PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SCOPE SUMMARY

A. This Scope of this project includes the following:
1. Hire soils engineer to calculate soil bearing for foundation design.
2. Design, layout, excavate for and construct concrete foundations.
3. Design, furnish and install galvanized steel support structure.
4. Design, furnish and install (2) sets of access stairs for access from bleachers to pressbox.
5. Furnish and install pressbox as described in these specifications.
6. Reinforce, retrofit and adjust existing bleacher structure to accept pressbox access stairs.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance Characteristics: Engineer, fabricate, and install press box capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Wind Loads: Determine loads based on the following minimum design wind pressures:
a. Uniform pressure as required by local authorities having jurisdiction.
2. Snow Loads: As required by local authorities having jurisdiction.
3. Live Loads: 100psf gross horizontal area.
4. Perpendicular Sway Load: 10lbs/lin ft of seat plank.
5. Lateral Sway Load: 24lbs/lin ft of seat plank.
6. Live Load for Seat and Tread Planks: 120lbs/lin.ft to footboards.
7. Top Rails of Guardrails:
a. Uniform load of 50lbf/ ft. applied in any direction.
b. Concentrated load of 200lbf applied in any direction.
c. Uniform and concentrated loads need not be assumed to act concurrently.
8. Infill of Guardrails:
a. Concentrated load of 50lbf applied horizontally on an area of 1 sq. ft.
b. Infill load and other loads need not be assumed to act concurrently.

B. Thermal Movements: Provide pressbox and support that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

C. Detailing, fabrication, and installation of grandstands and bleachers shall be in accordance with AISC Specifications for Aluminum Structures.

D. Shop Connections: Welded and capable of carrying stress put upon them.

E. Welding: Comply with AWS Standards.

1.4 SUBMITTALS

A. The following items must be presented at time of bid opening for evaluation.
   1. Manufacturer's Product Data: Submit manufacturer's descriptive product literature indicating the specified product.
   2. List of three (3) references utilizing the specified product within the last two years in the State of Maryland.
   3. Product Data: Submit manufacturer's product specifications for press box and accessory indicated or required.
   4. Proof of site visit and familiarity with existing site conditions.

B. Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication and assembly of grandstands, bleachers, and press box, as well as procedures and diagrams. Submit shop drawings indicating layout of grandstand and bleacher seating systems coordinated with field measurements and including seat heights, row spacing and rise, aisle widths and locations, overall dimensions, connections and relationship to adjoining work, accessories, types of materials and finishes.
   1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
   2. Statement of compliance: On every sheet of submittal drawings, the following statement shall be executed and dated by the authorized agent of the contractor responsible for such work – "This is to certify that all specification requirements have been met and all dimensions, conditions and quantities are verified as shown and / or corrected on these submittal drawings".

C. Welding certificates.

D. Manufacturer Certificates: Signed by manufacturers certifying that they comply with requirements.

E. Qualification Data: For Installer.

F. Field Quality-Control Report: Indicate compliance of installed grandstand, bleachers and press box and components with requirements.

G. Maintenance Data: For each product to include in maintenance manuals.

H. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Ten days prior to the bid date, prospective bidders must submit the Manufacturer Verification Form in the back of these specifications. The purpose of this form is to allow the Owner the opportunity to evaluate the qualifications of manufacturers wishing to make an offer on the project. Failure to submit this form by the manufacturer will result in the offer being deemed non-responsive.

B. Manufacturer Qualifications: Engage a firm experienced in manufacturing grandstand structures like those indicated for this Project and that have a minimum 10 years of experience and a record of successful-in-service performance.
   1. Manufacturer's responsibilities include providing professional engineering services for designing grandstands, bleachers, and press box to comply with performance requirements.

