1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model __________________ Submersible Pump(s).
Each unit shall be capable of delivering ______ GPM (______ m³/min) at ______ Feet (______ m) TDH.
The pump(s) shall be designed to pump waste water without damage during operation. The pump(s) shall be
designed so that the shaft power required (BHP)/(kW) shall not exceed the motor rated output throughout
the entire operating range of the pump performance curve.

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) shall be gray cast iron, ASTM A48 CLASS 30B. Impellers and
field adjustable/replaceable wear plate shall be high chrome cast iron. Impellers shall be of the multi-vane
semi-open design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. Internal
and external surfaces coming into contact with the pumpage shall be protected by a fused polymer coating. All
exposed fasteners shall be stainless steel. All units shall be furnished with 150 lb. (10 kg/cm²) flat face flange and
NPT companion flange.

3. MECHANICAL SEAL -

All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage,
running in a separate oil filled chamber and further protected by an exclusionary oil seal located between the
bottom seal faces and the fluid being pumped. The oil chamber shall be fitted with a device that shall provide
positive lubrication of the top mechanical seal, (down to one third of the standard oil level). The device shall not
consume any additional electrical power. Mechanical seals shall rated to preclude the incursion of water up to
42.6 PSI. (98.4 Ft.) submergence. Units shall have silicon carbide versus silicon carbide upper and lower
mechanical seal faces. Mechanical seal hardware shall be stainless steel. All unit(s) shall be fitted with a
replaceable 403 stainless steel shaft sleeve.

4. MOTOR -

The pump motor(s) shall be ______ Hp., ______ kW., ______ V., 60 Hz. 3 Phase and shall be NEMA MG-1,
Design Type B equivalent. Motor(s) shall be rated at ______ full load amps. Motor(s) shall have a 1.15 service
factor and shall be rated for 20 starts per hour. Motor(s) shall be air filled, copper wound, class F insulated with
built in thermal protection for each winding. Motor shaft shall be 420 stainless steel and shall be supported by
two high temperature ball bearings, with a B-10 life rating at best efficiency point of 60,000 hours. The bottom
bearing shall be two row, double shielded, C3, deep groove type ball bearing. The top bearing on all units
shall be single row, double shielded, C3, deep groove type ball bearing. Motors shall be D.O.L. or star-delta
start (50 Hp), and shall be suitable for across the line start or variable speed applications, utilizing a properly sized
variable frequency drive. Motor shall incorporate a steel water cooling jacket.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications and shall be field replaceable utilizing
standard submersible pump cable. The cable entrance shall incorporate built in strain relief and a combination
three way mechanical compression sealing. The cable entrance assembly shall contain an anti-wicking block to
eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.