DIVISION 12 - FURNISHINGS

12 21 00 – HORIZONTAL LOUVER BLINDS

PART 1 - GENERAL

A. Summary - Section includes:
   1. Horizontal louver blinds with aluminum slats.

B. Referenced Standards/Minimum Criteria:
   1. None.

C. Submittals Required:
   1. Product data.
   2. Shop drawings.
   3. Samples for color selection.

D. Restrictions/Critical Criteria:
   1. Slats: Aluminum; alloy and temper recommended by producer for type of use and finish indicated; with crowned profile and radiused corners.
      a. Thickness: 0.0072-inch minimum, copper free 5000 series magnesium aluminum alloy. Reprocessed metal, vinyl and plastic slats are prohibited.
      b. Width: 1-inch.
      c. Finish: One color.
   2. Headrail: Formed U-profile, 0.25-inch corrosion-resistant steel or extruded aluminum; long edges returned or rolled. Headrails fully enclose operating mechanisms on three sides. Provide manufacturer's standard caps or plugs in matching color.
   3. Bottom Rail: Formed 0.031-inch corrosion-resistant steel tube, with plastic or metal capped ends top contoured to match crowned shape of slat; with enclosed ladders and tapes to prevent contact with sill.
   4. Ladder Braid: UV stabilized polyester yarn with reinforced core.
   5. Cord Lock: Crash proof mechanism of 0.042-inch corrosion-resistant steel.
   6. Drum: Die-cast steel or engineered polymer.
   7. Cradle: 0.042-inch corrosion-resistant steel.
   8. Mounting Brackets: 0.048-inch corrosion-resistant steel with rivet-hinge safety lock front cover to permit removal of headrail without lateral movement.
   9. Manual Tilt Control: Enclosed worm-gear mechanism and linkage rod that adjusts ladders.
   10. Operation: Manual.

PART 2 - PRODUCTS

A. Acceptable Manufacturers/Products:
   1. Hunter Douglas: www.hunterdouglas.com.
   2. Levolor: www.levelor.com.
   3. Springs Window Fashions Division, Inc. www.springswindowfashions.com.
   4. Approved substitute.

12 22 00 - ACOUSTICAL DRAPERIES

PART 1 - GENERAL

A. Summary - Section includes:
   1. Acoustical draperies and related hardware in instrumental music rooms (used to modify acoustics of room).

B. Referenced Standards/Minimum Criteria:
   1. Fabricate draperies from flameproof material complying with latest requirements of Fire Department and State and local inspection authorities. Submit notarized affidavits concerning type of flameproofing used by the fabricator.
   2. Acceptable Fabricators: Acoustical drapery fabricator/installer shall be a firm that specializes in this type of work and which has been in this business continuously for a period of five (5) years.

C. Submittals Required:
   1. Product data.
   2. Shop drawings.
   3. Color options/fabric samples.

D. Restrictions/Critical Criteria:
   1. Draperies shall be 70% fullness, unlined with hidden grommets. Provide heavy-duty S hooks and 1-inch square fabric covered weights on each seam and each corner. Each drapery shall be tabled to assure exact length and hems.
   2. Provide wood blocking above ceiling for support of drapery track.

PART 2 - PRODUCTS

A. Acceptable Manufacturer - Drapery Track:
   1. One-way draw track with fascia along aluminum track with two-wheel trolleys:
      a. "Architrac Series 94003" by Kirsch: www.kirsch.com.
      b. Approved substitute.

B. Acceptable Manufacturer - Drapery Material:
   1. Virtually opaque, woven, 100% cotton FR treated velour that offers excellent sound absorption and noise reduction. A heavyweight fabric that weighs 25 oz. per linear yard:
      a. K.M. Fabrics "Memorable" by K.M. Fabrics: www.kmfabrics.com.
      b. Approved substitute.

