

Bid Specifications**Area #1 – Replace existing High School Football Visitor Bleachers**

- 10 row x 67'-6" elevated bleacher with net seating capacity of 364 + 6 HC seats
- Aluminum angle understructure
- Double 2 x 10 mill finish aluminum foot plank
- 2 x 10 Anodized aluminum seat planks
- 63 inch clear front walkway, 36 inch elevation
- 1 set of entry stairs
- 1 x 6 riser rows 1-9 and (2) 1 x 6 top row risers
- (2) 54 inch wide vertical aisles with mid aisle handrails
- Chain link guardrail system
- 1 U turn handicap ramp + 6 HC seats
- 2 x 6 treated lumber groundsills
- Auger style soil anchors
- Bleachers must meet UBC Codes and the attached bleacher specifications

Area #2 – Add a Handicap ramp, platform with 4 - HC seats with companion seating to the Hart High School Football Home Bleachers

- 8'-6" x 18'-0" x 36" Handicap platform with 4 handicap seats with companion seating
- Aluminum angle understructure with 36 inch elevation
- 2 x 10 Anodized aluminum foot plank
- Chain link guardrail system
- 1 handicap ramp
- 2 x 6 treated lumber groundsills
- Auger style soil anchors
- Bleachers must meet UBC Codes and the attached bleacher specifications

Please return your quote to the office no later than Monday, May 24, 2010, at 1:00 PM local time.

Sincerely,

Robert Erickson
Director of Operations

Attachment

E-1067.5AH

Bleacher Specifications

Elevated Aluminum Angle Frame

SECTION 13125

ELEVATED ALUMINUM ANGLE FRAME BLEACHERS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Design and fabrication of Elevated angle frame bleachers

1.02 QUALITY ASSURANCE

- A. Manufacturer: National Recreation Systems, Inc.
P.O. Box 11487 Fort Wayne, In 46858-1487
- B. Manufacturer Qualifications: Manufacturer must have a minimum of ten years experience in the design and manufacture of bleachers.
- C. Welders must conform to AWS standards.
- D. Source Quality Control: Mill Test Certification.
- E. Codes and Standards: 2006 International Building Code / ICC 300.

1.03 WARRANTY

- A. Warranty shall guarantee bleachers to be free from defect in materials and workmanship for a period of 1 year under normal use. Warranty period shall begin on date of completion for projects installed by manufacturer, or its subcontractors, OR warranty period shall begin on date of final delivery on projects installed by others.
- B. Anodized finish of plank extrusions shall be covered by a 5 year warranty against loss of structural strength or finish deterioration due to exposure to weather conditions or UV rays. Discoloration of mill finish aluminum due to galvanic reaction not covered.

1.04 PRODUCT LIABILITY INSURANCE

- A. Product liability insurance is carried for the life of the product in the amount of \$ 2,000,000.

1.05 ENGINEERING

- A. Engineering certifications and calculations by a Registered Professional Engineer will be provided upon request.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

- A. National Recreation Systems, Inc.

2.02 DESIGN

- A. Applicable Codes:
INTERNATIONAL BUILDING CODE (IBC), 2006 EDITION / ICC 300
- B. Design Loads:
 - 1. Live Loads: Uniform loading - Structure = 100 psf
Uniform loading - Seat and Foot plank = 120 plf
 - 2. Sway Loads: Perpendicular to seats = 10 plf
Parallel to seats = 24 plf
 - 3. Guardrail Loads: Uniform vertical load = 100 plf
Uniform horizontal load = 50 plf
Concentrated horizontal load = 200 pounds
 - 4. *Wind Loads: Basic design wind speed = 150 mph (exposure "B")

*Note: Bleacher must be anchored to meet wind loads above

2.03 ELEVATED ANGLE FRAME BLEACHERS

- A. Quantity and Size: Shall consist of 1 unit(s) 10 rows high x 67'-6" long.
Net seating capacity per unit 364 + 6 HC (excluding aisles, based on 18" per seat).
- B. Framework: Prefabricated aluminum angle spaced at 6' - 0" intervals joined by means of aluminum angle cross bracing.
- C. Shop connections: Welded to meet AWS standards and local code requirements