2. **AISC Certification**: All Structural steel for the pressbox and support structure is to be fabricated in an AISC certified plant. Only manufacturers listed on the AISC website as being certified meet these criteria. Proper certification and inspections are required under Chapter 17 of the IBC Code. Criteria is set forth requiring AISC Certification to confirm to the owners, architect, engineer and building official that the steel manufacturing facility has the fabricating personnel, organization, experience, procedures, knowledge, equipment and the commitment to produce steel of the quality required for the building industry.

3. Press Box manufacturer must be registered with the State of Maryland Department of Housing and Urban Development as an authorized supplier of Industrialized Buildings. Authorization must be based on construction methods as described in this section.

C. Local Representation: Manufacture shall have local representation in the state of Maryland. Representative will have the sole authority to provide information and answers at all meetings, attend construction meetings, respond to architect / owner's requests and concerns, coordinate and schedule with other contractors and sub-contractors. Representative must maintain residence or office for immediate contact and on-site issues. Representative will meet with owner for minimum of four (4) scheduled meetings and be required to provide up-dated weekly status reports to the owner throughout the duration of the project.

D. Installer Qualifications: Engage an experienced Installer to perform the work of this Section who has specialized in installing types of grandstands like those required for this Project and who is acceptable to, or certified by, manufacturer of grandstands.

E. Professional Engineer Qualifications: A professional engineer who is legally authorized to practice in the State of Maryland and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of grandstands and bleachers that are like that indicated for this Project in material, design, and extent.

F. Source Limitations: Obtain grandstands, bleachers, and press box through one source from a single manufacturer.

G. Product Options: Drawings indicate size, profiles, and dimensional requirements of grandstands and bleachers and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

H. Welding: Qualify procedures and personnel according to AWS D1.2, "Structural Welding Code--Aluminum."

I. Regulatory Requirements: In addition to local governing regulations, comply with applicable provisions in 2000 "International Building Code."

J. Accessibility Requirements: In addition to local governing regulations, comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act Architectural Guidelines (ADA), Accessibility Guidelines (ADAAG)."

K. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

L. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201.

M. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of grandstand that fail in materials or workmanship within the specified warranty period. Failures include, but are not limited to, the following:
1. Structural failures including, but not limited to, excessive deflection.
2. Failure of system to meet performance requirements.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

B. Warranty Period: One year from date of Substantial Completion.

C. Warranty Period for Metal Finishes: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Dant-Clayton Corporation.
2. Outdoor Aluminum, Inc.
3. Southern Bleacher Company – Representative: Grandstand Design Enterprises, Inc. Contact: Chris Howard (888) 422-1922
4. Porta-King Building Systems, 4133 Shoreline Drive, Earth City, MO 63045, Ph. 1-800-284-5346, and Fax 1-314-291-2857, www.portaking.com email info@portaking.com.
5. Panel Built, Inc., 302 Beasley Street, Blairsville, GA 30512A. Ph. 800-636-3873, Fax: 800-594-3245, Email: salesgroup@panelbuilt.com, www.panelbuilt.com
6. Or approved equal.

B. **No substitutions will be considered after the bid**.

2.2 PRESSBOX SUPPORT STRUCTURE AND LANDINGS

A. Materials:
1. Steel: ASTM A 36.
2. Aluminum: Extruded alloy 6063-T6.
3. Foundation Concrete: Minimum compressive strength of 3000psi at 28 days.
4. Accessories:
   a. Steel Connections: ASTM A 307, galvanized.
   b. Aluminum Components: ASTM A 307, cadmium plated.
   c. Hold-Down Clip Assembly and End Caps: Aluminum Alloy 6063-T6.

B. Steel Members:
1. Columns: Spaced at 18 feet o.c. longitudinal.
2. Cross Braces: Steel angles.

C. Guardrail System: Provide guardrails at all sides of pressbox landings and rooftop filming platform
   1. Material: Anodized aluminum pipe, with end plugs at ends of straight runs and elbows at corners. Secure to angle rail risers with galvanized fasteners.
   2. Top Railing: 42 inches above walkways, entrances, and above center of any adjacent seat.
   3. Chain Link Infill on Side and Back: 6 gage black vinyl coated, galvanized fabric fastened in place with galvanized fittings and aluminum ties.

