

SECTION 221429 SUMP PUMPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract apply to this Section.

1.2 RELATED SECTIONS

- A. LEED Requirements as outlined in the Contract Documents.
- B. Commissioning Requirements as outlined in the Contract Documents.
- C. Division 22 Section "Common Motor Requirements for Plumbing Equipment, Section 220513.

1.3 SUMMARY

- A. Section Includes:
 - 1. Elevator sump pump systems

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Wiring Diagrams: For power, signal, and control wiring.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For pumps and controls, to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. UL Compliance: Comply with UL 778 for motor-operated water pumps.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Retain shipping flange protective covers and protective coatings during storage.
- B. Protect bearings and couplings against damage.
- C. Comply with pump manufacturer's written rigging instructions for handling.

PART 2 - PRODUCTS

2.1 ELEVATOR SUMP PUMPS

- A. Manufactures: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Penn Pump & Equipment Co.
 - 2. Bell & Gossett
 - 3. Stancor Pumps.
 - 4. Or Approved Equal.
- B. Submersible, Elevator Sump Pump
 - 1. The contractor shall furnish and install a complete pump and control system for each elevator pit, as shown on the drawings. The pumping system shall be capable of pumping water while containing oil. The pump and oil sensor technology control system must comply with ASME 17.1 standards. The system shall function automatically and shall provide a local audible alarm with silence switch and LED indicator lights for EACH of the following events:
 - a) The presence of oil in the sump when the pump is signaled to run.
 - b) high liquid in the sump.
 - c) high amps or a locked rotor motor condition.
 - d) electrical power to the panel.
 - e) pump activation.
 - 2. Provide dry contacts for remote monitoring of oil detected, high water alarm, and high amperage/motor overload alert.
 - 3. Pump shall have engineered thermoplastic impeller and stainless steel shaft.
 - 4. The sump pump system manufacturer shall provide all of the system components to insure proper pump system performance. The Plumbing contractor is responsible for proper installation and operation.
 - 5. Manufacturer shall provide a half-day factory start-up service complete with written start-up report.

C. Controls

1. The control unit, pump, floats and sensor probe shall be factory assembled as a complete, ready to use system and shall be tested, approved and labeled, for the intended purpose as a system, by a nationally recognized testing laboratory such as ENTELA.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in for plumbing piping to verify actual locations of any under slab piping before sump pump installation.

3.2 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment to allow service and maintenance.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Tests and Inspections:
 1. Perform each visual and mechanical inspection.
 2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Pumps and controls will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports.

3.4 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Complete installation and startup checks according to manufacturer's written instructions.

3.5 ADJUSTING

- A. Adjust pumps to function smoothly and lubricate as recommended by manufacturer.
- B. Adjust control set points.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controls and pumps.

END OF SECTION 221429