

## **DIVISION 1 - GENERAL REQUIREMENTS**

### **A. INTRODUCTION**

The purpose of this guide is to provide both general and specific direction to Contractors, Architects, and Consultants for the design and construction of all District facility improvements. It is not intended to limit the use of quality materials, products, or processes nor is it intended to limit creative design or functional and economical solutions, however, any deviations from this guide will require written approval from the District Project Manager (COTR). It is intended to establish continuity of quality and product consistency throughout all school district buildings. Should any item contained in this guide be contradictory to current building codes and practices, it is the responsibility of the Architect, Consultant, or Contractor to inform the Owner of such item(s) and provide information on alternatives.

All proposed design solutions and specified materials for District facilities should provide a response to the following needs:

1. Safety and security for staff, students, and the general public
2. Reduction of life-cycle costs
3. Creation of economical design solutions
4. Ease of maintenance and reduction of maintenance cost
5. Creation of flexible functional spaces
6. Reduction of natural resource consumption
7. Conformance with the spirit and letter of the Americans with Disabilities Act (ADA)

The Architect should carefully analyze all products and construction methods to provide consistent quality and workmanship throughout the entire project.

### **B. DEFINITIONS AND RESPONSIBILITY**

1. **District 11, District, CSSD #11, or Owner:** The terms District 11, District, CSSD #11, or Owner shall mean Colorado Springs School District 11. The School District's responsibility will include overall contract administration for design and construction contracts, participation in plan and specification development, facilitation of internal design and specification reviews, attendance of conferences with regulatory agencies, attendance of scheduled project meetings, and provision of all available site and building "as-built" documentation. If applicable to the project, the District will furnish the following additional services or information:
  - a. Site Survey: Upon receipt of a specific request from the Architect, the Owner will provide a site survey or select and contract directly with a Consultant to provide one.
  - b. Soils Test: For new construction or additions, Owner will provide a soils report or select and contract directly with a Colorado registered soils engineering firm to provide one.
  - c. Off-Site Paving and Utilities: Upon receipt of a specific request from the Architect, the Owner will collaborate with Architect for preparation of applications for applicable development fees and design and contracting for off-site improvements.
2. **Owner's Representative/District Project Manager (COTR):** The Owner's Representative (COTR) is a specifically identified manager or other individual whose responsibilities include project oversight and administration for each specific project including but not limited to provision of technical direction, inspection and acceptance of work, and review and recommendation for payment processing to the Contracting Officer. The Owner's Representative is designated as the "COTR" (Contracting Officer's

Technical Representative) in all District contracts. The COTR designated in the contract is the District's primary point of contact for a designated project and the gate keeper for all technical, design, and contract correspondence. The COTR works closely with the Contracting Officer, Administrative Contracting Officer, and other District personnel to facilitate all project management duties. Contractors, Architects, and other Consultants are not to take direction from Principals, Teachers, Custodians, Maintenance staff members, or any other District employee or representative not directly charged with administration of the construction contract and designated as the COTR.

3. **Contracting Officer (CO):** The only individual(s) warranted by the Colorado Springs School District No.11 to enter into agreements and contracts; to handle matters of contract administration at all levels including: interpreting and implementing contract terms and conditions; issuance of change orders, negotiation of contract modification, and determination of equitable adjustments; managing claims or other requests for adjustment; approving contract schedule changes, issuing cure notices, executing liquidated damages; monitoring progress payments, approving final acceptance and payment; maintaining the official contract file and such other matters of a contract administration nature necessary to facilitate the District's requirements to complete the contract on time and within the budget. The contracting officer has unlimited signature authority.
4. **Administrative Contracting Officer (ACO):** An individual warranted by the Colorado Springs School District No. 11 to handle matters of contract administration up to and including \$100,000. This authority includes interpreting and implementing contract terms and conditions; issuance of change orders, negotiation of contract modification, and determination of equitable adjustments; approving contract schedule changes, monitoring progress payments; and such other matters of a contract administration nature necessary to facilitate the District's requirements to complete the contract on time and within the budget.
5. **Architect:** Architect is the architectural firm employed by the Owner to complete Schematic Design, Design Development, Construction Documents and Construction phases of any new school or additions, and alterations to existing schools or other work as defined by contract.
6. **Consultant:** Any other professional service provider who has been contracted directly through Owner or indirectly through Architect or Contractor to provide specific professional services for the District including but not limited to Engineers, Surveyors, or testing agencies.
7. **Contractor/Officer:** The terms Contractor and Offeror shall be construed to mean the Vendor, Consultant, Architect, Supplier, Firm, Partnership, or Individual Party contracting with the District to provide any product or service. Contractor's responsibility includes provision of quality work as defined and specified in the Contract Documents.
8. **Safety Inspection Branch:** The Colorado Division of Labor and Employment, Public Safety Section, has sole jurisdiction for approval of all school buildings in the District. The Architect is responsible for compliance with all applicable codes and coordination with the Public Safety Section Office. Per the request of CSSD #11, The State of Colorado Department of Labor and Employment, Public Safety Section has granted plan review and inspection authority for building and mechanical systems to the Pikes Peak Regional Building Department (PPRBD). Plumbing, Electrical, and Boiler permits and inspections must still be coordinated through the State Department. Other codes and jurisdictions to be observed and followed include:
  - a. State of Colorado and County Sanitation codes
  - b. International Energy Conservation Code
  - c. International Plumbing Code
  - d. International Mechanical Code
  - e. Colorado Department of Labor and Employment regulations
  - f. ASHRAE 90.1-current version
  - g. International Building Code

