

**Jefferson County School District, R-1
Support Services**

TECHNICAL GUIDELINES

**DIVISION 11 - August 10, 2007
Equipment**

DIVISION 11 – EQUIPMENT

11 06 00 Schedules for Equipment - February 1, 2005

- No requirements at this time

END SECTION 11 06 00

11 11 00 Vehicle Service Equipment - August 14, 2006

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Built-in vehicle service equipment is included in Jefferson County School District, R-1 General Construction Contract.
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Closeout:
 - a. Submittals listed above, updated to record status
 - b. Operation and Maintenance Manual
- Applications
 1. Senior High School Auto Shop
 2. Support Facilities
- Fuel Dispensing Equipment: Prohibited without Jefferson County School District, R-1 authorization

END SECTION 11 11 00

11 12 00 Parking Control Equipment - October 6, 2004

- Work in this section is open to any product or material.

END SECTION 11 12 00

11 13 00 Loading Dock Equipment - July 27, 2006

- Work in this section is open to any product or material.
- Work in this section is included in the General Contract for Construction.

- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Closeout:
 - a. Submittals listed above, updated to record status.
 - b. Operation and Maintenance Manual
- Applications
 1. School building loading areas (usually at or near Kitchen)
 2. Support Facilities

END SECTION 11 13 00

11 16 00 Vault Equipment - October 6, 2004

- Work in this section is open to any product or material.

END SECTION 11 16 00

11 24 00 Maintenance Equipment - August 14, 2006

- Work in this section is open to any product or material.
- Work in this section is excluded from the General Contract for Construction.

END SECTION 11 24 00

11 27 00 Photographic Processing Equipment - August 14, 2006

- Work in this section is open to any product or material.
- Built-in work in this section is included in the General Contract for Construction.
- Submittals
 1. Product Data: Required

END SECTION 11 27 00

11 28 00 Office Equipment - July 27, 2006

- Work in this section is restricted to bidders previously approved and listed by Jefferson County Public Schools Purchasing Department.
- Work in this section is typically excluded from the General Contract for Construction.

- Coordination
 1. Coordinate with Jefferson County School District Purchasing Department.
 2. Coordinate placement and relocation of photocopiers in advance with Jefferson County School District Equipment Repair Office.
 3. Coordinate electrical receptacle type, location, and circuit with power requirements of the equipment item.
 4. Coordinate HVAC/Ventilation requirements.
- Submittals
 1. Product Data: Required
 2. Manufacturer Instructions: Required
 3. Closeout: Submittals listed above, updated to record status.

END SECTION 11 28 00

11 30 00 Residential Equipment - July 27, 2006

- Work in this section is restricted to bidders previously approved and listed by Jefferson County Public Schools Purchasing Department.
- Work in this section is typically excluded from the General Contract for Construction.
- Appliances in this Section are typically procured directly through Jefferson County School District, R-1 Purchasing Department.
- Coordinate electrical service, gas, hot and cold water supply, direct and indirect drainage, and HVAC.
- Applications
 1. Middle and High School Consumer and Family Studies laboratories
 2. Science preparation
 3. Staff workroom
 4. Lounge
 5. Employee residences
- Range Hood: Ducted type only
 1. Non-ducted
 2. Two speed fan
 3. Carbon filter

END SECTION 11 30 00

11 40 00 Food Service Equipment - August 14, 2006

- Work in this section is open to any product or material.
- Work in this section is included in the General Contract for Construction.
- Incidental food service equipment is excluded from the General Contract for Construction.

- In the absence of other information, standards of the following organizations apply:
 1. A.G.A.
 2. A.S.M.E.
 3. A.S.T.M.
 4. N.F.P.A. – 96 for exhaust system
 5. National Board of Fire Underwriters
 6. National Sanitation Foundation (N.S.F.)
 7. O.S.H.A.
 8. Tri-County Health Department
 9. Colorado Department of Health and Environment
 10. U.S. Public Health Service
 11. Underwriter Laboratories (U.L.)
- Coordination
 1. Coordinate with Food Services and permitting authorities.
 2. Pre-installation conference with Jefferson County School District, R-1 Construction Project Manager is mandatory before work in this section is permitted to begin.
 3. Coordinate electrical service, gas, hot and cold water supply, direct and indirect drainage, and HVAC.
 4. Locate equipment and connecting utilities to avoid restricting service access.
- Submittals
 1. Product Data: Required (cut sheets)
 2. Shop Drawing: Required, including ¼ inch scale kitchen plan and elevations showing details and rough-in.
 3. Closeout:
 - a. Submittals listed above, updated to record status.
 - b. Provide factory trained engineers for start-up and demonstration of equipment. Demonstration shall be done in two stages: one for operation and the second to maintenance personnel.

