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BuildingName
The Description of the Project
P00000000 0000

SPECIFICATION DIVISION 27

NUMBER SECTION DESCRIPTION

DIVISION 27 COMMUNICATIONS
SECTION 275313 – CLOCK SYSTEMS

END OF CONTENTS TABLE

DIVISION 27 COMMUNICATIONS
SECTION 275313 – CLOCK SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

INCLUDE PARAGRAPH 1.1.A AND B IN EVERY SPECIFICATION SECTION. EDIT RELATED SECTIONS 1.1.B TO MAKE IT PROJECT SPECIFIC.

A. Drawings and general provisions of the Contract, Standard General and Supplementary General Conditions, Division 1 Specification Sections, and other applicable Specification Sections including the Related Sections listed below, apply to this Section.

B. Related Sections:

IN 1 AND 2 BELOW, DELETE SUSTAINABLE DESIGN IF NOT APPLICABLE TO THE PROJECT. SELECT PROPER COMMISSIONING SPEC SECTION NUMBER APPLICABLE TO THE PROJECT.

C. Related Sections:

1. Section 018113 - Sustainable Design Requirements
2. Section 019100/019110 - Commissioning
3. Section 017823 - Operation and Maintenance Manual
4. Section 260513 - Medium, Low & Control Voltage Cables
5. Section 260526 - Grounding and Bonding for Electrical
6. Section 260533 - Electrical Materials and Methods
7. Section 260800 - Electrical Acceptance Tests

1.2 SUMMARY

A. Provide all equipment, materials, labor and services necessary to furnish, install, test and turn over to the Owner the following electrical work as required by these specifications and as shown on the drawings.

1. GPS Wireless Clocks
2. GPS Signal Transmitters

B. Participate in project coordination and scheduling activities when required by Division 01 and in project commissioning activities when required by Section 019100/01910.

1.3 SUBMITTALS

A. Product Data Sheets.

B. Installation, Operation and Maintenance Manuals.

C. Warranty Documentation.

1.4 QUALITY ASSURANCE

A. Manufacturers and Products: The products and manufacturers specified in this Section establish the standard of quality for the Work. Subject to compliance with all requirements, provide specified products from the manufacturers named in Part 2.

B. Reference Standards: Products in this section shall be built, tested, and installed in compliance with the specified quality assurance standards; latest editions, unless noted otherwise.

1. Reference Standards: UL.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver clocks adequately packaged to prevent damage during shipment, staging and installation.

B. Protect clocks during shipping and while onsite from the weather, moisture condensation, dirt and debris at all times. Store clocks raised up on pallets or other supports until ready for installation.

1.6 WARRANTY

A. Provide a complete warranty for parts and labor for a minimum of one year from the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Primex Wireless Inc.

2.2 CLOCKS

REVISE THE FOLLOWING PARAGRAPHS TO MAKE THEM PROJECT SPECIFIC.

VERIFY WITH ENGINEER THAT DRAWINGS DIFFERENTIATE 120 VOLT POWERED FROM BATTERY POWERED, SINGLE FACE FROM DOUBLE FACE.

A. Clocks shall be single face wall mounted or double face edge mounted, 120 volt powered or battery powered, GPS signal synchronized, wireless, analog clocks as indicated on Drawings.

B. Clocks shall be 12.5 inch nominal diameter with white face, black polycarbonate frame, polycarbonate lens, standard black numerals, and sweep second hand.

C. Clocks shall include a GPS signal receiver to synchronize wirelessly with GPS time at least every two hours, and shall include an internal oscillator to maintain time within plus or minus 0.2 seconds between synchronizations. Clocks shall maintain accurate time despite the temporary loss of GPS signal. Clocks shall automatically adjust for Daylight Savings Time.

D. Single face, 120 volt powered clocks shall surface mount to the wall over a NEMA 5-20R simplex receptacle in a single-gang, flush mounted outlet box. Clock shall mount with a clock lock hanger which requires a sequence of movements to install and remove the clock.

1. Acceptable Manufacturer: Primex Model 14306.

E. Double face, 120 volt powered clocks shall mount edgewise to the wall with a bracket that completely covers a NEMA 5-20R simplex receptacle in a single-gang, flush mounted outlet box.

1. Acceptable Manufacturer: Primex Model 14330.

F. Single face, battery powered clocks shall surface mount to the wall over a clock lock hanger which requires a sequence of movements to install and remove the clock.

1. Acceptable Manufacturer: Primex Model 14155.

2.3 GPS SIGNAL TRANSMITTERS

A. GPS wireless signal transmitters shall receive and rebroadcast GPS signals throughout the building.

B. GPS wireless signal transmitters shall be 120 volt powered, have an internal antenna, and produce a 1 watt GPS signal output compatible with the GPS clocks.

1. Acceptable Manufacturer: Primex Model 14000.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Examine areas, substrates, and conditions, for compliance with requirements for installation and other conditions affecting performance of the units.

B. Proceed with installation only after unsatisfactory conditions have been corrected. Commencement of the work constitutes acceptance of the existing conditions.

3.2 INSTALLATION

A. Install clocks at the locations and heights shown on the drawings.

B. Install clocks plumb, level and tight against the wall using the clock-lock hanging method and suitable fasteners as recommended by the clock manufacturer. Initiate clock operation in accordance with manufacturer’s instructions.

C. Due to GPS signal saturation on campus, do not install GPS signal transmitter. Instead, turn the GPS signal transmitter over to the UM Radio Shop and commence building clock startup and commissioning activities. If the building clocks are not synchronizing with an existing GPS signal, then contact the UM Radio Shop for installation of the new GPS signal transmitter.

3.3 FIELD QUALITY CONTROL

A. Test units prior to putting into service to the extent required by the Manufacturer and the Commissioning Authority.

3.4 TEMPORARY SERVICE

A. Start units for temporary use only with the expressed written permission of the Project Manager and in compliance with all requirements of the Contract Documents.

B. Test units prior to putting into temporary service to the extent required by the Manufacturer and the Commissioning Authority.

C. Perform all required routine maintenance procedures during temporary service.

3.5 STARTUP

A. Conduct final inspection and testing of equipment and systems according to the manufacturer’s requirements, and verify the system meets the project design criteria.

B. Thoroughly clean units of all grease, dirt, dust, etc.

3.6 COMMISSIONING

A. Perform Commissioning activities per Related Sections above.

END OF SECTION 275313