D. Aluminum Footboards: Size per component requirements, non-slip aluminum planks made of 6063-T6 aluminum alloys with minimum wall thickness of 0.094 inches. Footboards shall be secured to their steel supports by means of extruded aluminum clips and 5/16-inch- diameter bolts. All splices shall occur at steel supports. Splices in other locations will not be permitted.
   1. Deck System: Interlocking Deck
      a. The tread system shall be comprised of aluminum extrusions which interlock together lengthwise. The interlocking mechanism will minimize deflection and not separate due to loads being applied to individual planks.
      b. The system shall cause the deck planks to react together at all treads and walkways to live load and form the appearance of a single tread system. By design, this system forms a solid, overlapping tread and riser installation.
      c. The nose extrusion shall allow for a 1" extruded aluminum contrasting nose piece to be flush mounted on the leading edge and shall capture the vertical riser plank in an extruded pocket. The heel extrusion shall have a .70" vertical lip at the rear of the plank to allow for placement of vertical riser plank and inhibit fluids from escaping at the rear of the tread.
      d. These extrusions shall be such that the attachment of the seat brackets, step brackets, mid-aisle rails and all other components is accomplished without deck penetrations. No through bolting or drilling of the aluminum tread / riser system shall be permitted.

E. Aluminum Risers: Aluminum planks made of 6063-T6 aluminum alloys with minimum wall thickness of 0.094 inches. Provide continuous aluminum riser closures between all footboards. Through bolting or drilling of the riser board is unacceptable.

F. Stairs: 2-by-12-inch aluminum treads with maximum 7-inch rise.

G. Hardware: All connections for foot boards, guardrails, and guardrail pipe shall be tamperproof and galvanized. Footboard connections shall be made with galvanized fasteners.

H. Concrete Footings: Foundations shall extend not less than 36" sub-grade. Grandstand manufacturer shall design concrete foundations in accordance with soil compaction as verified on site by engineering firm. Provide 3000psi compressive strength concrete.

I. Support Structure: Manufacturer's standard hot-dipped galvanized steel. Aluminum is unacceptable. Painted steel is unacceptable.

J. Finishes:
   1. Steel: Hot-dipped galvanized after fabrication in accordance with ASTM A 123.
   2. Aluminum:
      a. Aluminum Footboards: Mill finish.
      b. Riser Boards: Anodized finish.

2.3 PRESS BOXES

A. Product Description: Type II Construction
   1. Press Box Support Structure: Press box will be set on galvanized steel support structure. Press box will be anchored with structural mechanism to support all engineered loads as determined by bleacher manufacture's engineer.
   2. Press Box Dimensions: 8 feet wide x 36 feet long.
   3. Press Box to be constructed in accordance of approved drawings.

B. Materials/Finishes
   1. Press Box Support Structure:
      a. Structural shapes meet one of the following ASTM specifications: A36, A36/A572 grade 50, A572 grade 50, A529-50, or A500 grade B.
      b. Shop connections are seal welds.
      c. After fabrication, all steel is hot-dipped galvanized to ASTM-A-123 specifications.

   2. Press Box: All materials shall be new and shall comply with ASTM specifications.
      a. Floor
         1) Main support to be a galvanized steel floor frame sized to support structure and metal belly pan for support of insulation.
         2) Floor to be INTERLOCK Aluminum Decking System, extruded aluminum alloy 6063-T6, mill finish. Attach Decking System to steel floor frame with mechanical fasteners at end of plank and at intermediate supports. (Tongue & Groove or Standard extrusion is not acceptable.)
         3) Insulation: Kraft faced fiberglass building insulation R-11; 3 1/2 inches thick. Batt or roll as manufactured by Owens-Corning Fiberglass Corp., or equal.