12 24 13 – ROLLER WINDOW SHADES

PART 1 - GENERAL

A. Summary - Section includes:
   1. Window shades and accessories.
   2. Electric motor operators and motor controls.

B. Referenced Standards/Minimum Criteria:
   1. ASTM D4674 – Standard Practice for Accelerated Testing for Color Stability of Plastics Exposed to Indoor Office Environments.
   2. NFPA 70 – National Electrical Code; most recent edition adopted by Authority Having Jurisdiction, including all applicable amendments and supplements.
   3. NFPA 701 – Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
   4. UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; current edition, including all revisions.

C. Submittals Required:
   1. Product data.
   2. Shop drawings.
   3. Selection samples.

D. Restrictions/Critical Criteria:
   1. Roller Shades: Fabric roller shades complete with mounting brackets, roller tubes, hembars, hardware and accessories; fully factory-assembled.
      a. Drop: Regular roll.

   2. Fabric: Non-flammable, color-fast, impervious to heat and moisture, and able to retain its shape under normal operation.
      a. Blackout Shades: Block virtually all the light; Openness Factor equal to zero (0).
      b. Flammability: Pass NFPA 701 large and small tests.

   3. Roller Tube: As required for type of operation, extruded aluminum with end caps.
   4. Hembars and Hembar Pockets: Wall thickness designed for weight requirements and adaptation to uneven surfaces, to maintain bottom of shade straight and flat.
      a. Style: Thermally sealed fabric pocket covering rectangular aluminum hembar.
      b. Blackout Shades: Provide a slot in bottom bar with wool-pile light seal.

   5. Motor Operation: Motor system housed inside roller tube, controlling shade movement via motor controls indicated; listed to UL 325.
   6. Wall-Mounted Controls: UV stabilized visible parts meeting ASTM D4674; provided by shade manufacturer.

PART 2 - PRODUCTS

A. Acceptable Manufacturers/Products:
   1. Manually Operated Roller Shades:
      a. BTX Intelligent Fashion, LLC: www.btxinc.com.
      b. Draper, Inc. www.draperinc.com.
      c. Hunter-Douglas: www.hunter-douglas.com.
      d. MechoShade: www.mechoshade.com.
      e. Approved substitution

   2. Motorized Roller Shades, Motors and Motor Controls:
      a. BTX Intelligent Fashion, LLC: www.btxinc.com.
      b. Draper, Inc. www.draperinc.com.
      c. Hunter-Douglas: www.hunter-douglas.com.
      d. MechoShade: www.mechoshade.com.
      e. Approved substitution

12 31 00 – ROLLING STORAGE UNITS

PART 1 - GENERAL

A. Summary - Section includes:
   1. High-density rolling storage units.

B. Referenced Standards/Minimum Criteria:
   1. None.

C. Submittals Required:
   1. Shop drawings.
   2. Product data.
   3. Color options for end panels.

D. Restrictions/Critical Criteria:
   1. Architect to coordinate additional floor structure required to support rolling storage units if located on structural floor.

PART 2 - PRODUCTS

A. Acceptable Manufacturers – High Density Rolling Storage Units:
   1. Aurora Storage Products: www.aurorastorage.com.
   2. Lundia: www.lundiausa.com.
   3. Spacesaver Corp.: www.spacesaver.com.
   4. TAB Storage: www.tab.com. Approved substitute

B. Type:
   1. High Density Mobile Storage System with single-faced stationary and double-faced mobile units. Provide complete system with low profile track and high-profile carriage with 1,000 lb. capacity per lineal foot. Provide 3/4-inch plywood flooring panels (fire treated) between tracks. Each unit to be provided with six (6) adjustable shelves. Shelves shall be 1-1/4-inch painted particleboard or steel. Provide closed upright as end panel for each section.
   2. Size and Configuration: Nominal 7'-0" high actual storage x width.
   3. Operation: Manufacturer's standard mechanical assist system which allows one (1) pound of effort to move 3,000 pounds of load.

