

Section 16010

BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Basic requirements specifically applicable to the work of Division 16 - Electrical Requirements.
- B. The Contractor shall furnish equipment, materials, and labor for assembly and installation plus check-out and start-up of the complete electrical system as shown on the Drawings and stipulated in the Specifications.

1.02 REFERENCES

- A. As a minimum requirement, the electrical system shall be constructed in accordance with:
  - 1. American National Standards Institute/National Fire Protection Association (ANSI/NFPA), No. 70 - National Electrical Code (NEC).
  - 2. City of Galveston Building Code.
  - 3. Other applicable Codes and Standards as referenced in other Master Specifications.
- B. Comply with local, county, state and federal regulations and codes in effect as of date of purchase.
- C. Equipment of foreign manufacture must meet U.S. codes and standards.
- D. Equipment and materials shall conform to requirements of specification and to the criteria provided in data sheets for the project.

1.03 QUALITY ASSURANCE

- A. Product Conformance Certificate and Quality Assurance Release. Submit an overall conformance certificate for electrical components signed by the person responsible for product quality. Specifically identify the purchased material or equipment by project name and location, purchase order number, supplements, and item number where applicable, including materials and services provided by others. Indicate that all requirements have been met and identify any approved deviations.

B. Field Inspection

1. Electrical work shall be inspected and approved by the local code inspector, the wastewater inspector, and the Project Manager prior to starting the 7-day test or scheduling training.
2. Contractor shall give a minimum of one day notice to the Inspector that the installation is ready for inspection and two days notice to the Project Manager.
3. Concealed work shall be inspected before it is covered:
  - a. Conduit with stub-ups, underground in duct banks before concrete is poured.
  - b. Conduit in slabs, walls and ceilings, complete with boxes.
4. Electrical equipment and materials shall be inspected upon arrival by the Project Manager for compliance with specifications.

1.04 SITE CONDITIONS

A. Take the following site conditions into consideration when fabricating, erecting, installing and wiring electrical equipment under this contract:

1. Plant Location Galveston, Texas
2. Plant Type and Size
3. Plant Site Elevation
4. Seismic Zone Zone 0
5. Wind Velocity mph
6. Temperature, Min./Max.:
  - Coldest Winter Month High 60 degrees F Low 41 degrees F
  - Warmest Summer Month High 94 degrees F Low 73 degrees F
  - Lowest Expected 11 degrees F
  - Highest Expected 107 degrees F



PART 3 EXECUTION

3.01 PREPARATION

- A. Verify dimensions and ratings of equipment and materials to ensure proper fit and performance.

3.02 INSTALLATION

- A. Install equipment and materials in accordance with the Drawings and manufacturer's written instructions. If field conditions necessitate changes in electrical installation, obtain approval from the Owner's Representative.

3.03 DEMONSTRATION

- A. Test the electrical system to specification requirements and to demonstrate correct installation and operation of equipment.
- B. Before 7-days test, demonstrate the system to the wastewater inspector and the Project Manager. Show the system to be fully operational. All alarms, safeties, and communication points to central and locally must operate in both full-automatic and back-up modes. Use fresh water in the test medium.
- C. Operate the system continuously for a period of 7 days in full automatic, without failure, to qualify as acceptable. "Failure" is considered any problem that requires correction by maintenance personnel, such as: high or low water level, any motor alarm, power failure, phase failure, communication failure, control system failure or transducer failure. This would exclude conditions not under the control of Contractor, such as: evident lightning strikes, 25-year rains or local power utility power failures. Failures due to uncontrollable situations would allow the 7-day test to continue, as soon as test conditions are restored and the Owner's Representative is notified.
- D. If the project is for the replacement of an existing lift station the existing station shall remain in service during this test.

END OF SECTION