PROJECT : **PROPOSED STAGING TANK AND DRILLING OF ONE (1) 150mmØ PRODUCTION WELL AT PHILRICE BATAC**
SUBJECT : **BILL OF QUANTITIES**
LOCATION : **DETAILED ESTIMATES**

SCOPE OF WORKS

I. Site Works

* *Earth excavation, site clearing, backfill, gravel bedding*

II. Concrete Works

* *Footing, beams, columns, slab on fill, shear wall (0.30m thickness)*

III. Reinforcing Steel bar

* *16mm dia RSB, 12mm dia RSB, 10mm dia RSB, GI wire*

IV. Formworks

* *Plywood 1/2" with 2"x2" and 2"x3" coco lumber for all formworks*

V. Masonry Works

* *6" CHB for Laying and Plastering*

VI. Tank Ladder

* *Fabrication and Installation of Tank Ladder (3/4" dia Stainless Pipe x 6.0m S40, 16 mm dia Ladder Rung)*

VII. Plumbing Works

* *Water Supply Distribution lines to apartments from main tank (verify on site) including water meter.*

* *3" dia check valve, 3" dia globe valve, 3" dia GI Pipe S40 x 6.0m, Pressure Gauge US Made, 3" dia HDPE Pipe x 6.0 m SDR11*

VIII. Deepwell Drilling with 6" diameter casing

* >Drilling of pithole / 200mm diameter pilot hole including strata sampling per meter of penetration 1st bit 8" (50 meters)
  >Furnishing and Installation of temporary Casing
  > Geophysical Borehole Logging (Electric resistivity) / on 8"Ø reaming
  > Installation of blank casing & screens
  > Furnishing of 150 mm diameter spiral welded steel casings x 6 meters x 6mm minimum wall thickness
  > Furnishing of 150 mm nominal diameter continuous slot wedge wirewound
  > Furnishing and installation of gravel packing on annulus around casings around 4" thk.
  > Furnishing and installation of clay seal (Punso), from 20 meters to 80 meters or up to 10 meters before the first screen
  > Cement Grouting of annulus around 300mm casing
  > Furnishing and install well head cap
  > Water Conductivity Test, Development by backwashing (6hrs)
  > Treatment of Well sodium hexametaphosphate
  > Development by high pressure water jetting (12hrs)
  > Development by air-lifting Q=50lps (12 hrs)
  > Development by surging & bailing out of sediments (12 hrs)
  > Step-drawdown pumping test Step-drawdown pumping test: with five steps at one hour each step carried out in succession with discharge rate increasing in equal fraction of the expected maximum discharge of Q = 50 lps (4 hr) >
  Continuous constant discharge rate pumping test (48 hrs),
  > Well Disinfection,
  > Camera Logging.

IX. Electrical Works

* *All electrical works. Provision of new Stainless Steel Submersible Multi Stage Centrifugal Pump with controller, and Booster/Lifting Pump w/ motor switch (automatic)*

X. Other Works

* *Perimeter fence, tarpaulin, warning signs.*

Minimum Key Personnel and Qualifications: *Engineer, foreman, welder, mason, carpenter, painter, electrician*
Minimum major equipments: *Welding machine, electric drill/grinder, bar cutter, well driller, one bagger mixer, excavator*

QUANTITY	UNIT	PARTICULARS	UNIT COST	MATERIALS COST	LABOR COST	OCM 10%	PROFIT 8%	TAX 5%	AMOUNT
I. SITEWORKS									
140.00	*cu.m*	*A. Earth Excavation*							
5.00	*cu.m*	*B. Gravel Fill/ Bedding*							
63.00	*cu.m*	*C. Back Fill*							

II. CONCRETE WORKS

10.00	*cu.m.*	*A. Slab on Fill*
8.00	*cu.m.*	*B. Footing, Beams, Column*
21.00	*cu.m.*	*C. Shear Wall (0.30 thickness)*

III. REINFORCING STEEL BARS

7,329.54	*kgs*	*Reinforcing Steel Bars (RSB) 16 mm dia DRSB x 6.0m(G-40), 12 mm dia DRSB x 7.5m(G-40), 10 mm dia DRSB x 6.0m(G-33))*