National Recreation Systems, Inc. 5120 Investment Drive Fort Wayne, IN 46808

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- D. **Joint Sleeve Assembly:** Internal splices, where required shall be two per joint, and shall penetrate the joint a minimum of 8" in each direction and be riveted at one end only to allow for contraction and expansion.
- E. **Rise and Depth Dimensions:** 8" vertical rise and 24" tread depth, Seat height is 17" above its respective tread.
- F. **Seats:** Nominal 2" x 10" anodized aluminum with anodized end caps.
- G. **Treads:** Nominal two (2) 2" x 10" mill finish aluminum with anodized end caps on all rows.
- H. **Risers:** Nominal two (2) 1" x 6" mill finish aluminum with mill finish end caps on top row.
Nominal 1" x 6" mill finish aluminum with end caps on all other rows.
- I. **Aisles:** Aisle footboards shall be of aluminum alloy 6063-T6 and be of mill finish with contrasting aisle markings. Three aisle stiffener angles shall be used to strengthen the aisle step. There shall be 2 aisle(s) 54" wide.
- J. **Aisle Handrail:** Anodized aluminum pipe with intermediate rail.
- K. **Entry Stairs:** Frames shall be of mill finish aluminum angle, 6061-T6 or mechanically equivalent and shall be 1 set(s) of entry stairs, 36" in height. Guardrail and handrails shall be provided for stairs as required. Stairs shall be compatible with walkway and consist of (1) nominal 2" X 12" plank per stair.
- L. **Front walkway:** 36" in height and 63" in clear width, 7 2 x 10 mill finish aluminum planks and 1 x 6 toeboard.
- M. **Guardrail:** Rails shall be anodized aluminum tube with end plugs and elbows where required. All Rails shall be secured to angle supports with galvanized fasteners. Top rails at sides, rear and front shall be 42" above the leading edge of seat or walking surfaces. Rear rail support members shall be aluminum channel. side and front rail support s shall be aluminum angle.
 - 1. **Chainlink System:** Fencing shall consist of 9 gauge, 2" mesh galvanized chainlink fabric, heavy duty tension bands, tension bars, brace bands, combo rail endcaps, and wire ties.
- N. **Handicapped Accessibility:** Shall be provided as required by the code listed above.

2.04 MATERIALS / FINISHES

- A. **Framework:**
 - 1. **Aluminum:** Structural fabrication with aluminum alloy 6061-T6 mill finish. Each frame shall be unit-welded, using metal inert gas method, under guidelines by the American Welding Society. After fabrication all steel is hot dipped galvanized to ASTM A-123 specifications. All crossbracing and horizontal bracing shall be aluminum angle 6061-T6 mill finish.
- B. **Extruded Aluminum:**
 - 1. **Seat planks:** Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II With a wall thickness nominally .078" for impact and deformation resistance.
 - 2. **Tread and Riser Planks:** Aluminum alloy 6063-T6, mill finish. With a wall thickness nominally .078" for impact and deformation resistance.
 - 3. **Entry stair and ramp frames:** Aluminum alloy 6061-T6 mill finish.
 - 4. **Guardrail Pipe:** 1-5/8 OD schedule 40 aluminum alloy 6105-T5, clear anodized 204R1, AA-M10C22A31, Class II.
- C. **Accessories:**
 - 1. **Channel End Caps:** Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II.
 - 2. **Hardware:** Bolts and Nuts shall be hot dipped galvanized.
 - 3. **Hold Down Clip Assembly:** Aluminum alloy 6063-T6 mill finish.
 - 4. **Joint Sleeve Assembly:** Aluminum alloy 6061-T6, mill finish.

PART 3 – EXECUTION**3.01 INSTALLATION**

- A. Install bleacher unit in accordance with manufacturer written instructions and shop drawings.

