**SECTION 23 30 16**

**SUMP PUMPS for UTILITIES**

**BASED ON DFD MASTER SPECIFICATION DATED 12/9/2014**

***This section has been written to cover most (but not all) situations that you will encounter. Depending on the requirements of your specific project, you may have to add material, delete items, or modify what is currently written. The Division of Facilities Development expects changes and comments from you.***

**P A R T 1 - G E N E R A L**

**SCOPE**

This section includes specifications for pumps and other equipment used for utility applications. Included are the following topics:

PART 1 - GENERAL

 Scope

 Related Documents

 Reference

 Quality Assurance

 Shop Drawings

 Operation and Maintenance Data

PART 2 - PRODUCTS

 Sump Pumps

 Controls

PART 3 - EXECUTION

 Installation

 Construction Verification Items

 Functional Performance Testing

 Agency Training

RELATED DOCUMENTS

Section 01 91 01 or 01 91 02 – Commissioning Process

Section 23 08 00 – Commissioning of HVAC

Section 23 05 23 - General-Duty Valves for HVAC

Section 23 05 15 - Piping Specialties

Section 23 05 13 - Common Motor Requirements for HVAC

Division 26 00 00 - Electrical

**REFERENCE**

Applicable provisions of Division 1 shall govern work under this section.

**QUALITY ASSURANCE**

Substitution of Materials: Refer to Section GC - General Conditions of the Contract, Article 7.

**SHOP DRAWINGS**

Include data concerning dimensions, capacities, materials of construction, ratings, certifications, weights, pump curves with net positive suction head requirements, manufacturer's installation requirements, manufacturer's performance limitations, and appropriate identification.

# OPERATION AND MAINTENANCE DATA

All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

**P A R T 2 - P R O D U C T S**

**SUMP PUMPS**

Submersible pumps constructed of epoxy coated cast iron shell, cast iron volute, Vortex non-clog cast iron impeller, stainless steel shaft, stainless steel fasteners, upper and lower ball bearings, factory sealed grease lubricated. Hydromatic, Little Giant, Weil equal to Zoeller M3098-0001 Automatic.

PUMP:

1. 40GPM at 15 feet of Head
2. Rated for 200°F continuous pumping

MOTOR:

1. Hermetically sealed
2. Built-in thermal overload protection
3. Sized for non-overloading over the entire pump curve
4. 60 Hz, 1 Phase, 15A, 115 V, ½ HP motor

CONTROLS:

1. Triple Floats (one On, one Off, one High Level Alarm) float switch, rated for 200°F , UL listed
2. NEMA 4X outdoor alarm panel with warning light, horn, silence switch, test switch and high level alarm switch, Auxiliary dry contacts for remote high water and power failure alarms, UL listed

***Add this paragraph if using multiple sump pumps***

1. Electrical pump alternator and alarm panel with combination magnetic starter for each pump, fused disconnect switch, HOA switch for each pump, run light for each pump, resettable overload heaters, warning light, horn, silence switch, test switch, labeled terminal switch and devices, auxiliary dry contacts for remote high water and power failure alarms, UL listed components, NEMA 4.

Accessories:

1. 15’ power cord with twist lock plug for pump. Power cord length as required to connect from the pump to the 115 volt 15 amp angle plug.
2. NEMA 4 junction box
3. Discharge check valve, fullport ball valve and union for each pump

**P A R T 3 - E X E C U T I O N**

**INSTALLATION**

Install equipment where indicated in accordance with manufacturer's recommendations. Coordinate equipment location with piping, ductwork, conduit and equipment of other trades to allow sufficient clearances. Locate equipment and arrange piping to provide access space for servicing all components.

Connect equipment to drain piping using unions or flanges and isolation valves.

Startup and test equipment adjusting operating and safety controls for proper operation.

Lubricate pumps before startup. Adjust pumps for rated flow.

# CONSTRUCTION VERIFICATION ITEMS

Contractor is responsible for utilizing the construction verification checklists supplied under specification Section 2308 00 in accordance with the procedures defined for construction verification in Section 01 91 01 or 01 91 02.

# FUNCTIONAL PERFORMANCE TESTING

Contractor is responsible for utilizing the functional performance test forms supplied under specification Section 23 08 00 in accordance with the procedures defined for functional performance testing in Section 01 91 01 or 01 91 02.

# AGENCY TRAINING

All training provided for agency shall comply with the format, general content requirements and submission guidelines specified under Section 01 91 01 or 01 91 02.

END OF SECTION