IV. FORMWORKS AND SCAFFOLDINGS

1.00	*lot*	*Plywood 1/2" with 2"x2" and 2"x3" coco lumber for all formworks*

V. MASONRY WORKS

94.00	*sq.m.*	*6" CHB for Laying and Plastering Washed Sand, Cement*

VI. TANK LADDER

1.00	*lot*	*3/4" dia Stainless Pipe x 6.0m S40, 16 mm dia Ladder Rung*

VII. PLUMBING WORKS

1.00	*lot*	*3" dia check valve, 3" dia globe valve, 3" dia GI Pipe S40 x 6.0m, Pressure Gauge US Made, 3" dia HDPE Pipe x 6.0 m SDR11*

VIII. WELL DRILLING WITH 6"Ø CASING (Materials including Labor Cost)

1.00	*lot*	*>Drilling of pithole / 200mm diameter pilot hole including strata sampling per meter of penetration 1st bit 8" (50 meters) >Furnishing and Installation of temporary Casing > Geophysical Borehole Logging (Electric resistivity) / on 8"Ø reaming > Installation of blank casing & screens > Furnishing of 150 mm diameter spiral welded steel casings x 6 meters x 6mm minimum wall thickness > Furnishing of 150 mm nominal diameter continuous slot wedge wirewound > Furnishing and installation of gravel packing on annulus around casings around 4" thk. > Furnishing and installation of clay seal (Punso), from 20 meters to 80 meters or up to 10 meters before the first screen > Cement Grouting of annulus around 300mm casing > Furnishing and install well head cap > Water Conductivity Test, Development by backwashing (6hrs) > Treatment of Well sodium hexametaphosphate > Development by high pressure water jetting (12hrs) > Development by air-lifting Q=50lps (12 hrs) > Development by surging & bailing out of sediments (12 hrs) > Step-drawdown pumping test Step-drawdown pumping test: with five steps at one hour each step carried out in succession with discharge rate increasing in equal fraction of the expected maximum discharge of Q = 50 lps (4 hr) > Continuous constant discharge rate pumping test (48 hrs), > Well Disinfection, > Camera Logging.*

XI. ELECTRICAL WORKS (SUBMERSIBLE AND TRANSFER PUMP WITH ACCESORIES)

> Stainless Steel Submersible Deepwell Pump, "Goulds" "SHAKTI" "GRUNDFOS" or approved equal
Stages: 9 Stages
Pump Diameter: 4 in
Materials: All stainless steel (SS304), pump bowls, impellers, shafting with built in SS304 non-return valve (check valve)
Interconnector: Cast Steel Stainless Steel
Riser Pipe: 2 in
Capacity: 10HP, 230V, 3 Phase, 60 Hz, 3450 rpm, 6" diameter or larger well with bolts
> Stainless Steel Submersible Deepwell Motor, "FRANKLIN" or approved equal
Capacity: 10HP, 230V, 3 Phase, 60 Hz, 3450 rpm
> Conventional Controller
Capacity: 10HP, 230V, 3 Phase, 60 Hz
Type: Reduced Voltage Auto-Transformer

1.00 L.S. *"VACON" "SCHNEIDER" or approved equal: Components: Circuit breaker, auto coil, magnetic contactors, thermal overload relay, liquid level relay, electrodes, transient voltage surge suppresor, on-delay time, anti-single phase relay, HOA selector switch, ammeter, volt meter, and wired in NEMA 12 industrial type wall mounted enclosure.*
> Submersible Cable Size #8/3c
> Well Seal 12inx2inx1in
> PVC Riser pipes 2inx10ft with couplings
> Top Bottom Adapter 2in
> Top Adapter 2in
> Splicing kit and Tapes
> Stranded wire for electrodes at motor side
>Booster/Lifting Pump
Cast Iron Pump Head, Stainless steel pump head cover, stainless steel shaft, stainless steel impeller, cast iron baseplate and mechanical seal cartridge type. 40-60 gpm

coupled with electric motor, 10HP, 230V, 3 Phase, 60 Hz, 3450 rpm
Capacity: 40-60 gpm

XI. OTHERS

1.00 L.S. *PPE, Vest, Gloves, I.D's, etc, Temporary Facility and Perimeter Fence, Warning signs, Tarpaulin, Safety signs, etc., Permits, Testing Fees, etc.*

SUMMARY OF COST

Direct Cost
Material Cost + Labor Cost + Equipment Rental Cost **PhP** _____

Indirect Cost
OCM **PhP**
Profit **PhP**
Tax **PhP** _____

GRAND TOTAL PROJECT COST **PhP**