- h. Colorado State Boiler Code
- i. Colorado Department of Health Regulations
- j. NFPA 13 Standards
- k. International Fire Code
- l. Local Codes or standards as applicable; including Fire, utility regulations, etc.
- m. EPA Storm Water Phase II regulations
- n. Americans with Disabilities Act

## C. BUILDING SAFETY, SECURITY, MAINTENANCE, AND GENERAL DESIGN GUIDELINES

### 1. Exterior:

- a. Use hard, durable, low-maintenance materials such as brick, block, or concrete panels for exterior walls of buildings. Minimum parapet height should be 14" above finish grade.
- b. Utilize security lighting and break-resistant materials in high-risk areas such as building entrances. Security lighting should be of the vandal-proof type. Lighting designs should minimize off-site "light pollution."
- c. Exterior stairs to below-grade entrances shall be fully enclosed and have a door at grade level.
- d. Provide non-slip easily maintained surfaces on all stairways and ramps.
- e. Avoid steps to building entrances. Plan grades surrounding building to provide gradual elevation changes and utilize ramps rather than steps when possible.
- f. Make all new buildings or additions fully accessible to the handicapped. Provide ADA door operators at main entrance.
- g. Avoid projecting elements on exterior walls that would allow scaling walls for access to roof or that would project into any potential walkways.
- h. All concrete walking surfaces shall be non-slip (broom finish).
- i. Consider solar techniques in building orientation and mechanics to reduce energy costs.
- j. To reduce vandalism, avoid using windows or window walls in areas that are screened from public streets.
- k. Glass below 3'-0" from finish grade is discouraged.
- l. Incorporate use of soft landscaping materials ("breeze") and avoid use of stones, boulders, and similar materials in landscapes. Mulches must be established to resist wind erosion, and should avoid use of mats.

### 2. Interior:

- a. Masonry or other durable material partitions are desirable in all heavy use areas including gymnasium, cafeterias, all-purpose rooms, corridors, public toilets, and kitchen areas. If budget will not cover masonry, the use of impact-resistant drywall may be considered for these areas.
- b. Use bull-nose block for all vertical corners exposed on unit masonry partitions.
- c. Provide abrasive nosings on all stairs and non-slip easily maintained surface on all stairs and ramps.
- d. Rise and run of stairs shall be properly proportioned and shall meet tolerance requirements of building codes. Stair risers in elementary schools shall not exceed 6-1/2".
- e. Maintain adequate plenum space for proposed mechanical, electrical, plumbing, and fire suppression systems to further include +/- additional 4" space for future modifications.
- f. Maintain minimum 9'-0" ceiling height for all areas of all buildings.
- g. Provide acoustical separation or sound insulation of some form around music rooms, restrooms, conference rooms, and other areas where noise or confidentiality may be of concern.