12 32 00 – PLASTIC LAMINATE FACED CASEWORK

PART 1 - GENERAL

A. Summary - Section includes:
   1. Plastic laminate cabinets, counters, shelving, and casework.
   2. Plastic laminate countertops
   3. All special units such as file drawer units, open shelving, and knee space drawers.
   4. Steel supports, hardware, and accessories.
   5. Maple countertops at high schools.
   6. Galvanized steel countertops and shelves at high schools.

B. Referenced Standards/Minimum Criteria:
   1. Architectural Woodwork Institute (AWI)
   2. National Particleboard Association (NPA)

C. Submittals Required:
   1. Shop drawings.
   2. Product data.
   3. Color options (full range) for plastic laminate and PVC edging (full range).
   4. Submit one full size sample of finished base cabinet and/or wall cabinet unit complete with hardware, doors, and drawers, without finish top, if requested by Architect.

D. Restrictions/Critical Criteria:
   1. Materials:
      a. Use 3 mm PVC edging for door and drawer front edges.
      b. Use 3 mm PVC edging for all front and backsplash edges of countertops.
      c. Use 1 mm PVC edging for cabinet body edges and coatbox edges.
      d. All countertops 1-1/8-inch medium density particleboard - with 0.050-inch plastic laminate top and backer sheet on underside of countertop.
      e. All particleboard - 45 lbs. per cubic foot
      f. Interior cabinet liner to be 0.020-inch thick thermally fused melamine laminate.
      g. Acid Resistant plastic laminate shall be 0.050-inch thickness Wilsonart "Chemsurf Chemical Resistant Decorative Laminate".

h. Sub-tops and bottoms of cabinets shall be particleboard, 3/4-inch thick. Bottom shall be laminated on the interior with melamine laminate with a backer sheet on the unexposed surface. The bottom surface of upper cabinets shall be melamine laminate cabinet liner.

i. Cabinet ends shall be particleboard, 3/4-inch thick. Concealed exterior with a melamine backer sheet. Exposed cabinets ends shall be laminated with vertical grade decorative plastic laminate, 0.030-inch thick. Holes shall be drilled for interior adjustable shelf clips.

j. Standard recessed cabinet back shall be 1/4-inch thick prefinished hardboard glued into cabinets. Laminate to match cabinet interior. All sink cabinets shall have split back, removable from inside. Exposed exterior back on fixed cabinets shall be particleboard, 3/4-inch thick, laminated with high pressure, vertical grade, 0.030-inch thick, High Pressure Decorative Laminate.

k. Cabinet Doors and Drawer Fronts: Particleboard, 3/4-inch thick, shall be laminated with vertical grade decorative plastic laminate on the exposed surface and melamine laminate cabinet liner on the interior surface.

l. Drawers: Sides, back and sub-front, shall be particleboard, 1/2-inch thick, laminated with melamine laminate. The back and sub-front shall be doweled and glued into the sides. No staples or nails permitted. Drawer bottom to be 1/4-inch thick, prefinished hardboard let into sub-front, sides and back. Paper storage drawers shall be heavy-duty 3/4-inch particleboard construction with 100 pound full extension slides, plywood reinforcement stiffener at bottom and a retaining hood at the rear of each drawer.

m. Vertical Dividers: Particleboard. 3/4-inch thick, shall be laminated with melamine laminate cabinet liner, both sides.

n. Wire Grille Doors: Manufacturer's standard wire grille door with hinges, label holder, and padlock eye. Epoxy power coated hinge and wire grille door.

o. Music Storage Unit Fixed Shelving: Units shall have high density polyethylene molded surface with integral ventilation grooves front to back on fixed and bottom shelves. Provide separate high-impact-resistant extruded PVC nosing on front edge of fixed and bottom shelves.

p. Fixed Intermediate and Adjustable Shelves: Particleboard, 3/4-inch thick, laminated on both sides with melamine laminate cabinet liner (closed door cabinets). Adjustable shelves up to 30 inches wide shall be 3/4-inch thick. Shelves 30-inches to 36-inches wide shall be 1-inch thick. Casework units wider than 36-inches shall have vertical dividers. Open shelf unit cabinet shelves shall be laminated with vertical grade, 0.030-inch thick, plastic laminate.