Note: Building codes may vary from site to site. The customer is responsible for verification of local code requirements.

CONCRETE FOUNDATION SPECIFICATIONS

SCOPE:

Foundation construction is not part of National Recreation Systems, Inc.'s (NRS) scope of work unless noted otherwise in the contract documents. The owner shall review the foundation design with the local code authorities, and coordinate with NRS.

FOUNDATION DESIGN & ANCHORS:

- 1) The foundation designs are based on the following:
 - a. Minimum presumed soil bearing 1000 psf.
 - b. Bleacher frame dead and live load 750 lbs./ft.
 - c. Bleacher frame wind uplift load 250 lbs./ft. (150 mph – exposure B)
- 2) Unless otherwise noted on the drawings the bleacher frames shall be attached to the concrete with 3/8" dia. x 2-3/4" wedge type expansion anchors. The anchors shall be embedded a minimum of 2" into the concrete.

CONCRETE SPECIFICATIONS:

- 1) All concrete construction shall be in accordance with the latest edition of the *"Building Code Requirements for Reinforced Concrete ACI-318."*
- 2) All concrete shall have a minimum 28-day strength of $F_c=3500$ psi.
- 3) All reinforcing bars shall be grade 60. ($F_y = 60$ ksi)
- 4) There shall be a minimum of 3" of concrete cover on all reinforcing.
- 5) A 1/4" bituminous expansion joint material shall be placed between strip and slab foundations when adjacent to each other
- 6) The depressions in the top of the foundations between high spots shall not exceed 5/16" below a 10-foot long straightedge. The 10-foot straightedge method used to measure foundation flatness shall be in accordance with Section 7.15.1.2 of ACI 302.1R-89 *"Guide for Concrete Floor and Slab Construction"*.

CONCRETE SLAB SPECIFICATIONS:

- 1) Concrete slab shall have a minimum thickness of 5" (high wind areas require 6" thickness, coordinate with NRS) and placed on 4" of gravel or sand sub-base.
- 2) Concrete slab shall be reinforced with 6x6/W2xW2 welded wire fabric. In lieu of welded wire fabric, 2" XOREX by Ribbon Technology Corporation or equal corrugated steel fibers applied at a rate of 50-lbs./cu. yd may be used. Nylon or polypropylene fibers are not acceptable.
- 3) Crack control joints shall be sawed into slab to form approximate square patterns. The maximum spacing for control joints shall not exceed 15 feet. The bleacher frames shall not be set on control joints. The designer shall contact NRS to coordinate joint spacing requirements with the specific bleacher design.
- 4) The slab may be sloped a maximum of 1/8 inch per foot for drainage. The maximum overall out of level slope for the slab perpendicular to the seats (front to rear) shall not exceed 2" and parallel to the seats (end to end) shall not exceed 4".

CONCRETE STRIP FOUNDATION SPECIFICATIONS:

- 1) Bleacher concrete strip foundations shall have a minimum width of 12" and a minimum depth of 24".
- 2) The strip shall be reinforced with 1 No. 6 deformed longitudinal reinforcing bar in the top and 1 No. 6 deformed longitudinal reinforcing bar in the bottom.
- 3) The maximum out of level slope for the strip foundation perpendicular to the seats shall not exceed 1/8" per foot nor 2" overall front to rear. The maximum elevation difference between the end foundations shall not exceed 4" overall, and the maximum projected slope between the end foundations shall not exceed 1/8" per foot. Top of piers shall be level with surface. All bleacher frames must be in contact with surface at all locations (front to rear).

CONCRETE PIER SPECIFICATIONS:

- 1) The maximum projected slope between the piers shall not exceed 1/8" per foot. The maximum out of level top of pier elevations shall not exceed 2" perpendicular to the seats (front to back), nor 4" parallel to the seats (end to end) between the end piers.
- 2) The quantity, size, reinforcement and design of the piers shall be site specific, and coordinated with NRS.