- h. Mechanical access for terminal heating, VAV, and similar space conditioning systems should be located in hallways (not within the classroom or office) whenever possible for access without disrupting the occupied area.
  - i. Design team shall coordinate with Owner and Owners Tele/Data Vendor to provide adequate space for CP boxes and other data requirements.
  - j. Provide roof hatch and ladder from inside of building.
  - k. Ease of maintenance and availability of materials should be taken into consideration for all space planning and material selections.
  - l. Care should be taken to minimize creation of “special purpose” rooms. Although there may be a need for some special functional spaces, flexibility and future conversion to other uses should always be taken into consideration.
  - m. Room numbering must be reviewed and approved by CSSD#11 prior to publishing plans.
3. Preferred Finishes and Materials (listed in order of preference):
- a. Gymnasium, cafeterias, all-purpose rooms, corridors, public toilets, and kitchen areas:
    - i. Concrete block with epoxy or latex enamel finish
    - ii. Painted impact-resistant drywall may be considered
  - b. Classroom Walls:
    - i. Standard painted drywall
    - ii. Concrete block w/ latex enamel finish
  - c. Kitchen Walls:
    - i. Fiber Reinforced Panels (FRP) over drywall
    - ii. Enamel on concrete block
  - d. Restroom Walls:
    - i. Enamel on concrete block
    - ii. Fiber Reinforced Panels (FRP) over drywall
  - e. Office Walls:
    - i. Standard painted drywall
    - ii. Concrete block w/ latex enamel finish
  - f. Exterior Walls:
    - i. Concrete block integral color
    - ii. Concrete block Painted
    - iii. Brick masonry
    - iv. Standard two-coat stucco systems may be considered (EIFS not permitted)

D. GENERAL DRAWING GUIDELINES:

- 1. Drawing Standards:
  - a. Electronic Media Standards: Consultant plans shall be drawn using AutoCAD 2004 or if newer version, it must be saved as AutoCAD 2004, using methods intended to maximize translation, use and archiving by the District, and utilizing only those programs and elements available in the manufacturer base line package. All drawing files shall be “.dwg” format and shall include all “x-ref” files and custom fonts used for reproduction. Encrypted data, after market programs, 3D elements, etc. which inhibits the reading or use by the District shall be prohibited. Consultant may also be asked to deliver drawings and specifications to Owner as .pdf files for plan review or use as electronic contract documents.

- b. Standard symbols and North arrow shall be used on all drawings. Include a standard symbol legend on the first sheet of architectural, structural, mechanical and electrical drawings. Room and door numbering systems shall be used and shown on legends. All rooms, spaces, and corridors shall be given a number on the drawings. Column lines shall be shown and identified on all plan drawings, including architectural, structural, mechanical and electrical. Attention should be given to the existing room numbering schemes and extension to the numbering system should be a logical sequence that anticipates future additions. CSSD #11 maintains current updated floor plans with correct enumeration in the Archives Office. Architects and other Consultants performing design work for CSSD #11 shall obtain and utilize current updated enumeration plans from the District when creating new project record documents. Room numbers must be reviewed and accepted by CSSD #11 prior to publishing final construction documents.
- c. Dimensions shall be complete, accurate, and fully coordinated. Dimensions shall be laid out to points easily located in the field. Additional costs resulting from dimensional errors are chargeable to the Consultant.
- d. Paper sheet sizes for full-size scaled printed drawings shall not be less than 24" x 36" or greater than 30" x 42".
- e. Suggested scales for architectural work:
  - i. Floor Plans, Interior & Exterior Elevations, and Building Sections: 1/8" or 1/4" = 1'-0"
  - ii. Roof Plans 1/8" or 1/16" = 1'-0"
  - iii. Wall Sections 1/2" or 3/4" = 1'-0"
  - iv. Stair Sections 3/8" or 1/2" = 1'-0"
  - v. Details 3/4" = 1'-0" or larger

*The overall floor plans may be drawn 1/8" = 1'0" scale. In this case, detail plans at 1/4" = 1'0" should be drawn for all-important areas to show fixtures, equipment and complete dimensions. In all cases, plans should be created at a scale that is legible at one-half reduction.*

