

Technical Specifications

I.	PROJECT: PROPOSED TRANSMISSION AND DISTRIBUTION LINE WITH MOTHER METER		
	LOCATION: PHASE 3, CDORSHP-1, MAHOGANY RELOCATION SITES, BARANGAY CANITOAN, CDOC		
A.	PIPELINES – Furnish and install pipes including joints, fittings, warning and detection tapes, perform excavation with pipe cover 1.2m or less except where shown measured to existing ground surface, sump pumping, pipe bedding using suitable materials from trench, thrust blocks, backfilling and testing as per specifications and drawings.		
A.1	TRANSMISSION LINES/DISTRIBUTION LINES, 150psi		
	A.1.1	150mmØ uPVC Pipe – 690 l.m.	
	A.1.2	100mmØ uPVC Pipe – 348 l.m.	
	A.1.3	75mmØ uPVC Pipe – 210 l.m.	
		uPVC (Unplasticized Polyvinyl Chloride) Pipes for Potable Water (PNS 65 - Technical Standard Specifications), Series 8, Class 150, 150 psi Normal Working Pressure	
A.2	HYDROTESTING AND DISINFECTION		
	A.2.1	150mmØ uPVC Pipe – 690 l.m.	
	A.2.2	100mmØ uPVC Pipe – 348 l.m.	
	A.2.3	75mmØ uPVC Pipe – 210 l.m.	
		Chlorine Powder	10 lbs.
B.	VALVES – Furnish and install gate valves and valve boxes complete, perform all necessary earthworks, and construct the concrete base as per specification and drawings		
B.1	GATE VALVES ON PROPOSED LINES		
	B.1.1	150mmØ – 1 set	
	B.1.2	100mmØ – 3 sets	
	B.1.3	75mmØ – 2 sets	
		Resilient Gate Valve for water, non-rising stem, two (2) stages of double O-ring, ductile iron/epoxy coated body, stainless steel shaft, flange ends, complete with accessories, PN16 250 psi, US or equivalent	
C.	ASSEMBLIES		
C.1	BLOW-OFF ASSEMBLIES ON PROPOSED LINES- Furnish and install blow-off assembly, as specified and shown on the contract drawings.		
	C.1.1	75mmØ- 1 set	
		Blow-Off Valve Head	75mmØ 1 set
		Cast Iron Hydrant Head	
		Gate Valve	75mmØ 1 pc

	Resilient Gate Valve for water, non-rising stem, two stages of double O-ring, ductile iron stainless steel, complete with accessories, 200 psi		
	B.I. Pipe, Sch. 40, welded type	75mmØ x 6m x 5.49m thk.	1 length
	uPVC Pipe (for pipe casing)	150mmØ	1 length
	Class 150, Series 8		
	Ring Flange	75mmØ x ½"	10 pcs
	Steel Bend	75mmØ x 90°	1 pc
	Flange Adaptor	100mmØ	1 pc
	Capscrew with Nut & Lockwasher	5/8"Ø x 75mm	80 pcs
	Rubber Gasket	6.35mm thk.	3 kg
	Valve Box Cover	100mmØ	1 pc
	G.I. Pipe (markers)	100mmØ	1 length
	Cement	40 kg	6 bags
	Washed Sand		1 m ³
	Crushed Gravel	¾"	1 m ³
	CHB	150mm x 200mm x 400mm	35 pcs
	G.I. Tie Wire, GA#16		1 kl.
	Deformed Bars	12mmØ x 6m	4 lengths
C.2	FIRE HYDRANT ASSEMBLIES WITH BARRICADE ON PROPOSED LINES - Furnish and install fire hydrant assembly, as specified and shown on the contract drawings.		
	C.2.1 100mmØ Res. Fire Hydrant – 1 set		
	B.I. Pipe Sch. 40, welded type	100mm x 6m x 6.02mm thk.	1 lgth.
	Upvc Pipe (for pipe casing)	200mmØ x 6m	1 lgth.
	Class 150, Series 8		
	Riser Pipe (long)	100mmØ x 145 cm.	1 lgth.
	Spring Fire Hydrant	100mmØ	1 unit
	Gate Valve	100mmØ	1 unit
	Resilient Gate Valve for water, non-rising stem, two (2) stages of double O-ring, ductile iron stainless steel, complete with accessories, 200psi		
	Ring Flange	100mmØ	3 pcs.
	Mechanical Flange Tee	100mmØ	3 pcs.
	Flange Adaptor	100mmØ	1 pc.
	Surface Box for Spring Fire Hydrant w/ key		1 unit
	Capscrew with N & LW, full thread	5/8"Ø x 3"	48 pcs.
	Rubber Gasket	¼" thk.	4 kgs.
	Welding Rod	E6012	2 pcs.
	Red Oxide Primer		2 qrtz.

