Chapter 11
SPECIFICATIONS

1101 - GENERAL REQUIREMENTS

The Consultant shall provide complete specifications for all Projects in the Project Manual. Specifications shall include all Technical Specifications and criteria required to construct or prepare design/build proposals to construct the Project, including General Requirements, Detail Specifications, product data sheets (if required), finish/room schedules, door schedules, equipment schedules, hardware schedules, fixture schedules and other appropriate schedules, tables, figures and charts.

The Project Manager and Consultant will jointly prepare Division 01 - General Requirements as noted below. The Consultant shall be responsible for preparing Divisions 02 through 49 – Detail Specifications.

Follow the recommendations and three-part style of the Construction Specification Institute (CSI) Manual. Divide the specifications according to the six-digit section numbers of CSI MasterFormat 2004. Typical CSU projects will involve Divisions 02 through 33. Occasionally, projects may involve Divisions 34 - 49.

Do not include excess information not related to the scope of work.

1102 - STANDARD TEXT ELEMENTS

Required Identification: Each page of the specifications shall bear the following identifying information:

- Colorado State University
- CSU project name
- CSU project number
- CSI section name
- CSI section number
- Project phase
- Section page number
- Issue date.

Preferred Format: 8-1/2” x 11” page, two-sided printing. Use of the following format is preferred for all design disciplines.

Margins: Top and bottom margin, 0.5 inches, 0.0 Gutter, 0.5 inches Header and Footer margins. Left and Right Margins 1.0 inch.

Typeface and Line Spacing: Print text in 10 pt. Arial normal type with 10 pt. Bold Section Titles in upper case. Line spacing is single space unless specified otherwise.

Indent / Tab Set: Use indents, not space or tabs for paragraph indents. Set indent / tab at 0.5” max.

Header: Margins 1” left and right. Typeface 8 pt. upper case Arial bold

| Line 1: | Flush left | “TECHNICAL SPECIFICATIONS – VOLUME 1” (if multiple volumes) |
| Line 2: | Flush right: | “COLORADO STATE UNIVERSITY” |
| Line 2: | Flush left: | CSI Division number and name |
| Line 2: | Flush right: | CSU Project Name |
| Line 3: | Flush left: | CSI Section number and Section Name |
| Line 3: | Flush right: | CSU Project Number |

Provide a bottom border followed by an 8 pt. line return at the bottom of the header.
1103 - TABLE OF CONTENTS, SECTION TITLES AND PAGINATION

Table of Contents: Each volume of specifications shall begin with a single spaced Table of Contents. “TABLE OF CONTENTS” shall appear in the left header and “TOC” in the footer.

Page Numbers: Number pages in each section beginning with section number and hyphenated page number. Restart page numbering at each section.

Pagination: Each section shall begin on a new odd (right hand) page.

Section Title: 10 pt. upper case Arial Bold at beginning of the first page of the section. Section number, followed by a hyphen and section title, as demonstrated below.

Recommended Text Format: Construction Specification Institute style, as demonstrated below.

09 51 00 – ACOUSTICAL CEILINGS

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Ceiling Type C4.4

1. Tile: White mineral lay-in boards, 24” x 48”, 5/8” thick, square edge, NRC rating .5- to .60, Class A fire rating.

   a. Acceptable Manufacturers:

      1.) Celotex Corporation

1104 SCHEDULE, TABLE AND CHARTS

Schedules and tables shall be provided and incorporated into the text as MS Word tables or embedded MS Excel spreadsheets. Figures and charts inserted as images or objects shall also be submitted as separate electronic files with descriptive names. Full page charts or tables immediately follow the page.
they illustrate. They may be either horizontal or vertical. Always allow 1 inch along the binding edge to assure legibility after reproduction and 3-hole punch. Identify tables and figures by section and number them in series (Table 080607.03)

**Index:** Provide indices of schedules, tables and charts immediately after the Table of Contents. Designate them as List of Tables and List of Figures in the page header and footer.