- f. If the plan for a single floor is shown on more than one sheet, each sheet should have a key plan in an obvious location with a shaded portion to show the area detailed on that sheet. Key plan should also be used on structural, mechanical and electrical sheets.
  - g. All final drawings and the cover sheet of the specifications shall carry the same date and name of the project. Final sets of drawings and specifications shall be numbered consecutively and shall indicate revision dates for changes or addendum as applicable.
2. Schematic Designs: Schematic design drawings should have enough information and detail to communicate and evaluate proposed design concepts and adequate information and detail for Architect, Owner, and/or Contractor to prepare realistic budgetary cost estimates with enough cost detail to assess whether project can be completed within Owner's budget as schematically proposed or if significant design modifications will be necessary to "design to budget". Expected provisions for schematic design drawings include but are not limited to the following:

Site Plans:

- a. Scaled site plan indicating location of existing and proposed structures
- b. Indication of proposed parking and student drop-off areas including curb locations, sidewalks, etc.
- c. Indication of proposed "hardscape" areas and proposed material surfaces
- d. Proposed location/quantity/height of any exterior steps, retaining walls, etc.
- e. Indication of proposed site utility connections

Architectural

- a. Demolition plan (if applicable)
- b. Scaled floor plans for all areas including proposed restroom fixture layout(s), corridor/exiting plans, approximate placement of doors and proposed room entry details – ie. Recessed openings, wing walls, etc.
- c. Indication of wall type for new partitions
- d. Indication of proposed interior glass and type of glazing system
- e. Indication of size, location, and type of exterior window glazing
- f. Indication of quantity and layout for proposed built-in cabinets/casework
- g. Provide a narrative description of any special or unusual proposed items or finishes
- h. Provide scaled exterior elevations indicating proposed windows and exterior materials
- i. Schematic Building Section indicating proposed materials, wall/ceiling heights, and any unique architectural concepts

Structural

- a. Anticipated foundation wall section for perimeter walls
- b. Approximate location, quantity, and size of proposed column pads
- c. Anticipated column locations and structural framing plans
- d. Indication of any unique or unusual components which may have severe cost or lead time impacts on the project

Mechanical

- a. Indication of proposed major system components (heat pumps, unit ventilators, RTU's, condenser units, etc. – ideally in the form of an equipment schedule.
- b. Indication of proposed locations for HVAC equipment.
- c. One line layout of all proposed HVAC and plumbing systems.
- d. Cut sheets for proposed equipment
- e. A narrative statement may be acceptable, subject to approval of the COTR, so long as it adequately describes all above requirements, however, schematic drawing and equipment schedule is preferred.

Electrical

- a. Sample electrical plan for a typical classroom indicating quantity and type of electrical devices – should include proposed number/placement of outlets, type of lighting, type of lighting controls (switches, dimmers, timers, etc.)
- b. Sample electrical plan for a typical office indicating quantity and type of electrical devices – should include proposed number/placement of outlets, type of lighting, type of lighting controls, etc.
- c. Indication of lighting type/quantity for all proposed exterior lighting
- d. Indication of lighting type/quantity for building common areas (corridors/cafeteria/entry lobby, etc.)

Fire Protection

- a. Locations & density of code coverage areas
  - b. Identification of any freeze protection areas
  - c. Identification of water design pressures
  - d. Proposed service entry location
3. Design Development Drawings: Design development drawings should have enough information and detail to further communicate and evaluate proposed design concepts and confirm that proposed design will meet Owner's goals and requirements. Floor plans and elevations should be essentially complete and adequately dimensioned such that they become "base plans" for continuation of structural, mechanical, and electrical design progress. Design development drawings should have enough plan detail and product information for

Architect, Owner, and/or Contractor to prepare realistic design-development cost estimate that could essentially be accepted as a GMP (Guaranteed Maximum Price) for project as mutually agreed by Owner, Architect, and Contractor. Expected provisions for schematic design drawings include but are not limited to the following.

Site Plans:

- a. Scaled site plan indicating location of existing and proposed structures
- b. Fully scaled proposed parking and student drop-off areas including proposed curb locations, proposed sidewalks, etc.
- c. Definition and size of proposed “hardscape” areas and proposed material surfaces
- d. Proposed location/quantity/height/materials for any exterior steps, retaining walls, etc.
- e. Scaled location and details for proposed site utility connections