q. Maximum span for wood or plastic laminate covered shelves is 36-inches between shelf standards.

r. Maple Countertops and Backsplash: 1-1/4-inch thick, Northern Hard White Maple edge grain glue-laminated. Provide two (2) coats clear penetrating oil. Rabbet 3/4-inch thick Maple backsplash into countertop.

s. Galvanized Steel Countertops and Shelves: 28 gauge galvanized sheet steel bent and wrapped 2-inches to underside of horizontal surfaces. Core shall be 1-1/4-inch thick plywood sheet for countertops, 3/4-inch thick plywood for shelves and backsplash. Galvanized sheet steel shall be adhered to core with contact cement. File smooth all edges of steel not bent. Provide melamine laminate balance sheet to underside of plywood countertop, backsplash, and shelf.

2. Acceptable Joinery/Construction:
   a. Tops and bottoms shall be joined to cabinet ends using a minimum of six (6) dowels for twenty-four (24) inch deep cabinets and a minimum for four (4) dowels for twelve (12) inch deep cabinets. All dowels shall be hardwood laterally fluted, with chamfered end. Internal cabinet components such as fixed horizontals, rails, and vertical shall be doweled in place. Dowels shall be securely glued and cabinets clamped under pressure during assembly to assure secure joints and cabinet squareness.

3. Hardware and Accessories:
   a. Hinges: 5 knuckle 2-3/4-inch, recessed in box wall type, 0.095-inch thick steel with standard color epoxy powder coat or metallic finish. Hinges shall have a minimum of 8 leaf and edge fastening locations. Doors 48-inches and over in height shall have three (3) hinges per door.
   b. Door and Drawer Pulls: Epoxy powder coat on metallic finish metal wire pulls.
   c. Drawer Suspensions: Each drawer equipped with one pair of ball bearing nylon roller suspensions which shall be self-closing from a four (4) inch extension, have a minimum load capacity of one hundred (100) pounds and be of zinc coated rolled steel. Knee space drawers shall be equipped with suspensions with a minimum load capacity of fifty (50) pounds each. Heavy-duty paper storage and file drawers shall be equipped with full extension suspensions with a minimum load capacity of one hundred fifty (150) pounds each and 200 pound capacity at full extension lateral file drawers.
   d. Drawer Stops: Drawers shall be equipped with two (2) drawer stops attached to the cabinet ends. The cabinet drawer stops shall be metal with attached rubber bump and be installed to prevent the drawer face from touching the cabinet body when the drawer is in a closed position.
   e. Door Catches: Magnetic type with a minimum ten (10) pound pull, attached with screws and slotted for adjustment. Provide thumb latch on inactive leaf on pair of doors.
   f. Shelf Supports: Heavy-duty, self-locking nylon or polycarbonate, designed for installation in pre-drilled holes in cabinet ends and vertical partitions. Supports shall carry up to 1,500 pounds without failure.
   g. Door and Drawer Locks: Five (5) disc tumbler, cam type, keyed alike or differently and master keyed as directed by School District. Each different lock shall be furnished with two (2) keys. Fifty (50) lock changes available. All drawers and doors to have locks.
   h. Chain Bolts: 3 inches long, with 18-inch pull and angle strike to secure inactive door on cabinets over 72-inches in height. Elbow catches shall be used on inactive doors up to and including 72-inches in height.

i. Tote Trays: Heavy-duty vacuum formed plastic type with top rim and pull. Each tray shall be tan or ivory in color and equipped with a plated steel label holder.
j. Coat Rods: 1-1/4-inch, 14 gauge chrome plated steel.
k. Index Followers: Steel plate and rod file followers recessed in bottom of file drawers.
l. Mirrors: 1/4-inch thick polished mirror plate attached with plastic clips and screws.
m. Conduit sleeves: Provide plastic grommets in tops of workstations.