**Colored Paper:** Detailed schedules for windows, doors, hardware, room finishes and similar sets of multiple parameter building elements shall be printed on distinct colored paper and bound in the relevant section of the specifications. Hardware groups shall be printed on the same color paper as the related schedule.

**1105 NOMENCLATURE**

**Terminology:** Terminology used in all documents shall be in accordance with the terms established in the Standards and generally accepted throughout the industry and must be consistent throughout the documents. The Consultant and specification sub-consultant, if any, shall clarify the meaning of any terminology that may be ambiguous, convoluted or otherwise confusing due to unusual or nonstandard wording.

**Abbreviations:** Abbreviations shall be avoided unless listed and fully explained in Division 01 or within the specification section the abbreviation occurs.

**Generic Terms:** Generic terms shall be used throughout the documents, except that the names of manufacturers, trade names, and model numbers may be specified as described under “Detail Specifications” of this section.

**1106 DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS**

Division 00 in the specifications will include the Advertisement for Bids, Bidding Requirements, Instruction to Bidders, Proposal and Bond Forms, Contract Forms, General Conditions, Special Conditions and other such documents which CSU requires to complete this Division of Specification. Division 00 Bid Forms and Special Conditions will be prepared by the Project Manager with input from the Consultant in accordance with the guidelines and instructions furnished by the Project Manager.

**1107 DIVISION 01 – GENERAL REQUIREMENTS**

A Standard Draft Version Division 01 is not yet available as of January 2011. When published, the standard draft will form the basis of Division 01, to be prepared by the Consultant with input from the Project Manager.

<table>
<thead>
<tr>
<th>SECTION</th>
<th>TITLE</th>
<th>INCLUDES</th>
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<tbody>
<tr>
<td>01 10 00</td>
<td>Summary of Work</td>
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<tr>
<td>01 14 00</td>
<td>Work Restrictions</td>
<td></td>
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<tr>
<td>01 18 00</td>
<td>Utilities Interface</td>
<td></td>
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<tr>
<td>01 23 00</td>
<td>Alternates</td>
<td>Allowances, Unit Prices</td>
</tr>
<tr>
<td>01 25 00</td>
<td>Substitutions</td>
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</tr>
<tr>
<td>01 26 00</td>
<td>Contract Modification Procedures</td>
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<tr>
<td>01 29 00</td>
<td>Payment Procedures</td>
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<tr>
<td>01 31 00</td>
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<td>Project Meetings</td>
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<tr>
<td>01 32 00</td>
<td>Construction Progress Documentation</td>
<td>Schedules, Photographs</td>
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<tr>
<td>01 33 00</td>
<td>Submittal Procedures</td>
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<td>01 35 23</td>
<td>Safety</td>
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</tbody>
</table>
1108 DIVISIONS 02 THROUGH 49 - DETAIL SPECIFICATIONS

1108.1 General: The Detail Specifications describe specific project requirements and quality of materials, processes, and workmanship. This portion of Part II Specifications will include the following items, when applicable:

A. Names of manufacturers - minimum of three (3)
B. Trade names and model numbers of products
C. Type, grade, and quality of materials.
D. Alloy of metals
E. Type and grade of finishes
F. Physical properties
G. Required performance, tests, and submittal
H. Methods of fabrication
I. Methods of installation
J. Tolerances
K. Warrantees

1108.2 Sole Source Products and Materials: Specific, sole source or proprietary products or materials may be required by the CSU Construction Standards to maintain design continuity, engineering efficiency and ease of maintenance. These “required” products or materials must be confirmed in writing by the Project Manager. Specifications for these produces shall be annotated “NO SUBSTITUTION”.

1108.3 Redundancy: Care must be taken to assure that information contained in any section is not redundant, in conflict or at variance with General Conditions, Special Conditions, Detail Specifications or Drawings. To avoid conflicts, specification terminology shall not be used in annotation of the Drawings.

1108.4 Reference: Define the limits of the work described in each Section of the Detail Specifications by listing the other Sections where related work is specified.

