**SECTION 26 40 00**

**LIGHTNING DETECTION SYSTEM**

**PART 1 GENERAL**

1. SECTION INCLUDES
   1. Control panel/data receiver
   2. Horns and LED strobe lights
   3. Sensors and antennas
   4. Interconnecting conductors and/or fiber optic connection
2. REFERENCES
   1. NEC – National Electrical Code
   2. UL – Underwriters Laboratories third party certification
3. SYSTEM DESCRIPTION
   1. Lightning detection system and/or lightning prediction system shall be a stand-alone ground based system using antenna(s) to detect lightning produced by thunderstorms.
   2. Provide a complete system of control panel, sensors, antennas, horns, and LED strobe lights for prediction and detection technology for early warning of impending lightning strike.
   3. System shall include settings for lightning alarm ranges of 5 miles to 15 miles and alarm timeout.
   4. Control panel/data receiver shall be programmable to fully configure alarm distances and duration, have statues monitor for countdown to all clear mode.
4. SUBMITTALS
   1. Section 01 33 00 – Submittals Procedures for submittals.
   2. Shop Drawings:
      1. Indicate location of horn(s), strobe light(s), sensors, antennas, and control panel.
      2. Mounting detail of lightning antenna, processor, and interconnection wiring.
   3. Product Data: Provide dimensions and materials of each component, and include indication of listing in accordance with UL.
5. PROJECT RECORD DOCUMENTS
   1. Submit under Provisions of Section 01 33 00.
   2. Record the actual locations of horns, strobe lights, processor, control panel bonding connections, and routing of system conductors in project record documents.
6. QUALITY ASSURANCE
   1. Perform work in accordance with NFPA 70.
   2. Perform work in accordance with UL listings and approval.
   3. Maintain one copy of each document on site.
7. QUALIFICATIONS
   1. Manufacturer: Company specializing in lightning detection/prediction equipment with minimum three years documented experience.
   2. Installer: Authorized installer of manufacturer with minimum three years documented experience.
8. FIELD MEASUREMENTS
   1. Verify that field measurements are as indicated on shop drawings.
9. COORDINATION
   1. Coordinate work with roofing, exterior walls, and interior finish installations.
10. WARRANTY
    1. Provide manufacturer’s 3 year warranty under provisions of Section 01 77 00.
11. MAINTENANCE SERVICE
    1. Provide service maintenance of the entire system including all required cleaning of the exterior mounted equipment for 3-years from date of Substantial Completion.
    2. Provide lifetime software upgrades for the system

**PART 2 PRODUCTS**

1. MANUFACTURERS
   1. Strike Guard
   2. Thor Guard
   3. Earth Networks
2. COMPONENTS
   1. Control Panel/Data Receiver: stainless steel enclosure, 120 volts AC, battery back-up, with audible and visual alarms, listed and labeled by an approved NRTL, with required software and 7 days, 24-hour time clock to allow system operating times (days/hours).
   2. Horns
   3. LED strobe lights
   4. Sensors

**PART 3 EXECUTION**

1. INSTALLATION
   1. Install in accordance with NFPA 70 and manufacturer’s instructions.
   2. All exterior boxes shall be NEMA 4X.
   3. Equipment installed on the walls or roofs shall withstand hurricane wind force.
   4. Provide lightning detection protection for covered walkways, press box, playgrounds, and sports fields.
   5. Provide 120 volts power for the system from life safety branch of emergency generator power system.
2. FIELD QUALITY CONTROL
   1. Provide sensor and communication testing evidenced by owner’s representatives.
   2. Provide control panel/data receiver with new batteries.
   3. Provide up to date software for the control panel/data receiver.
   4. Lightning alarm range settings shall be approved and documented with owner.
   5. Contractors' tests shall be scheduled and documented in accordance with the commissioning requirements.
      1. Refer to Section 01 91 00 - Commissioning, for further details.
3. DEMONSTRATION AND TRAINING
   1. Training of the Owner’s operation and maintenance personnel is required in cooperation with the Owner's Representative.
      1. Provide competent, factory authorized personnel to provide instruction to operation and maintenance personnel concerning the location, operation, and troubleshooting of the installed systems.
      2. Schedule the instruction in coordination with the Owner's Representative after submission and approval of formal training plans.
      3. Refer to Section 01 91 00, Commissioning, for further contractor training requirements.
   2. Provide demonstration and training for lightning detection system installed in this project.

END OF SECTION