PART 2 - PRODUCTS

A. Acceptable Casework Manufacturers:
1. Case Systems: www.casesystems.com.
2. Frontier Door and Cabinet: www.frontierdoor.com.
3. LSI Corporation: www.lsicasework.com.
4. Sidney Millwork Company: www.sidneymillwork.com.
5. Salina Planing Mill, Inc.: www.salinaplaningmill.com.
6. TMI Systems Design Corporation: www.tmisystems.com.
7. Approved substitute.

B. Acceptable Plastic Laminate Manufacturers:
1. Formica: www.formica.com.
2. Laminart: www.laminart.com.
3. Nevamar: www.nevamar.com.
4. Panloam: www.panolam.com.
5. Wilsonart: www.wilsonart.com.
6. Approved substitute.

12 35 53 – LABORATORY COUNTERTOPS AND DROP-IN SINKS

PART 1 - GENERAL

A. Summary - Section includes:
1. Epoxy resin countertops and drop-in sinks in science labs and prep rooms.

B. Referenced Standards/Minimum Criteria:
1. None.

C. Submittals Required:
1. Product data.
2. Shop drawings.
3. Color options.

D. Restrictions/Critical Criteria:
   1. Field Measurements: Verify measurements before beginning final fabrication. Countertops and sinks must conform to casework below and must be neatly fitted around openings, pipes, or obstructions.

PART 2 - PRODUCTS

A. Acceptable Manufacturers - Epoxy Resin Countertops and Drop-in Sinks:
   1. Laboratory Design & Supply: www.labds.com.
   2. Epoxy Tops: www.epoxytops.com.
   3. Kewaunee Scientific Equipment Corp. www.kewaunee.com.
   4. Durcon Company, Inc. www.durcon.com.
   5. Fisher Scientific, Inc. www.fishersci.com.
   6. Approved substitute.

B. Epoxy Resin Countertops:
   1. General: 1-inch thick solid black molded epoxy resin with integral molded back and end splashes. Provide cutouts in countertop as required for sinks and fittings.

C. Drop-In Epoxy Resin Sinks:
   1. General: Provide sinks, outlet, stopper, overflow and tail piece. Traps, vents, and drain lines from trap to rough-in shall be provided in accordance with requirements of mechanical.
   2. Drop-In Sinks: One-piece black epoxy resin with cover corners, sides, and bottom with drain cutout. Minimum inside dimensions shall be 25-inches x 15-inches x 10-inches deep.
   3. Sinks at handicap locations shall have minimum inside dimensions of 18-inches by 15-inches by 5-inches deep.

12 35 83 – MUSICAL INSTRUMENT STORAGE

PART 1 - GENERAL

A. Summary - Section includes:
   1. Musical instrument storage casework.

B. Referenced Standards/Minimum Criteria:
   1. ANSI A208.1 – Particleboard.
   2. ASCE 7 – Minimum Design Loads for Buildings and Other Structures.
   3. ASTM C423 – Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
   4. ASTM E488 – Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements.
   5. ASTM E795 – Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

6. Audio Engineering Society (AES): AES-4id – AES information document for room acoustics and sound reinforcement systems – Characterization and measurement of surface scattering uniformity.
7. Builders Hardware Manufacturers Association (BHMA): ANSI/BHMA A156.9 – Cabinet Hardware.

C. Submittals Required:
1. Product data.
2. Shop drawings.
3. Color options.

D. Restrictions/Critical Criteria:
1. Particleboard: ANSI A208.1, minimum 43 lb/cu. ft. density, composite products and adhesives, with no urea formaldehyde added.
2. Fire Rated Particle Board: ANSI A208.1, minimum 45 lb/cu. ft. density ASTM E-84 class 1.
3. Plywood: APA standards PS1-98 section 5.7.4 or 5.7.1 or ANSI /HPVA HP-1-2004 Panel provide with HDF skins to prevent grain telegraphing.
4. Particleboard Thermoset Panels: Particleboard finished with thermally-fused polyester surfacing on both sides meeting performance properties of NEMA LD 3 for VGS grade, edge-banded. Surface Abrasion Resistance: Taber Wheel, 400 cycles, for solid colors.
5. Particleboard Thermoset Panels: Particleboard panel with no formaldehyde added 3/4-inch thick finished with thermally-fused polyester surfacing on both sides meeting performance requirements of NEMA LD 3 for VGS grade, edge-banded. Surface Abrasion Resistance: Taber Wheel, 400 cycles, for solid colors.
6. Polyethylene Shelves: High-density, one-piece, blow-molded or polyethylene, with radiused front edge, for abuse-resistant shelves. Same color throughout will not show scratches.
7. PVC Edge Banding: Radiused PVC extrusions, 1/8-inch thick.

