted).	m	232	\$0
4.14	U-10 - U-13	160 mm Diameter SDR 17 HDPE Water Main including fittings, installed in trench with compacted backfill and all necessary thrust blocks and pipe support. (thrust blocks have been deleted). Pipe size changed from 150 mm to 160 mm due to the non-availability of the 150 mm size.	m	77	\$0
4.15	U-10 - U-13	Buried Gate valves w/ valve box and 1x1m square concrete pad. The number of valves was reduced from 7 to 6 due to the classification of the 50 mm valve serving the existing guardhouse in the northwest corner of the school as a service connection (see Item 4.10B).	ea.	6	\$0
4.16	S-10	Elevated Water Tank: Foundation including excavation, concrete and reinforcement steel	LS	1	\$0
4.17	S-12 - S-17	Elevated Water Tank: Structural Steel for Tower, including pipe supports integrated into tower structure.	kg	38555	\$0
Total					\$0

Bill No. 5 Power Supply

Item No.	Sheet No.	Description	Unit	Qty.	Unit Price	Price
5.01	E-02, E-20	Electrical Duct bank Handholes as shown on Sheet E-02	ea.	19		\$0
5.02	E-02, E-03, E-10, and E-20	Electrical Ductbank trenches, including all raceway and conductors between the secondary unit substation and the service disconnects and panels as indicated in the electrical drawings. The circuit to Greywater Tank 01 (GW-01) has been deleted (See Dwg E-10).	LS	1		\$0
5.02A	E-02, E-20	The ductbank on the east side of the school is to be encased in concrete per the detail on Dwg E-20.	m	54		\$0
5.03	U-90, U-91	Electrical conduit and wiring to serve the heat tracing systems on the water lines on the water tower, as well as the level control switches in the water tank.	LS	1		\$0
5.04	E-03, E-30	Manual Transfer Switch (30-Amp)	ea.	1		\$0
Total						\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.

Bill No. 6 Miscellaneous Site Items

Item No.	Sheet No.	Description	Unit	Qty.	Unit Price	Price
6.01	C-12, C-13, C-32, C-33	Chain Link Security Fence including all related appurtenances as shown on Sheets C-10 C-12 to C-13. The amount of fencing has been decreased due to the elimination of the grey water tanks, however chain link fencing has been added around the transformer (See Dwg. C-12). Chain link fencing is still required around the wastewater treatment plant (See Dwg C-13). The detail sheets for the chain link fencing and the chain link fence specification have been modified to make the fencing material locally available, and therefore less costly.	m	70		\$0
6.02	C-12, C-13, C-32, C-33	Chain Link Security Fence Single Swing Gate as shown on Sheets C-10 C-12 to C-13. The number of swing gates has been decreased due to the elimination of the grey water tanks, however a swing gate has been added for the fenced enclosure around the transformer. A swing gate is still required for the fenced enclosure around the WWTP. Gate posts and gate frame are lighter weight per the detail sheets C-32 and C-33 to make this material locally available and therefore less costly.	ea.	2		\$0
6.03	C-13, C-31 - C-32	Chain Link Security Fence Double Swing Gate as shown on Sheet C-13. Gate posts and gate frame are lighter weight per the detail sheets C-32 and C-33 to make this material locally available and therefore less costly.	ea.	1		\$0
6.04	C-12, C-13	Parking Space Pavement marking - 100mm Painted Yellow Stripe as shown on Sheets C-12, C-13	m	102		\$0
6.05	C-12 & C-30	3 x 0.96 m square tube steel fabricated bicycle rack as shown on Sheet C-30	LS	1		\$0
Total						\$0

NOTE: Items shown include transportation, excavation, shoring, dewatering and installation.