	Quick Dry Enamel		2 qrtz
	Paint Thinner		1 liter
	Paint Brush	75mmØ	1 pc.
	Portland Cement	40 kgs.	2 bags
	Washed Sand		0.10 cu.m.
	Crushed Gravel	¾"	0.15 cu.m.
C.3	MOTHER METER ASSEMBLY		
C.3.1	75mmØ		1 unit
	<p>ELECTROMAGNETIC FLOWMETER, battery operated</p> <p>Technical Specification:</p> <p>Size: DN 80 (3 inch)</p> <p>Process Connection: Flange ANSI 16.5, Class 150</p> <p>Liner Material: EPDM</p> <p>Electrode material: Hastelloy with 10m Remote Mounted Sensor</p> <p>Cables and plugs</p> <p>Communication: Serial RS 485 Interference Module Modbus RTU</p> <p>Supply: Internal Battery Pack installed and connected 2 D-cells inside</p> <p>Meter</p> <p>Flow unit: cu.m./hr.</p> <p>Volume unit: cu.m.</p> <p>Totalizer: Uni- Directional Forward flowing</p>		
	B.I. Pipe, Sched. 40	100mm x 6m x 6.02mm thk.	1 lgth.
	Gate Valve	75mmØ	2 units
	<p>Resilient Gate Valve for water, non-rising stem,</p> <p>Two (2) stages of double O-ring, ductile iron,</p> <p>Stainless steel shaft, handwheel type, flange ends,</p> <p>complete with accessories, PN16, 250Psi</p>		
	Check Valve	75mmØ	1 unit
	<p>Swing type with counter weight,</p> <p>Flange type, ductile iron body, epoxy coated</p> <p>Body, PN16, ISO 9001: 2008 approved</p>		
	Y-Strainer	75mmØ	1 unit
	<p>Y-pattern, ductile iron body, screen /basket-</p> <p>Stainless steel 304, flange type, ISO PN16,</p> <p>Fusion bonded, epoxy coated (blue)</p>		
	Flange Adaptor	100mmØ	2 pcs.
	Ring Flange	100mmØ	4 pcs.
	Steel Bend	100mmØ x 90°	2 pcs.
	Steel Bend Reducer	100mmØ x 75mmØ x 90°	1 pc.
	Steel Increaser Elbow	75mmØ x 100mmØ x 90°	1 pc.
	Steel Nipple with Ring Flange	75mmØ x 375mm	1 pc.
		75mmØ x 375mm	2 pcs.