PART 2 - PRODUCTS

E. Acceptable Manufacturers/Products:
1. "UltraStor Storage Cabinets" by Wenger Corporation: www.wengercorp.com.
2. Approved substitute.

12 45 00 – FIXED BLEACHER SEATING

PART 1 - PRODUCTS

A. Summary - Section includes:
   1. Fixed bleacher seating for use in swimming pool areas.
      a. Fixed seating system shall be individual seats comprised of seat and deck components for attachment to concrete understructure

B. Referenced Standards/Minimum Criteria:
   1. International Building Code Standard: Comply with requirements of IBC / ICC 300, Chapter 4 "Standard for Bleachers, Folding and Telescopic Seating and Grandstands Assembly Seating", except where other requirements are indicated.
   2. Fixed bleacher seating shall be designed to support, in addition to its own weight, and the weight of added accessories, a uniformly distributed live load of not less than 100 lbs. per sq. ft. of gross horizontal projection.
   3. Sway force applied to seats shall be 24 lbs. per linear ft. parallel to the seats and 10 lbs. per linear ft. perpendicular to the seats. Sway forces shall not be considered simultaneously applied.
   4. American Institute of Steel Construction (AISC), American Iron and Steel Institute (AISI) and Aluminum Association (AA) design criteria shall be the basis for calculation of member sizes and connections.

C. Submittals Required:
   1. Product data.
   2. Shop drawings.
   3. Color options.

D. Restrictions/Critical Criteria:
   1. Seating Area: Refer to drawings, concrete attached.
   2. Dimensions:
      a. Row Spacing: As shown on drawings.
      b. Rise per row: Approximately 16-inches.

   3. Understructure System: Steel supports and frames shall be constructed of formed steel shapes of the size and shape necessary to support the design loads.

4. Seat Systems:
   a. Plastic modular 18-inch individual seats in 10-inch deep models. Seating to be scuff resistant injection molded high density polyethylene plastic.
      1) Seat modules supplied shall be of a high aesthetic design using multiple textures, style lines and a waterfall front. The rear of the seat shall be slightly curved to eliminate the straight-line appearance and include a moderate seat contour and texture to enhance spectator comfort.
      2) Seating design shall be molded to achieve a finished end appearance without the use of end caps. The rear of the seat shall include a smooth wall allowing for the deck to be easily swept clean without obstruction.
      3) Seat heights shall be maintained at a minimum of 16-3/4-inches. Lower seat heights which detour from spectator comfort will not be accepted.
      4) Foot space shall be maximized for spectator comfort and provide a minimum of 22-inches when measured with a 10-inch module.
      5) Architect shall select seating colors from manufacturer's standard colors.
      6) Securely fasten each seat to the nose beam using a 10-gauge formed steel bracket and locking hardware. Adjacent seating shall be interlocked together along the full perimeter eliminating any fore or aft movement or the potential of any pinching hazard.
      7) Seat modules shall be designed to support a uniform load of 600 lbs. per seat and a concentrated load of 150 lbs. over 4-square inches.

   b. Blow-Molded Seats: Supply plastic modular 18-inches individual seats in 10-inch deep models. Seating to be scuff resistant blow molded high density polyethylene plastic.
      1) Seats shall be blow-molded, double-walled, high density, impact resistant, UV stabilized, linear polyethylene available in 15 bright standard colors.
      2) Each module to be bracket supported with concealed mounting hardware attachment for rigidity.
      3) Modules shall allow a full 26-1/4-inches unobstructed area for foot room comfort and cleaning. Modules with external ribs or multiple piece modules are not acceptable.

   c. Nosings: Nosing shall be one piece, formed, 14-gauge steel with a minimum G-60 pre-galvanized finish.
   d. Rear Risers: Rear riser shall be one piece, formed, 14-gauge steel with a minimum G-60 pre- galvanized finish.