      b. Wall Structure
         1) 4 inch x 4 inch x 11 gauge square tubing with maximum span of 14 feet on front wall and maximum span of 6 feet on back wall and 4 inch x 2 1/2 inch x 14 gauge steel "cees" with maximum spacing of 5 feet for all walls with siding. Spans greater than these require engineered calculations for design. Front wall of pressbox to slant out
         2) Insulation: Kraft faced fiberglass building insulation R-11; 3 1/2 inches thick. Batt or roll as manufactured by Owens-Corning Fiberglass Corp., or equal.
         3) Interior Finish
            a) ½-inch vinyl coated gypsum panels, Gold Bond vinyl-surfaced Durasan- Harvest Cotton.
            b) Cove Base: Vinyl 4 inches x .080 equal to PRO CB-35 Nubian.
         4) Exterior Finish
            a) 26-gauge pre-finished R-Panel paneling as manufactured by MBCI, Signature 200 color series, or equal.
            b) Wall panels are attached with #12 TEK screws - 6" O.C. at the top and bottom of the panels.
            c) Lap screws are placed at each end of the panels, at the intermediate supports, and at the mid point between supports (TEK #14).
            d) All fasteners to be painted same color as exterior paneling.

      c. Roof Structure
         1) 4-inch x 4-inch x 11-gauge square tubing with maximum spacing of 6 feet on center and 4 inches x 2 1/2 inches x 14-gauge steel "cees" with maximum spacing of 2 feet on center.

2) Roof: 1/8 inch four-way steel plate roof, continuous welded seams coated with acrylic metal primer as manufactured by Coronado and 36 mils of acrylic roof coating as manufactured by Isothermal Protective Coatings, or equal. Plate is welded on both sides of rafters with 1-1/2- inch-long 1/8-inch fillet welds on 12-inch centers.
3) Insulation: Kraft faced fiberglass building insulation, R-19 (minimum) 6 inches thick. Batt or roll as manufactured by Owens-Corning Fiberglas Corp., or equal.
4) Cornice: 26-gauge steel pre-finished to match metal siding.
5) Ceiling: 24 inch x 24 inch x 5/8 inch acoustical ceiling tile (model #- USG Fissured 560) with USG grid main tee (model # DXL24), cross tee (model # DXL 216), wall angle (model # M7), wind clips and other components as manufactured by USG, or equal.

d. Exterior Doors
1) Full flush steel construction with honeycomb core. 18-gauge skin sheets. Dimensions: 3 feet 0 inches x 6 feet 8 inches. Color: White.
2) Steel doorframe (16 gauge) complete with ½- inch threshold and weather-stripping.
3) Exterior Hardware: Yale 546F Exterior Trim, or equal. Handles shall be lever-type that allows operation without tight grasping or twisting of the wrist. Keyed alike locks.
4) Interior Hardware: Yale 2100 Exit Device, or equal. Handle shall be panic bar that allows for opening without any grasping, twisting or turning.

e. Interior Doors
1) Interior Birch Unit. Dimensions: 3 feet 0 inches x 6 feet 8 inches.
2) Hardware: Handles shall be lever type that allows operation without tight grasping or twisting of the wrist.

f. Interior Walls
1) Framing to be steel galvanized studs (25 ga.) 1 1/4-inch x 3 5/8 inch at maximum 2 feet on center.
2) Finishes to be consistent with all other interior finishes.
3) Fixed glass windows (2'0" by 4'8") shall be located at front of interior walls above counter to allow for better viewing.

g. Exterior Windows
1) Frame: Extruded aluminum single hung, vertical sliding unit**,** thermal break.
2) Sash: Tilt toward inside for easy cleaning.
3) Glazing: Clear tempered panes.
4) Dimensions of each unit: Dependent on compartment size. At interior wall locations or structural support locations the dimension between windows shall be no greater than 6 inches.
5) Finish: Electro-statically applied acrylic enamel.
6) Windows to be installed on rear wall of center room and left coaches' room of pressbox
7) Windows shall be slanted inward at the bottom to eliminate glare. 8)

h. Countertop
1) 18" wide countertop constructed of 4-inch x 2 1/2-inch x 14-gauge steel, and anodized aluminum plank with aluminum finished edge.