Architectural

- a. Demolition plan indicating extent of all items to be removed
- b. Essentially complete floor plans which can be utilized “as submitted and approved at design/development stage” for use as base plans for completing structural, mechanical, and electrical design drawings without significant change or modification to base plans
- c. Indication of wall type for new partitions
- d. Provision of a reflected ceiling plan
- e. Indication of proposed interior glass and type of glazing system
- f. Indication of size, location, and type of exterior window glazing
- g. Indication of quantity and layout for proposed built-in cabinets and other casework with enough elevation detail to show number of proposed individual boxes, doors, and drawers
- h. Fully define any special or unusual proposed items or finishes
- i. Provide scaled exterior elevations indicating proposed windows and exterior materials
- j. Schematic Building Section indicating proposed materials, wall/ceiling heights, and any unique architectural concepts

Structural

- a. Anticipated foundation wall section for perimeter walls including proposed reinforcement
- b. Approximate location, quantity, and size of proposed column pads including proposed reinforcement
- c. Provision of final column locations and structural framing plans which can be utilized “as submitted and approved at design/development stage” for use as base plans for completing mechanical and electrical design drawings without significant change or modification to base plans
- d. Indication of any unique or unusual components which may have severe cost or lead time impacts on the project

Mechanical

- a. Specification and quantity for proposed major system components (heat pumps, unit ventilators, RTU’s, condenser units, etc. – ideally in the form of an equipment schedule.
- b. Scaled plan indicating proposed locations for all HVAC equipment.
- c. Scaled plan indicating proposed location and size of main supply and return air distribution ductwork.
- d. One line layout of all proposed plumbing systems and plumbing fixture schedule
- e. Cut sheets for proposed equipment

Electrical

- a. Lighting plan for entire facility (interior and exterior) indicating proposed layout, quantity of fixtures, and proposed fixture types
- b. Power/device plan for entire facility indicating quantity of switches, outlets, data drops, etc.
- c. Proposed distribution panel locations
- d. Proposed service size

Fire Protection

- a. Locations of proposed main distribution lines
  - b. Proposed coverage/head spacing/quantity and type of sprinkler heads
  - c. Identification of any freeze protection areas
  - d. Identification of water design pressures
  - e. Proposed service entry location
4. Final Construction Documents: Final construction documents shall be 100% complete and ready for use by Owner as contract documents. Drawings shall be fully coordinated among the various trades and with the specifications. Final construction documents shall contain all information required for plan review by any applicable plan review authority including but not limited to Colorado Springs Planning Department, City of Colorado Springs Engineering Departments, Colorado Springs Fire Department, Pikes Peak Regional Building Department, El Paso County Health Department, and the Colorado State Department of Labor and Employment, Public Safety Section.

E. SPECIFICATIONS AND PROJECT MANUAL

1. Format.
  - a. The primary purpose of the specifications is to state the minimum acceptable requirement for all materials and equipment incorporated into a project. Materials and equipment which are based on Federal Specifications, ASTM Standards, National Bureau of Standards, or other organizations are to be identified by specific type, grade, and class. If such references are used, copies of the standards shall be made available to the Owner and Contractor, by the Architect.
  - b. Correlate the specifications with the drawings, bid form, and the General Conditions. Crosscheck between general, architectural, structural, mechanical, and electrical parts of the specifications.
  - c. Specifications shall be specifically tailored to each project but shall incorporate District standards identified in this document.
  - d. Cover shall be printed so the project name and address match exactly the same information on drawing title blocks and in bid documents. Date on specifications must be same as date on drawings.
  - e. Final copies of specifications shall be on 8-1/2" x 11" paper; assembled and bound. Provide all specifications in electronic format (Word and PDF).
  - f. CSI standard format shall be used for all technical divisions of the specification and any required addendum.
  - g. A table of contents shall be provided at the front of the specifications indicating division and section numbers and pages. Paragraphs and subparagraphs should be numbered and lettered for easy reference. Sections of the specifications shall be included in the following order:
    - i. Cover Sheet Prepared by Architect
    - ii. Title Sheet Prepared by Architect
    - iii. Table of Contents Prepared by Architect
    - iv. Instructions to Bidders & Bid Forms Furnished by District
    - v. Contract Forms Furnished by District
    - vi. General Conditions Prepared by Architect

- vii. Supplementary General Conditions Prepared by Architect
- viii. Technical Sections Prepared by Architect
- h. Each page of each technical section shall be numbered with the number of the division and page, or the Section number and page.
- i. Shop drawings and product data shall be called for as applicable under each division of the specifications.