PART 2 - PRODUCTS

A. Acceptable Manufacturers – Fixed Bleacher Seating:
   1. Model "Infinity" as manufactured by IrwinTelescopic Seating Company: www.irwinseating.com.
   2. Approved substitute.

12 61 00 – AUDITORIUM SEATING

PART 1 - GENERAL

A. Summary - Section includes:
   1. Auditorium seating in high schools.

B. Referenced Standards/Minimum Criteria:
   1. Upholstery to meet following criteria:
      a. Flame Resistance: Meet requirements of the following fire codes: California Technical Bulletin 117, Section E CS-191-53, Class 1 BIFMA FF1-78 ASTM E84, Class A NFPA 260-A, 1983 UFAC Class 1
      b. Ultraviolet Stability: Minimal degradation at 350 hours (AATCC 16 - Xeno Face-O-meter).
      c. Surface Abrasion, ASTM-D-1175 (Wyzenbeek): Heavy-duty, can exceed 260,000 double rubs.
      d. Colorfastness to Light, AATCC Test Method 16-1981: 40 hours, Class 4 min.
      e. Colorfastness to Crocking, AATCC Test Method 8-1981: Wet: Class 4 min.
      f. Dry: Class 3 min.

C. Submittals Required:
   1. Product data.
   2. Shop drawings.
   3. Color options.

D. Restrictions/Critical Criteria:
   1. Extra Materials: At the completion of the project, furnish the following items to the Owner:
      a. Five (5) seat backs.
      b. Five (5) seat bottoms with hardware for retracting seats.
      c. Three (3) yards of each fabric color selected or five (5) yards if one fabric color is selected.

PART 2 - PRODUCTS

A. Acceptable Manufacturers - Auditorium Seating:
   1. Irwin Seating Company: www.irwinseating.com.
   2. Hussey Seating Company: www.husseyseating.com.
   3. Approved substitute.

B. Manufacturer and Type: Hussey Seating Company "Concordia C-05110" or equal of other acceptable manufacturer. Seating shall include padded upholstered seats and backs, plastic laminated arms, injected molded outerback, plastic laminate end panels, and conventional incandescent aisle lights in end panels. Provide drop arms on end aisle seats in accordance with ADA accessibility standards. Provide identification plates for each row and seat.

C. Upholstery Fabric: Standard fabrics by Hussey Seating Company.
   1. Content: 100% Marquesa Lana (Polyolefin)
   2. Weight: 16 oz. per linear yard, backed.
   3. Construction: 13 warp ends per inch, 13 fill picks per inch, 2,400 denier solution-dyed.
   4. Standard Width: 54-inches
   5. Backing: Acrylic.

12 66 13 – TELESCOPING BLEACHERS

PART 1 - GENERAL

A. Summary - Section includes:
   1. Telescoping bleachers and accessories in gymnasiums.

B. Referenced Standards/Minimum Criteria:
   1. Conform to 2015 IBC for aisle layout and railing requirements.

C. Submittals Required:
   1. Product data.
   2. Shop drawings.
      a. Provide detailed locations of bleachers rollers for coordination of wood blocking installation below wood gymnasium flooring system.

   3. Color selection samples.

D. Restrictions/Critical Criteria:
   1. Telescoping Bleachers: Factory assembled tiered benches that retract horizontally into depth approximately the same as a single row depth, with fixed seats mounted on leading edge of platforms.
      a. Design to comply with applicable requirements of NFPA 102 and requirements of code authorities having jurisdiction; where conflicts between requirements occur, comply with whichever is more stringent.
      b. Design with solid fascia (riser) or seat fronts that conceal interior mechanisms when fully retracted, fitting tightly enough to prevent climbing up face; at front row provide key locked, hinged fascia (skirt) to cover gap between seat riser/fascia and floor.
      c. Operation: Motor operated.

