

SECTION 13 1601 – WATER FEATURE GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the following:
 - 1. Provide labor, materials, and equipment necessary for completion of the Work in the Water Feature Electrical Specification and as described in the Contract Documents
- B. Related Sections:
 - 1. SECTION 13 1502 – WATER FEATURE PUMPS AND MOTORS
 - 2. SECTION 13 1503 – WATER FEATURE FILTERS
 - 3. SECTION 13 1504 – WATER FEATURE CHEMICAL FEED SYSTEMS
 - 4. SECTION 13 1505 – WATER FEATURE OZONE GENERATION AND INJECTION
 - 5. SECTION 13 1506 – WATER FEATURE UV STERILIZERS
 - 6. SECTION 13 1507 – WATER FEATURE HEATERS
 - 7. SECTION 13 1508 – WATER FEATURE HYDRONIC SYSTEMS
 - 8. SECTION 13 1509 – WATER FEATURE CHILLERS
 - 9. SECTION 13 1510 – WATER FEATURE HEAT EXCHANGERS
 - 10. SECTION 13 1511 – VALVES, GAUGES, AND METERS
 - 11. SECTION 13 1602 – WATER FEATURE CONTROLS
 - 12. SECTION 13 1605 – WATER FEATURE CONTROL PANELS
 - 13. SECTION 13 1607 – WATER FEATURE PROGRAMMABLE LOGIC CONTROLLERS
 - 14. SECTION 13 1609 – WATER FEATURE DISCONNECTS, MCC, AND STARTERS
 - 15. SECTION 13 1610 – WATER FEATURE ELECTRICAL ACCESSORIES
 - 16. DIVISION 26 – ELECTRICAL

1.2 SUBMITTALS FOR REVIEW

- A. SECTION 01 3300 – SUBMITTAL PROCEDURES
- B. Product Data:
 - 1. Submit Manufacturer literature for the following:
 - a. Wiring Devices
 - b. Disconnect Switches
 - c. Panel Boards
 - d. MCC
 - e. Transformers
 - f. Motor Starters & VFDs
 - g. System Field Switches
 - 2. Provide the following information for each item of equipment:
 - a. Catalog Sheet
 - b. Assembly Details of Dimension Drawings
 - c. Installation Instructions
 - d. Manufacturer's Name and Catalog Number
 - e. Name of Local Supplier
 - f. Name of Electrical Contractor
 - 3. Do not purchase equipment before approval of Product Data.
- C. Shop Drawings: Submit Shop Drawings for MCC, Panel Boards, and Control Panels.
- D. As-Built Drawings: Provide the following:

1. Complete set with all changes made to original drawings.
 2. Provide CAD files as well as prints. Hand-drawn changes are not acceptable.
- E. Operation & Maintenance Manual
1. Provide two (2) copies of Operation and Maintenance Manuals.
 - a. Binder – Loose-leaf type with hard cover. Title on outside of front cover and on spine shall be as follows:

***** SOMMET BLANC SPECIFICATIONS *****
OPERATION & MAINTENANCE MANUAL
ELECTRICAL
 - b. Title Page: List the following information:
 - i. Name of Project.
 - ii. Project Completion Date.
 - iii. Name and Address of Architect, Electrical Engineer, General Contractor, Electrical Contractor, and Suppliers.
 - c. Table of Contents
 - i. List equipment in order that it appears in the Binder.
 - d. Dividers:
 - i. Provide one (1) divider tab for each type of equipment listed in the Table of Contents. Properly label tabs.
 - e. Equipment Information: Provide the following information for each item of equipment
 - i. Catalog Sheets
 - ii. Assembly Details or Dimension Drawings
 - iii. Installation, Operation, and Maintenance Instructions
 - iv. Manufacturer's Name and Catalog Number
 - v. Name of Local Supplier
 - f. Furnish such information for the following equipment and arrange as listed:
 - i. Wiring Devices
 - ii. Disconnect Switches
 - iii. Panel Boards
 - iv. MCC
 - v. Transformers
 - vi. Motor Starters & VFDs
 - vii. System Field Switches

1.3 REQUIREMENTS OF REGULATORY AGENCIES:

- A. Furnish UL listed equipment where such label is available. Install in conformance with UL Standards where applicable.
- B. Install electrical Work in accordance with Contract Documents, edition of NEC in effect at the project location, recommendations of NFPA, state and local electrical and building codes, and special codes having jurisdiction over specific portions of the Work. This includes, but is not limited to the following:
 1. NFPA 70 – National Electrical Code (NEC) with applicable local amendments.
 2. International Building Code (IBC).
- C. In the event of a conflict between the Contract Documents and such codes, notify the Architect/Engineer in writing prior to bid. A ruling will then be made by Architect/Engineer in writing

- D. Obtain permits and certificates of approval from all authorizes having jurisdiction over installation and pay all fees required for scope of Work being done including connection fees, impact fees, power company installation cost, etc.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS:

- A. Where Manufacturer names appear, other Manufacturers may be substituted upon obtaining written approval from the Architect/Engineer at least ten (10) days prior to opening of bids.
- B. Any prior approval of alternate equipment does not automatically exempt the supplier from meeting the intent of these specifications. Failure to comply with the operational and functional intent of these specifications may result in the total removal of the alternate system at the expense of the Contractor.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Confirm dimension, ratings, and specification of equipment to be installed and coordinate these with site dimensions and with other Sections. Coordinate electrical equipment location with other trades to maintain required working clearances and prevent encroachment into such working spaces.
- B. Electrical Drawings are diagrammatic. Do not scale for exact sizes or locations. Drawings are not intended to disclose absolute or unconditional knowledge of actual field conditions. Some equipment may need to be relocated from the locations indicated on the drawings to maintain working spaces around equipment. Any such coordination and relocation shall be the responsibility of the Electrical Contractor.
- C. Confirm and verify electrical power specification (i.e., voltage, phase, amperage, etc.) and electrical equipment and material requirements for all water feature equipment provided by others, before beginning rough-in. All coordination shall be done with the approved shop drawings or submittals.
- D. Be prepared to relocate any outlet or device 6-feet (1.8m) in any direction without additional charge to the Owner.
- E. Install equipment in accordance with the Manufacturer's recommendations.
- F. In the event of a conflict between specifications and drawings or between various areas on the Contract Documents the most stringent requirements shall govern.

3.2 FIELD QUALITY CONTROL

- A. Test systems and demonstrate equipment as working and operating properly. Rectify defects at no additional cost to the Owner.
- B. All Work under this section shall be executed in a thorough workmanlike manner, as determined by the Engineer, by competent and experienced journeyman electricians.
- C. All Work shall be installed in strict conformance with all Manufacturer's requirements and recommendations.

3.3 IDENTIFICATIONS

- A. Provide for each Panel Board, Terminal Cabinet, Motor Starter, Motor Controller, Pushbutton, Control Switch, etc, furnished and/or installed under this section of the specifications, with identification as to its designation or specific function.
 - 1. Identification shall be laminated, white core, black plastic nameplate with beveled edges. Lettering shall be machine engraved, not less than 3/16 inch (5mm) high, cut through the black surface to the white core.
 - 2. Secure nameplate to the identified item by the use of stainless steel self-tapping screws.

- 3. Impressed plastic shall not be used to satisfy this requirement.
 - B. Panel schedules shall be typed and easily legible.
- 3.4 GUARANTEE-WARRANTY
- A. Guarantee Work to be free from defects of materials and workmanship for a period of one (1) year from date of final acceptance of building by authorities having jurisdiction.
 - B. Furnish Owner with three (3) written copies of Guarantee-Warranty.

END OF SECTION