



## Addendum # 2

Bid # 20170328

Scoreboards (Softball –Baseball –Soccer)

Addition Specification on Softball and Baseball

## **PART 1 - GENERAL**

### **1.1 SUMMARY**

### **1.2 REFERENCES**

- A. American Society for Testing and Materials (ASTM) Publications:
  - 1. ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.
  - 2. ASTM A6 – Steel Shapes
- B. National Electrical Code (NEC).
- C. Federal Communications Commission, Part 15 Rules & Regulations, EN60950-1, EN55022 & EN55024.
- D. UL and C-UL Standard for Electric Signs

### **1.3 SUBMITTALS**

- A. Provide in accordance with Section 01 33 00 - Submittal Procedures:
  - 1. Product data for scoreboards, controls, and accessories shall include descriptions of control functions etc.
  - 2. Installation drawings, face layout, dimensions, construction, electrical wiring diagrams, and method of anchorage
  - 3. Copy of guarantee required
  - 4. Manufacturer's installation instructions

### **1.4 QUALITY ASSURANCE**

- A. Source limitation: All components including scoreboard, control center, control cable, and other accessories and installation hardware shall be products of a single manufacturer.
- B. Manufacturer qualifications: Company specializing in manufacturing electronic scoreboards with 10 years minimum successful world-wide experience.
- C. Scoreboards shall be designed for exterior installation with weatherproof housing and optical isolation circuitry to reduce potential damage from electrical storms.
- D. Should service be necessary, specialized personnel shall not be required. Modular “plug and play” components will be housed in an internal protective enclosure.
- E. Scoreboards and other electrical components shall be certified for use in United States and Canada by Underwriter Laboratories, (UL) Inc. and shall bear either UL or C-UL label only.
- F. Scoreboards and other electrical components shall be electrically grounded in accordance with National Electrical Code (NEC), Article 600.
- G. Scoreboard cabinetry and attachment shall meet or exceed the 2009 IBC standard of 150 mph wind loading.

**1.5 GUARANTEE**

- A. Provide under provisions of Section 01 78 00 - Closeout Submittals: Guarantee to cover defects in materials and workmanship.
  - 1. 5 years parts and factory labor guarantee for scoreboards, [wired controls,] and accessories from invoice date.
  - 2. 2 years part and factory labor guarantee for wireless controls and receivers from invoice date.
  - 3. Lifetime technical support.

**PART 2 - PRODUCTS****2.1 ACCEPTABLE MANUFACTURERS**

- A. Nevco, Inc., 301 East Harris Avenue, Greenville, Illinois 62246; 800-851-4040; www.nevco.com.
- B. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01 25 00 - Product Substitution Procedures.

**2.2 MATERIALS**

- A. Aluminum faces and perimeter frame: Fabricated from .050 minimum thickness, ASTM B221 aluminum sheet with reinforcement and slotted mounting brackets top and bottom.
- B. Finish: Acrylic polyurethane paint. Color as selected by Customer from manufacturer's standard range. [Color to be [No. 70 - Desert Tan] [No. 72 - Electronic Blue] [No. 73 - Maroon] [No. 74 - Forest Green] [No. 76 - Print Black] [No. 95 - Silver Gray] [No. 99 - Golden Yellow] [No. 102 - Team Orange] [No. 103 - Cardinal Red] [No. 104 - Medium Purple] [No. 120 - Teal Blue] [No. 121 - Midnight Blue] [No. 140 - Royal Blue] [No. 141 - Navy Blue] [No. 142 - Kelly Green] as provided by Nevco, Inc.]
  - 1. Provide [white] striping to separate scoreboard features.
- C. Brackets: Integrated universal bracket system.
- D. Fasteners, anchors, and other exposed hardware: Corrosion resistant.
- E. Electronics: Low voltage, solid state, 2-wire cable, multiplex system, quartz crystal controlled.
- F. Provide gold plated electrical contacts on interconnecting wiring to reduce corrosion and improve reliability.
- G. Provide optical communication circuitry to reduce threat of damage from electrical storms and ESD.
- H. LED (light emitting diode) units: Seven-bar, segmented digits with protective aluminum cover, rated typical life 100,000 hours and be designed to provide excellent visibility from all angles and sides.
- I. Junction boxes where required: Sheet metal box and cover, [4-1/2 x 2-1/8 x 2-1/8 inches] [114 x 54 x 54 mm] min. complying with NEMA standards.
- J. Gasketed Digits: Digit faces shall contain an integrated seal to guard against moisture intrusion.

**2.3 SCOREBOARD**

- A. Type: Exterior, electronic baseball scoreboard with LED displays for number of player at bat, balls, strikes, outs, hit, error, scores by inning, and totals for runs, hits, and errors; Model 1608 as manufactured by Nevco Scoreboard Company.
  - 1. Size: [18 feet long x 6 feet high x 8 inches deep.] [5.4 m long x 1.8 m high x 203 mm deep.]
  - 2. Approximate weight: [375 pounds] [234 kg].
  - 3. White on black captions:
    - a. [10 inches] [254 mm] high: "HOME", "GUESTS", "AT BAT", "BALL", "STRIKE", "OUT".
    - b. [8 inches] [203 mm] high: Inning numbers "1" through "9", "TOTAL".

4. High Intensity Red or Amber LED displays:
  - a. [18 inches] [457 mm] high digits and letters: Balls, strikes, outs.
  - b. [14 inches] [356 mm] high digits: Scores by inning and totals for runs.
5. Power requirement: 300 Watts MAX w/ ETN's. 100-240 volts, AC 50/60 Hz. Including power factor correction. Requires earth ground accordance with NEC.