END SECTION 11 40 00

11 51 00 Library Equipment - August 14, 2006

- Work in this section is open to any product or material.
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Manufacturer Instructions: Required
 4. Closeout:
 - a. Submittals listed above, updated to record status.
 - b. Operations and Maintenance Manual for Book Theft Protection Equipment
 - c. On-site demonstration and video for book theft protection equipment.

- Book Theft Protection Equipment: (Typically excluded from the General Contract)
 1. Work in this section is restricted to specific manufacturers that have been previously approved by Jefferson County Public Schools Purchasing Department.
 - a. Checkpoint
 - b. 3M
 2. Fully functional within an environment of electromagnetic interference from computers, monitors, copiers, ballasts and other sources.
 3. Electromagnetic or radio frequency type
 4. Portable or fixed station
 5. Suitable for protecting both printed and electronic media
 6. Manufacturer qualifications
 - a. Minimum 5 consecutive year firm history of manufacturing institutional grade Library Equipment
 - b. At least 5 installations of the specific product in public schools or comparable institutional occupancies in Colorado or adjacent states.
 7. Maintenance Service
 - a. Full time service based or branched in Colorado or an adjacent state.
 - b. 24-hour 365 day per year telephone support
 - c. Repair and service training for Jefferson County School District, R-1 maintenance personnel.
 - d. Optional renewable annual service contract for 72 hour response for factory authorized on-site repair and service.
- Book Drop (Depository)
 1. Open to any product or material.
 2. Fully assembled wood fabrication with chute and ‘slow down’ feature

END SECTION 11 51 00

11 52 00 Audio-Visual Equipment - July 27, 2006

- Work in this section is restricted to bidders previously approved and listed by Jefferson County Public Schools Purchasing Department.
- Coordination
 1. Confirm source of materials (Owner/Contractor/Other) no later than DD review.
 2. Labor to install Monitor Mounting Hardware is typically included in the General Contract for Construction, regardless of the source of the materials.
 3. Coordinate structural support and anchorage.
 4. Coordinate Electrical power, Communications, and Sound and Video connections per Data, Communications and Alarm Diagram (DCAD).
- Monitor mounting hardware: Not recommended; Use casework.

END SECTION 11 52 00

11 53 00 Laboratory Equipment - August 14, 2006

- Except as noted, work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Built-in Work in this section is included in the General Contract for Construction.
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Closeout:
 - a. Submittals listed above, updated to record status.
 - b. Operation and Maintenance Manual
- Fume Hood:
 1. Restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1 Facilities Services Department
 - a. Air Master
 - b. Fisher-Hamilton
 - c. Kewaunee
 - d. Taylor
 2. Pre-wired and pre-piped
 3. Factory-finished sides, base and filler panels
- Acid Storage Cabinet: 18 ga. coated steel; Vented at rear
- Ammonium Hydroxide Storage Cabinet: Wood
- Ammonium Nitrate Storage Cabinet: Wood
- Flammable Organics Cabinet
 1. Noncombustible construction compliant with NFPA Code 30 and OSHA
 2. Explosion proof refrigerator preferred.
- Flammable Metals Cabinet
 1. Noncombustible construction compliant with NFPA Code 30 and OSHA
 2. Explosion proof refrigerator preferred.
- Chemical Storage Cabinet: No requirements
- Fire Blanket: No requirements
- Safety Goggle Sanitizer Cabinet: No requirements

END SECTION 11 53 00

11 55 00 Planetarium Equipment - October 6, 2004

- Work in this section is open to any product or material.

END SECTION 11 55 00

11 57 00 Vocational Shop Equipment - August 14, 2006

- Work in this section is open to any product or material.