		75mmØ x 200mm	2 pcs.
	Capscrew with N & LW, full thread	5/8"Ø x 3"	152 pcs.
	Welding Rod	E6012	4 kgs.
	Rubber Gasket	¼" thk.	7 kgs.
	Red Oxide Primer		2 qrtz.
	Quick Dry Enamel Paint	Delft Blue	2 qrtz.
	Paint Thinner		1 liter
	Paint Brush	75mm	1 pc.
	C.3.2 Air Release Valve	25mmØ	1 pc.
	Valve bodies, covers and baffles shall be ductile iron, Male thread end, valve is float actuated, floats and all interior parts shall be stainless steel, type 302, 304 or 306 conforming to ASTM A240/A240M, or foamed polypropylene, flanged end connection shall conform with ISO 7005 PN16 while threaded end connections shall conform with ISO 7/ISO 228		
	Pressure Gauge	75mmØ face dial	1 pc.
	P=160psi oil base; model: GV50-153, all stainless construction dial face: 3"Ø, oil filled, ¼" NPT bottom connection, 0-200 psi		
	Brass Ball Valve	25mmØ	1 pc.
	Swing with detachable lever, 150 psi		
	G.I. Nipple, Sch. 40	25mmØ x 100mm	1 pc.
		25mmØ x 50mm	1 pc.
	G.I Tee, Sch. 40	25mmØ x 12.5mmØ	1 pc.
	B.I. Coupling	25mmØ	1 pc.
	G.I Reducer Bushing, Sch. 40	½"Ø x ¼"Ø	1 pc.
	C.3.3 Concrete Support and Concrete Pad		
	Concrete Deformed Bars	12mmØ x 6m	3 lgths.
	G.I. Tie Wire	Ga.#16	1 kl.
	Portland Cement	40 kg.	1 bag
	Washed sand		1 cu.m.
	Crushed Gravel		1 cu.m.
	C.3.4 Instrumentation Box (IBOX)		1 unit
D.	METER STUB-OUTS ASSEMBLY ON PROPOSED LINES		
	D.1.1 50mmØ – 16 UNITS		
	PE Tube, SDR 9, ISO	63mmØ O.D.	48 m
	Saddle Clamp		16 pcs.
	Straight Ball Valve with Lockwing	50mmØ	16 pcs.
	Male Adaptor 45° Bend (Push-In)	50mmØ x 63mm x 45°	16 pcs
	Female Adaptor 90° Bend (Push-In)	50mmØ x 63mm 90°	16 pcs.
	GS Nipple, Sched. 40	50mmØ x 500mm	16 pc
	GS Nipple, Sched. 40	50mmØ x 152mm	32 pcs

	Brass Straight Ball Valve with Lockwing	50mmØ	16 pcs.
	G.S. Cross Tee, Sch.40	50mmØ x 50mmØ	16 pcs.
	G.S. Tee, Sch.40	50mmØ x 50mmØ	16 pcs.
	G.S. End Plug, Sch.40	50mmØ	64 pcs
	Teflon Tape	25mmØ	160 pcs
	QDE Paint	Delft Blue	1 gal.
	Red Oxide Primer		1 gal.
	Paint Thinner		1 gal.
	Paint Brush		3 pcs
	Portland Cement		16 bags
	Washed Sand		1 m ³
	Crushed Gravel		2 m ³
E.	INDIVIDUAL SERVICE CONNECTION (IN HOUSE CONNECTION)- 230 HH		
	PE Tube, ISO, SDR 11	20mmØ (O.D.)	21,190 mts.
	Water Meter w/ 1 tail pc.	13mmØ	230 pcs.
	GS Nipple, Sched. 40	50mmØ x 50mm	115 pcs.
		50mmØ x 100mm	115pcs.
	GS Tee, Sched. 40	50mmØ x 20mm	230 pcs.
	Straight Ball Valve with Lockwing	20mmØ x 20mm	230 pcs.
	Brass Check Valve (swing type)	15mmØ	230 pcs.
	Street Elbow	15mmØ	230 pcs.
	Plastic Bend 90° (connector)	15mmØ x 15mmØ x 90°	230 pcs.
	Portland Cement		18 bags
	Washed Sand		3 cu.m.
	Crushed Gravel	¾"	6 cu.m.
E.	PAVEMENT DEMOLITION AND SURFACE RESTORATION- Furnish labor, tools and equipment to demolish pavement including the hauling of the discarded materials to appropriate dump site. Locating dump site shall be the Contractor's responsibility. For surface restoration- furnish materials, labor and equipment to construct pavement and restore surface as specified and shown.		
	Portland Cement		311 bags
	Washed Sand		17 cu.m.
	Crushed Gravel	¾"	35 cu.m.