## 2.4 ACCESSORIES

- A. Provide each scoreboard or accessory with control cable of length required. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by others.
- B. Additional accessories to include
  1. Nevco "A", "ADO" signs including Artwork. Quantity (2) Sign Cabinets are the same depth as the scoreboard and shall be 18ft X 2ft
  2. Decorative Truss. Truss shall be black powder coated steel or aluminum frame. Truss dimensions are to be 18ft X 4ft
  3. Truss Logo – Shall be constructed of .125" aluminum. Logo dimensions are 4ft X 4ft

## 2.5 CONTROL CENTER

- A. **Type:** **Wireless**, microprocessor based operator's control center designed to operate different models of scoreboard by interchange of keyboard overlay; Model MPC as manufactured by Nevco Inc.
  1. Console: High impact, break-resistant black plastic with improved UV resistance. [11 x 9-1/2 x 4-1/8 inches] [279 x 241 x 105 mm].
  2. Features:
    - a. Provide with LED displays, lithium cell battery backup to maintain scoreboard memory and time of day, self test mode, power on-off switch, alternate time control, and multiple scoreboard operation.
    - b. Split and raised 40 key soft touch keyboard.
    - c. Keyboard shall be spill resistant.
    - d. Internal beeper acknowledging each entry
    - e. System Profiles feature set all parameters of operation including choice of controlled accessories and scoreboards.
    - f. Colorful graphic rich keyboard overlays for scoreboard or accessory.
    - g. Remote hand-held main time switch with programmable integral horn button
    - h. Timer features: Time of day display, multiple time out timers with warning, interval horn, up-count auto stop with horn, 1/10th second display during last minute, changeable horn tone on scoreboards with the feature.
    - i. Segment timing for practice and workout.
    - j. Dimmer control for scoreboard.
    - k. MPC features shall be accessed through yes/no abbreviated questions in a drop down menu format.
    - l. Multiple receiver management shall be accomplished through direct keyboard input.
    - m. Electronic Team Names and automatic Electronic Caption Plates shall be controlled from MPC control without need to change overlays.
  3. Power requirements: 120 volts, 12 watts, 50/60 Hz.
  4. Provide option of battery supply for control operation if utility power not available.
  5. Provide carrying case for control center, cable, and hand-held switch; Model CC-3 as manufactured by Nevco Inc.
    - a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].

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- b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
6. Receiver
  - a. Sturdy impact resistant construction, [6 x 4 x 1.5 inches] [152 x 102 x 38 mm]
  - b. Integrated antenna, mounted flush in scoreboard face. Protruding antennas shall not be used.
7. Maximum range: [1,000 feet] [305 m] from control center to receiver.
8. Receiver shall require no additional source of power or separate control cable

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. Verify exact scoreboard and control center quantities.
- B. Coordinate requirements for electrical power, concrete, steel erection, auxiliary framing and supports, suspension cables, and other components to be provided under other Specification Sections to ensure adequate provisions are made for complete, functional installation of scoreboards.
- C. Coordinate scoreboard electrical requirements to ensure proper power source, conduit, wiring, and boxes are provided. Prior to installation, verify type and location of power supply.

#### **3.2 DEMONSTRATING AND TRAINING**

- A. In accordance with Section 01 75 00 - Starting, Adjusting, and Demonstrating, provide demonstration and training session for Owner's representative covering operation and maintenance of electronic scoreboard.

**END OF SECTION**

Equal or Equivalent to

**1.1 REFERENCES**

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- E. Electronics: Low voltage, solid state, 2-wire cable, multiplex system, quartz crystal controlled.
- F. Provide gold plated electrical contacts on interconnecting wiring to reduce corrosion and improve reliability.
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**2.3 SCOREBOARD**

- A. Type: Exterior, electronic baseball scoreboard with LED displays for number of player at bat, balls, strikes, outs, hit, error, scores by inning, and totals for runs, hits, and errors; Model 1606 as manufactured by Nevco.
  - 1. Size: [24 feet long x 8 feet high x 8 inches deep.] [7.3 m long x 2.4 m high x 203 mm deep.]
  - 2. Approximate weight: [515 pounds] [234 kg].
  - 3. White on black captions:
    - a. [15 inches] [381 mm] high: "HOME", "GUESTS", "AT BAT", "BALL", "STRIKE", "OUT", "H", and "E".
    - b. [8 inches] [203 mm] high: Inning numbers "1" through "10", "RUNS", "HITS", and "ERRORS".
  - 4. High Intensity Red or Amber LED displays:
    - a. [18 inches] [457 mm] high digits and letters: Player number at bat, balls, strikes, outs, hits, and errors.
    - b. [14 inches] [356 mm] high digits: Scores by inning and totals for runs, hits, and errors.
  - 5. No single section of scoreboard will be larger than 5 x 12 ft to ease burden of installation.
  - 6. Power requirement: 456 Watts MAX w/ ETN's. 100-240 volts, AC 50/60 Hz. Including power factor correction. Requires earth ground accordance with NEC.

**2.4 ACCESSORIES**

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8. Receiver shall require no additional source of power or separate control cable

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

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#### **3.2 DEMONSTRATING AND TRAINING**

- A. In accordance with Section 01 75 00 - Starting, Adjusting, and Demonstrating, provide demonstration and training session for Owner's representative covering operation and maintenance of electronic scoreboard.

**END OF SECTION**