

## SECTION 22 16 00 – PUMPS

### PART 1 - GENERAL

#### 1.1 WORK INCLUDED

- A. Provide labor, materials, equipment and services to perform operations required for the complete installation and related Work as required in Contract Documents.

#### 1.2 SUBMITTALS

- A. All items specified under "Part 2 - Products" of this Section

### PART 2 - PRODUCTS

#### 2.1 DOMESTIC HOT WATER SYSTEM CIRCULATION PUMPS (HWRP-1):

- A. Pump shall have a capacity of 15 gpm at a TDH of 10 ft. with a 1/4 hp, single phase, 115 volt motor.
- B. Make: Grundfos model MAGNA3 32-120 FN
- C. Acceptable Manufacturers: Armstrong, Bell and Gosset, Goulds Pumps or Taco.
- D. Pump shall have the following features and accessories:
  - 1. Time clock with "skip-a-day" feature. Make: General Electric, Paragon, Sangamo, Tork.
  - 2. Aquastat controller: Johnson Controls Model A19ABC-39C (30° - 180°F).
  - 3. Provide all control wiring for pump and accessories.

#### 2.2 HYDRAULIC ELEVATOR SUMP PUMP (ESP-1)

- A. The contractor shall provide labor, material, equipment, and incidentals required to provide centrifugal pump(s).
- B. Each submersible pump shall be rated for 3/4 hp, 115 volts, single phase, 60 Hz, & 3450 RPM. The unit shall produce 50 G.P.M. at 25 feet of total dynamic head.
- C. The manual pump is connected to a control which has the ability to prevent oil from being pumped from the vault. This same control unit will activate an alarm when an oil "film" is detected or when a high water condition exists. The system will continue to monitor and remove water from the vault even if an oil condition is detected.
- D. The control unit has three probes and a float ball switch. The pump will activate when the middle probe contacts water, and will remain on until the first, longest probe no longer is in contact with water. A high water alarm is activated when third or shortest probe contacts water. The system will ignore a small film of oil,

however larger volumes of oil will be detected when the alarm probe does not detect water and the float ball activates. The system will continue to operate, removing water not oil from the vault even when oil has been detected.

- E. Make: Liberty ELV290 or approved equal.

### **PART 3 - EXECUTION**

#### **3.1 CIRCULATING PUMPS**

- A. Install in horizontal position.
- B. Install gate valve in pump inlet and check and balancing valve and pressure gauge in outlet.
- C. All sump covers, access openings, and pipe penetrations are to be gasketed and shall be vapor tight to allow no sewage odor to exit sump into the space.

**END OF SECTION**