2. General Conditions:

- a. Use AIA documents as a standard.
- b. Edit all specification divisions to eliminate conflicts with the standard General Conditions.
- c. Any changes from the standard General Conditions required to meet the requirements of this project shall be included in the Supplementary General Conditions and all such changes shall be submitted in writing to the District for written approval.

#### F. ALTERNATES

Design Consultants and Contractors are encouraged to propose any alternates which may provide better value to the project. Alternates (if any) shall be identified in plans and specifications and shall be noted in a manner that clearly designates the related scope as a separate item from the base contract scope requirements. It should be specifically noted whether alternate is anticipated to add or deduct from the base bid amount. All alternates must be approved by COTR prior to issuance of final contract documents.

#### G. COST ESTIMATES

CSI standard divisions and sections shall serve as the basis for cost estimates provided by Design Professionals or Contractors as per terms of contract agreement. When required, line item cost entries shall be developed for each section and scope item identified in the accompanying Schematic Design, Design Development, and Complete Construction Document phases.

#### H. CONSTRUCTION ADMINISTRATION AND CLOSEOUT REQUIREMENTS

This Section includes requirements for overall contract administration including pre-construction, construction, and post-construction submittals and closeout documents.

Contractors, Architects, Engineers, Commissioning Agents, and all other Facilities Construction or Professional Service Providers shall review and comply with the administrative requirements noted in the Request for Proposal (RFP) or other form of Contract Solicitation issued by Colorado Springs School District 11 specific to each project.

Architects and Engineers creating project manuals for specific District projects shall review all District requirements for General Conditions, Submittals, Closeout Documents, and other contract administration requirements and assure that there are NO CONFLICTS with any information printed in the project manual or other construction documents.

The terms and conditions stated in the Request for Proposal (RFP) or other form of solicitation issued by Colorado Springs School District 11 shall always supplement and supersede any terms, procedures, etc. noted in this document. In addition to all other contract administration requirements noted in the project solicitation, Contractors and Design Professionals providing service to CSSD #11 shall prepare and provide closeout documents as follows:

- 1. Operation and Maintenance Manuals

- Operation manuals for systems, subsystems, and equipment.
  - Maintenance manuals for the care and maintenance of systems and equipment.
  - Product Identification and Information
- a. Submittals: Contractors shall be required to submit one (1) electronic copy and two (2) hard copies of Operation & Maintenance manuals for all projects completed for Colorado Springs School District 11. Manuals provided will be reviewed for completeness and accuracy by District personnel, Commissioning Agents, Architects, and/or Engineers as applicable.
- b. Manuals, General
- i. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain a title page, table of contents, and manual contents.
  - ii. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
    - 1. Subject matter included in manual.
    - 2. Name and address of Project.
    - 3. Name and address of Owner.
    - 4. List of Subcontractors with contact information
    - 5. Date of submittal.
    - 6. Name, address, and telephone number of Contractor.
    - 7. Name and address of Engineer.
    - 8. Cross-reference to related systems in other operation and maintenance manuals.
  - iii. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
  - iv. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
    - 1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2" x 11" paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
    - 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
    - 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
    - 4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
      - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

- b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.
- c. Operation & Maintenance Manuals
  - i. Content: In addition to requirements in this Section, include operation and maintenance data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, equipment tags, wiring and control diagrams, and license requirements.
  - ii. Descriptions: Include the following:
    - 1. Product name and model number.
    - 2. Manufacturer's name.
    - 3. Equipment identification with serial number of each component.
    - 4. Equipment function.
    - 5. Operating characteristics.
    - 6. Limiting conditions.
    - 7. Performance curves.
    - 8. Engineering data and tests.
    - 9. Complete nomenclature and number of replacement parts.
  - iv. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.
  - v. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
  - vi. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.
- d. Product Identification and Information
  - i. Content: Provide copies of all approved submittals and product information bearing the signature or other indication of product approval from the Architect, Engineer, and/or Owner. Organize manual into a separate section for each product, material, and finish. Include source information, product information, approved submittal data, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
  - ii. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list; name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
  - iii. Product Information: Include the following, as applicable:
    - 1. Product name and model number.
    - 2. Manufacturer's name.
    - 3. Color, pattern, and texture.
    - 4. Material and chemical composition.
    - 5. Reordering information for specially manufactured products.
    - 6. Copy of approved submittal.

