



TECHNICAL SPECIFICATION

TITLE: PURCHASE OF ASSORTED SIZES BRAND NEW SUBMERSIBLE PUMP COUPLED WITH MOTOR

1.0 SCOPE OF CONTRACT

The scope shall be supply, testing, delivery and commissioning of Three (3) sets assorted brand new coupled submersible pump and motor to General Santos City Water District (GSCWD).

2.0 SUBMERSIBLE PUMP OPERATING REQUIREMENTS

Particulars	Requirements		
	Set 1	Set 2	Set 3
Number of Unit	1	1	1
Minimum Capacity at design Head, lps(gpm)	80 (1268)	80 (1268)	100 (1585)
Design Head TDH, m(ft)	63 (207)	64 (210)	62 (203)
Size of Discharge pipe, mm (in)	150 (6)	150 (6)	200 (8)



2.1 OTHER OPERATING REQUIREMENTS OF SUBMERSIBLE PUMP NOT INCLUDING SET 3

Minimum Pump Efficiency at design head, percent	72%
Test Grades ISO Standard (Curve Tolerance)	9906:2012 3B
Design Speed (RPM)	3400-3600
Pump Valve Casing, Diffuser and Suction casing Type	316 Stainless Steel
Impeller, Shaft Bearing	316 Stainless Steel - EPDM Rubber
Pump Shaft	316 Stainless Steel
Conical Valve, Suction Screen	316 Stainless Steel
Flanged coupling Type	316 Stainless Steel
Bowl Intermediate	316 Stainless Steel

2.2 OTHER OPERATING REQUIREMENTS OF SUBMERSIBLE PUMP FOR SET 3 ONLY

Particulars	Requirements
Shaft	ASTM A582 S41600
Test Grades ISO Standard (Curve Tolerance)	9906:2012 3B
Impeller	ASTM A744 CF8M
Intermediate Bowl	ASTM A49 Cl. 30B
Intermediate Bowl Bearing	ASTM B584 C89835 (Std.)
Upthrust Collar	Polyethylene
Discharge Bowl	ASTM A48 Cl. 30B
Discharge Bowl Bearing	ASTM B584 C89835
Cable Guard	ASTM A240 S30400
Suction Strainer	ASTM A240 S30400



Coupling	ASTM A582 S41600
Suction Adapter	ASTM A536 Gr. 60-40-18
Suction Bearing	ASTM B584 C89835
Taperlock	ASTM A108 Gr. 1018

3.0 SUBMERSIBLE MOTOR OPERATING REQUIREMENTS

Particulars	Requirements		
	Set 1	Set 2	Set 3
Motor Rating Power HP	As Required	As Required	As Required
Rated Voltage	460	460	460

3.1 OTHER SUBMERSIBLE MOTOR OPERATING REQUIREMENTS

Particulars	Requirements
Phase	3
Service Factor	1.15
Power Factor(4/4)	0.8
Design point	3400-3600RPM
Winding	Encapsulated in anti-tracking resin (non-rewindable)
Stator area	Hermetically-sealed
Water-block lead	Removable connection
Flange design	Double
Shell	Stainless Steel
Shaft	Splined stainless steel



Thrust bearing	water lubricated
Diaphragm	Pressure equalizing
Slinger	Sand Fighter
Lead wire configurations	3
Bar rotor	Copper
Minimum Motor Resistance (Mega ohms)	1000 for not spliced, not submerged; and 500 or above for submerged

5.0 TERMS AND CONDITIONS

- 5.1 The scope of work shall be supply, delivery and commissioning of assorted sizes brand new submersible pump coupled with motor to General Santos City Water District (GSCWD).
- 5.2 The submersible pumps and motors shall be tested in a laboratory determined by GSCWD before delivery to ensure conformance with the design parameters. The cost of the laboratory testing shall be borne entirely by the winning bidder.
- 5.3 The winning bidder is required to submit actual documents (manuals, data sheets, manufacturer's test results, name plate specifications, ISO 9960:2012 3B certificates and etc.) of the units that are to be tested prior to the scheduling of laboratory testing.
- 5.4 Laboratory testing shall be witnessed by five (5) GSCWD representatives together with the winning bidder's representatives for five (5) days. All relevant and incidental cost (Testing fee, transportation, accommodation, allowances and etc.) in the testing of the equipment shall be shouldered by the winning bidder.



- 5.5 In case the unit to be tested are different from the submitted documents and/or do not comply with the specifications set by GSCWD, laboratory testing shall not be conducted.
- 5.6 In case the unit/units failed to pass the minimum requirements during laboratory testing, the winning bidder shall replace the unit/units subject to another laboratory testing without cost to GSCWD.
- 5.7 That during the installation and commissioning of the units, the winning bidder shall be required to send a technician responsible of splicing the cables with the motor cable leads and commissioning thereafter. All relevant and incidental cost (transportation, accommodation, allowances and etc.) in the commissioning of the equipment shall be shouldered by the winning bidder.
- 5.8 Field testing shall be made once the units are ready for operation and when both the GSCWD and winning bidder have finished their scopes of work on the installed units. GSCWD engineers shall conduct field testing with the presence of winning bidder's representative. Pumps must meet the minimum testing requirements in terms of capacity, head, and efficiency. In case the unit/units failed to pass the field testing, the winning bidder shall make necessary corrections / changes to replace the unit without cost to GSCWD.
- 5.9 The winning bidder shall deliver the submersible pump and motor within **Ninety (90)** calendar days upon receipt of Purchase Order (PO). Laboratory testing is included in the 90- calendar day's delivery period.
- 5.10 The winning bidder shall be subjected to Liquidated Damages (LD) for each day of delay as provided by the IRR of RA 9184.
- 5.11 The submersible motors must comply with PEC standard as to their current rating with load and without load.

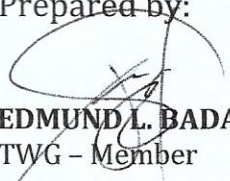


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- 5.12 That the winning bidder shall issue a warranty certificate of not less than one (1) year and the warranty shall commence from the date of commissioning of the pumping equipment.
- 5.13 That the bidder must have an available qualified and trained technicians 24/7 in case of equipment failure.

Prepared by:

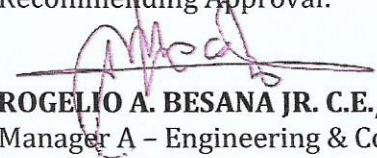

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