Countertop heights shall be constructed to allow wheelchair usage at all locations.

i. Painting: Materials equal to. Coronado, or equal.
   1) Surfaces: Exterior Doors, Door Frames
      a) Primer: Applied by Door Manufacturer.
      b) Finish: 2 coats acrylic latex semi-gloss enamel applied by press box manufacturer.
   2) Surfaces: Interior Doors
      a) Primer: Jones Blair Interior Exterior Oil Primer, or equal.
      b) Finish: 2 coats acrylic latex semi-gloss enamel.
   3) Surfaces: Exterior Siding
      a) Primer: Applied by Siding Manufacturer.
      b) Finish: Applied by Siding Manufacturer.
      c) Touchup: If applicable

j. Surfaces: Wall and Roof Structure
   1) Primer: Coronado DTM Industrial 180-11 acrylic metal primer applied after welding, or equal.

k. Caulking: Sonneborn NP1 – Polyurethane sealant, all temperature, UV resistant, or equal. Silicone products are not acceptable.

l. Electrical

   1) Submittal drawing shall indicate devices and circuitry.
   2) Fixtures: 4’ x 2’ Edgelit LED panel light by RAB Lighting EZPAN2X4-40N/D10.
   3) Wiring to be in non-metallic **co**nduit, or equal. N.E.C. breaker box to be 100-amp surface mounted on wall with 2-**inch** rigid conduit to be stubbed out at back wall of press box ready for service line to be connected. (Service line to Press Box is responsibility of Owner).
   4) Electrical outlets installed per NEC shall be standard duty. All outlets shall be surface mounted on wall.
   5) Sound, Telephone, Clock, Field Communication: Empty double outlet boxes per N.E.C. with ¾” conduit stubbed out bottom of Press Box for use of Owner. Outlet boxes to be flush mounted into wall. Any wiring completed on-site will be responsibility of such contractor for inspections. Quantity. Two will be provided. Owner shall indicate additional boxes needed.
   6) Filming Gallery: Weather-tight outlet box for cameras. Quantity: Three. Owner shall indicate additional outlets needed.
   7) Provide baseboard heaters in all rooms. Four totals.
   8) Provide weatherproof cut outs along rear of box for window mount A/C units in all rooms. Four totals.

2.4 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other

components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

2.5 ALUMINUM FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

C. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: non-specular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

2.6 GALVANIZED STEEL FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Surface Preparation: Clean surfaces with non-petroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.
   1. Galvanizing Repair Paint: High-zinc-dust-content paint for re-galvanizing welds in steel, complying with SSPC-Paint 20.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for, installation tolerances, and other conditions affecting performance of work.

B. Verify with Owner's testing company that foundation bearing conditions are in accordance with assumptions made in design calculations and Shop Drawings.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ERECTION

A. Install pre-engineered grandstands and bleachers in accordance with manufacturer's instructions and final Shop Drawings. Provide accessories indicated or required and anchors, inserts and other items required for installation of units and attachment of adjoining construction.

B. Set press box plumb and aligned. Level base plates true to plane.

C. Dismantle, transport and reassemble existing bleachers. Install on asphalt pad. Screw-down anchors to prevent uplift will be required.

3.3 FIELD QUALITY CONTROL

A. Arrange for grandstands, bleachers, and press box manufacturer's technical personnel to inspect grandstands, bleachers, and press box and components during installation and at final completion and to certify compliance with requirements.

B. Notify Architect 48 hours in advance of date and time of final inspection.

3.4 ADJUSTING AND CLEANING

A. Adjust doors, operable windows, and hardware to operate smoothly, easily, properly, and without binding. Confirm that locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

C. Clean installed aluminum on exposed and semi-exposed surfaces. Touch-up shop applied finishes to restore damaged or soiled areas.