END SECTION 11 57 00

11 61 00 Theater and Stage Equipment - August 14, 2006

- Work in this section is open to any product or material.
- Built-in theater and stage equipment is included in the General Contract for Construction.
- Portable theater and stage equipment is typically excluded from the General Contract for Construction.
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required for Rigging Systems and Controls
 3. Closeout:
 - a. Submittals listed above, updated to record status; Samples excluded
 - b. Operations and Maintenance Manual
 - c. Provide on-site demonstration/training for maintenance and operation of rigging systems and controls:
- Restrictions: Professional legitimate stage type flyloft apparatus is prohibited.
- Choral/Instrumental Risers
 1. 3 tier assembly
 2. Rectangular sections only; triangular filler sections are prohibited.
 3. Uncarpeted
- Stage Curtains
 1. Pre-bagged
 2. Pre-hung
 3. Certified flameproof
 4. Velour
 5. Size: 130% of proscenium width

END SECTION 11 61 00

11 62 00 Musical Equipment - October 6, 2004

- Work in this section is open to any product or material.

END SECTION 11 62 00

11 66 00 Athletic Equipment - August 14, 2006

- Work in this section is restricted to specific manufacturers that have been previously approved by Jefferson County Public Schools Purchasing Department.
- Built-in Work in this section is included in the General Contract for Construction.
- Coordination
 1. Coordinate inserts and sleeves with floor construction and floor finish.
 2. Coordinate electrical power per Division 26 for dividers, retractable backstops and scoreboards
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Manufacturer Instructions: Required
 4. Closeout:
 - a. Submittals listed above, updated to record status.
 - b. Operations and Maintenance Manual
- Gymnasium Basketball Backstops
 1. Restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1.
 - a. Aalco
 - b. JayPro
 - c. Porter
 2. Main Court:
 - a. Elementary School: Steel backboard adjustable from 8 to 10 feet
 - b. Secondary School: Glass backboard, retractable
 3. Short Courts (2):
 - a. Elementary School: Steel backboard, adjustable 8-10 feet, retractable at cafeteria side.
 - b. Middle School: Steel backboard, retractable with normally open manual key switch
 - c. Senior High School: Glass backboard, retractable with normally open manual key switch
 4. Safety retention system is required for all retractable basketball backboards.
- Exercise Equipment: No requirements
- Gymnasium Dividers
 1. Restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1.
 - a. Aalco
 - b. Draper
 - c. JayPro
 - d. National Gym Equipment (NGE)
 - e. Porter Athletic Equipment Company
 2. Power operated drop/roll up type curtain

- Floor Inserts
 1. Restricted to specific products of specific manufacturers that have been previously approved by Jefferson County School District, R-1 Facilities Services Department.
 - a. Senoh
 - b. PSS
 2. Elementary School: One volleyball court
 3. Middle School: Inserts for parallel bars, uneven parallel bars and one main volleyball + (2) short court volleyball courts.
 4. Senior High School: Inserts for parallel bars, uneven parallel bars, rings, one main volleyball court + (3) short court volleyball courts.
- Gymnasium Scoreboard
 1. Restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1 Facilities Services Department.
 - a. Daktronics
 - b. Fair Play
 - c. Nevco
 2. Configuration
 - a. 8 feet 0 inches (L) x 4 feet 0 inches (H)
 - b. Rear and side service access panels are prohibited.
 3. Control panel: Single solid state microprocessor with capability for multiple-sports (basketball, wrestling, volleyball)
 - a. Remote from scoreboard (for servicing)
 - b. Multiple interchangeable and mechanical type controls are prohibited.
 - c. Battery back up is required
 4. Scoreboard receiver modules: Pluggable "black box" type units.
 5. Plug/Socket: Physically different from that used with gymnasium public address system to prohibit cross-connection.
 6. Cable: 75 ohm shielded coaxial; in conduit
 7. Dedicated power circuit to receptacle via lockable switch
 8. Guard: By Manufacturer
 9. Display Bulbs: LED preferred
 10. For radio control, supply 6 lineal feet of antenna
- Outside Scoreboards
 1. Restricted to specific products of specific manufacturers that have been previously approved by Jefferson County School District, R-1 Facilities Services Department.
 - a. Daktronics
 - b. Fair Play
 - c. Nevco
 2. Exterior scoreboards are typically excluded from the General Construction Contract.
 3. Configuration
 - a. 10 feet (L) x 4 feet (H) minimum for baseball/softball fields
 - b. 18 feet (L) x 8 feet (H) minimum for football/soccer fields.