   2. Design Loads: Design to withstand the following loading conditions:
      a. Live Load on Structural Supports: 100 psf, minimum, of gross horizontal projection.
      b. Live Load on Seats and Walking Surfaces: 120 pounds per linear foot.
      c. Lateral Sway Stress on Structural Supports: 24 pounds per linear foot of seat plank.
      d. Perpendicular Sway Stress on Structural Supports: 10 pounds per linear foot of seat plank.

3. Dimensions:
   a. Rows: As shown on Drawings.
   b. Rise Per Row: 10-inches.
   c. Row Depth: 22-inches.
   d. Seat Height Above Tread: 6-inches.

4. Structural Supports: Steel or aluminum; manufacturer's standard wheeled carriages supporting each tier separately, with moving parts permanently lubricated and metal parts cushioned to prevent metal-to-metal contact during operation.
   a. Design so that each row carriage so that it will individually support the design loads and is self-supporting when fully assembled without dependence on platform panels or boards, seats, or fascia.
   b. Welding: In accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M.
   c. Bolting: Use lock-washers or locknuts.
   d. Wheels: Minimum 5-inch diameter by 1-1/8-inch wide, with non- marring rubber tires; ball, roller, or oil-impregnated metal bearings; minimum of 2 wheels at each floor support.
   e. Finish: Manufacturer's standard enamel or powder coating.
   f. Row Locking: Automatically mechanically lock each carriage to adjacent carriages when fully extended.
   g. Unlocking: Automatically unlock all rows before engaging retraction mechanism.

5. Motor Operation: Manufacturer's standard drive mechanism, using motor adequately sized for the purpose.
   a. Provide UL listed electrical components and wiring.
   b. Controls: Start, Stop, Forward, and Reverse in a single control unit.
   c. Control Station: Removable plug-in low-voltage pendant station, with first-row plug-in location for each motor.
   d. Limit Switches: Automatically stop operation when unit has reached fully open or fully closed position.
   e. Provide all wiring internal to bleacher units, to junction box located where indicated; ensure that wiring is not energized except during operation.
   f. Electrical Characteristics: 120V, single phase, 60 Hz.
   g. Provide access to motor from front side of bleachers; a hinged front skirt or hinged section at least 30-inches wide is acceptable.

PART 2 - PRODUCTS

A. Acceptable Manufacturer:
   1. Interkal, LLC. www.interkal.com.
   2. Approved substitute.

12 93 13 – SITE FURNISHINGS

PART 1 - GENERAL

A. Summary - Section includes:
   1. Bicycle racks.

B. Referenced Standards/Minimum Criteria:
   1. None.

C. Submittals Required:
   1. Product data.
   2. Shop drawings.

D. Restrictions/Critical Criteria:
   1. Pipe: Galvanized Carbon steel, ASTM A53/A53M, Schedule 40.
   2. Outdoor Bicycle Racks: Device allows user provided lock to simultaneously secure one wheel and part of the frame on each bicycle parked or racked.
      a. Style: Serpentine rack formed from a continuous round pipe.
      b. Capacity: 11 bicycles.
      c. Accessories: In-ground grout cover.

PART 2 - PRODUCTS

A. Acceptable Manufacturers/Products:
   1. Provide "Model No. RB11" by AAA Ribbon Bike Rack Co.: www.ribbonrack.com, or comparable product by one of the following:
      a. Columbia Cascade Company: www.bicycle.columbia-cascade.com.
      b. Madrax, Inc. www.madrax.com.
      c. Kay Park - Rec Corp. www.kaypark.com.
      d. Huntco Supply, Inc. www.huntco.com.
      e. Approved substitute.

END OF SECTION