- e. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.
  - f. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
2. Record Drawings
- a. Record Drawings General: Contractors shall be responsible for maintaining one original copy of the Contract Drawings, Specification Manual, and Shop drawings at the project site and shall further be responsible for “red-lining” and submitting one complete set of all contract documents indicating actual field conditions, measurements, or any other installation variations. Design Professionals shall be responsible for reviewing and validating record documents provided by Contractors and shall further be responsible for creating and delivering an electronic copy of same to Owner for all projects.
  - b. Electronic Media Requirements: Construction documents and record drawings shall be created using AUTOCAD 2000-2004 or, if newer version, saved as AUTOCAD 2004 using methods intended to maximize translation, use and archiving by Owner, and utilizing only those programs and elements available in the manufacturer base line package.
  - c. Submittal Requirements: As-built drawing files shall be delivered to the District, after construction is complete, in hard copy form AND in electronic form on CD's clearly marked “AS-BUILTS” or “RECORD DRAWINGS” and shall not be backed up or compressed. Electronic files shall be delivered in both “dwg” and “pdf” formats and shall include all “x-ref” files and custom fonts used for reproduction. Encrypted data, after market programs, 3-D elements, etc. which inhibits the reading or use by Owner shall be prohibited
  - d. Preparation: Mark record prints to show actual installation where method or result varies from original design. Require individual or entity who obtained record data to prepare the marked-up record prints.
  - e. Give particular attention to information on concealed elements that would be difficult to identify, measure, or record at a later time.
  - f. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed conditions.
  - g. Note construction change directives including addendums, ASI's, change orders, etc.
  - h. Mark the contract drawings or shop drawings, whichever is most capable of showing actual physical conditions completely and accurately. If shop drawings are marked, show cross-reference to contract documents.
3. Warranties
- a. Manufacturer's Warranties
    - i. Copies of Manufacturer's extended warranties shall be included in the O&M Manuals as applicable.
    - ii. At least ONE (1) signed original document of Manufacturer's extended warranty for each applicable piece or type of mechanical equipment shall be provided to Owner upon project completion. Original warranty documents shall bear the signature of an Officer of the Corporation issuing the warranty and shall be notarized by a certified public notary. Copied warranty documents are not acceptable.
  - b. Contractor Warranties

Contractors and Subcontractors performing work for CSSD #11 shall provide a minimum one (1) year full service warranty for all products and workmanship related to the Contract under which work is performed unless otherwise noted in the Contract Documents. Contractors and Subcontractors shall provide a written statement of warranty on their Company letterhead, signed by an Officer of the Company specifically referencing the name and location of the project, contract number, and duration of the warranty which should begin upon the date of substantial completion as documented by the Owner unless otherwise agreed.

c. Warranty Performance Requirements

If, in the determination of the Owner or the Architect or Engineer acting on behalf of the Owner, certain items of equipment or components of a system are faulty and need repair or replacement during the warranty period, it shall be the responsibility of the Contractor to repair or replace such items at no cost to the Owner.

I. REGULATORY REQUIREMENTS

All Contractors and Design Professionals providing Design and/or Construction Services for Colorado Springs School District 11 shall specify, design, and install site improvements, structural components, building products, building systems, mechanical systems, and electrical systems in accordance with the latest published and adopted editions of building and safety codes and ordinances from the following agencies:

1. International Building Code
2. International Fire Code
3. International Plumbing Code
4. International Mechanical Code
5. National Electric Code (NFPA 70)
6. National Energy Conservation Code
7. ANSI/ASME – A17.1 Safety Code for Elevators & Escalators
8. International Fuel Gas Code
9. Colorado Department of Health Regulations
10. Colorado State Boiler Code
11. Colorado Department of Labor & Employment Regulations
12. City of Colorado Springs Fire Department

J. COMMISSIONING

This section is to be included in future revisions.

All products and procedures referenced in this document are believed to meet or exceed the requirements of the regulatory agencies noted above as of the date of this document publication. In many cases, Colorado Springs School District 11 requirements noted herein exceed the minimum requirements stated in the above publications. When District requirements exceed code requirements, Contractors and Design Professionals shall incorporate, provide, and install system components as noted herein providing that District requirements meet applicable code requirements. In all cases, Contractors and Design Professionals shall be responsible for provision of products, facilities, and services that meet all applicable code requirements.

<<<<END OF DIVISION 1>>>>