4. Control Panel (2 per scoreboard)
 - a. Solid state microprocessor with capability for multiple-sport scoring format (football and soccer) on football/soccer fields.
 - b. Remote from scoreboard for servicing
 - c. Memory backup is required
 - d. Multiple interchangeable and mechanical type controls are prohibited
 - e. For radio controlled scoreboards: Provide 6 sets of radio antenna.
5. Control cables: Rated for underground (wet) locations
 - a. Install in PVC conduit around the perimeter of field using rigid metal conduit (RMC) 90° ELs at severe bends.
6. A fusible disconnect switch (NEMA 3-R) is required for each scoreboard and will be mounted on scoreboard support pole/I-beam at 7 feet above grade.
7. Guard: Per manufacturer. Required for baseball/softball.
- Mat Hoist
 1. Restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1 Facilities Services Department.
 - a. National Gym Equipment (NGE)
 - b. Porter Athletic Equipment Company
 2. Designed to support one 42 foot square mat equivalent to one ton live load (minimum).
 3. Key controlled switch box.
 4. Structural engineering is mandatory.

END SECTION 11 66 00

11 67 00 Recreational Equipment- August 14, 2006

- Work in this section is open to any product or material.

END SECTION 11 67 00

11 68 00 Play Field Equipment and Structures - August 14, 2006

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Coordinate with Jefferson County School District, R-1 Purchasing Department.
- In the absence of other information, standards of the following organizations apply:
 1. United States Consumer Product Safety Commission (CPSC) Handbook for Public Playground Safety
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. IPEMA certification is required for each individual component.
 4. Closeout:
 - a. Submittals listed above, updated to record status.

- Playground Equipment and Play Structures
 1. Prohibited:
 - a. Elevations higher than 9 feet 0 inches
 - b. Wood components
 - c. Poly-rope components
 - d. Whirl/merry-go-round
 - e. Truck, pulley, cable devices
 - f. See-saw
- Soccer Goal
 1. Removable steel with safety type covers for sleeves
 2. Set sleeves in concrete 1 inch (minimum) below finish grade level
- Tennis net: Fabric with concealed take up mechanism
- Outdoor basketball backstop
 1. 4 foot cantilever type set in concreted sleeves
 2. Chain net

END SECTION 11 68 00

11 82 00 Solid Waste Handling Equipment - August 14, 2006

- Work in this section is open to any product or material.
- Except as itemized in the General Conditions, work in this section is excluded from the General Contract for Construction.
- Bins, Dumpsters:
 1. Dumpsters for School District are provided by the Waste Disposal Contractor.
 2. Dumpsters needed to comply with the clean up requirements of the General Conditions are the responsibility of the Contractor.
- Waste Compactors and Destructors: Prohibited

END SECTION 11 82 00

11 90 00 Other Equipment - August 10, 2007

- Work in this section is restricted to specific products of specific manufacturers that have been previously approved and listed by Jefferson County Public School District Facilities Services Department.
- Electric Kiln and Exhaust
 1. For proper coordination of electrical, mechanical, and code issues, Electric Kilns and exhausts are included in the General Contract for Construction.
 2. Skutt KM-1027 kiln with Envirovent-2 exhaust
 - a. 208V single phase or three phase hard wired electrical connection
 - b. Include manufacturer's standard "furniture kit" that includes shelves
 3. Also see Data, Communications and Alarm Diagram (DCAD)
 4. Kiln installations and relocations are subject to permit and inspection procedures of the Colorado Department of Labor, Public Safety Section.
- Gas Fired Kiln and Exhaust
 1. Gas Kilns and exhausts are included in the General Contract for Construction.

2. Located in secured, outdoor enclosures
3. Cooperworks CWD-16F with Honeywell Electronic ignition, high limit digital controller and pyrometer
 - a. 16 cubic foot capacity
 - b. Two high efficiency forced air burners @ 170,000 BTU
 - c. Electronic ignition
 - d. Front loading
 - e. Ceramic fiber lined
 - f. Down draft design
 - g. Center pivot door
 - h. Kiln furniture package
4. Cooperworks CWH full coverage exhaust hood
5. Also see Data, Communications and Alarm Diagram (DCAD).
6. For the purposes of code compliance, gas fired kilns are considered “boilers”.
7. Kiln installations and relocations are subject to permit and inspection procedures of the Colorado Department of Labor, Public Safety Section.
8. Site fabricated gas fired kilns are prohibited

END SECTION 11 90 00