1108.5 Industry Codes and Standards: Industry codes and standards may be referenced in the detail specifications in order to require compliance with these codes and standards. Such references shall not be used as a means to supersede the design indicated on the project drawings, and shall not take the place of a complete design. The Consultant shall have ready access to a current copy of all referenced codes and standards, and make it available for review in a timely manner and at no cost to the University upon request by the Project Manager.
1108.6 **CSU Construction Standards**: The specifications shall not contain any reference to compliance with the CSU Construction Standards by name. The Construction Standards are to be used as a guide to the design of a project and not as a contract document for construction.

1108.7 **Specifications Requirements Checklist (CSRC)**: Following each technical specification section, Divisions 2 thorough Division 33 (up to 49 as needed), the Consultant shall develop and place the Specifications Requirements Checklist, Table 1108.7-A. This checklist provides a quick reference for the requirements of the Project’s contract specifications. All specification requirements noted on the Specifications Requirements Checklist must be clearly defined and verbally describe within the text of that particular contract specification section.
Table 1108.7-A

|-------------|-------------------------|---------------|-------------|---------|-------|------------|-----------------|------------|--------------|---------------------|----------------|----------------|----------------------|-----------------|----------------|----------------------|----------------|-------------|----------------------|---------------|--------------|------------------------|------------|-----------------|------------------------|

**Specification Requirements Checklist Disclaimer:** This Contract Specifications Requirements Checklist (CSRC) is provided as a summary of the individual requirements for a contract specification section. It is not meant to be an all-inclusive listing of the contract specification requirements. In the event that a conflict exists between the CSRC and any part of the contract specification, the written requirements of the contract specification shall take precedence over the CSRC.

**Legend:**

1. **Item Number:** Assign each product called out in a specification, a numerical identifier, i.e. 1, 2, 3 etc.
2. **Specification Item Name:** Call out each product item in a specification, i.e., Face Brick, Flashing, Grout, Reinforcing, Doors, panic hardware, elevators, carpet, etc.
3. **Manufacturers Data:** Place a check (√) in the column if a manufacturers data submittal is required.
4. **Samples:** Place a check (√) in the column if manufacturer’s samples are required.
5. **Plans:** Place a check (√) in the column if plan views are required in the shop drawing submittal.
6. **Elevations:** Place a check (√) in the column if elevation views are required in the shop drawing submittal.
7. **Details. Calc. (Calculations):** Place a check (√) in the column if additional details and calculations are required in the shop drawing submittal.
8. **Eng. Stamp (Engineer’s):** Place a check (√) in the column if shop-drawing submittals are required to have an engineer’s stamp.
9. **Agency Review:** Place a check (√) in the column if an agency review is required, i.e. sign off for elevator installations, etc.
10. **Ops and Maint. Manuals (Operations and Maintenance Manuals):** Place a check (√) in the column if operations and maintenance manuals are required.
11. **Cert. by Manuf. (Certification by Manufacturer):** Place a check (√) in the column if the installer is required to be certified by the manufacturer of a product.

12. **Yrs. of Exp. Manuf. (Years of Experience of Manufacturer):** Place the number of years of experience a manufacturer must have in the manufacture of a product, i.e. 5, 10 (years), etc.

13. **Yrs. of Exp. Installer (Years of Experience of Installer):** Place the number of years of experience an installer must have in the installation of a product, i.e. 5, 10 (years), etc.

14. **System Warranty:** Place the number of years for the system warranty, i.e. 5, 10 (years) etc.

15. **Finish Warranty:** Place the number of years for the finishes warranty, i.e. 5, 10 (years) etc.

16. **Ind. Laboratory Test (Independent Laboratory Test):** Place a check (√) in the column if independent laboratory testing is required.

17. **Construction Testing:** Place a check (√) in the column if the Contractor must perform test in the field, i.e. flood testing a waterproofing system, etc.

18. **Testing Period:** Place the time required for the duration of the test, i.e. 1W = 1 week, 7D = 7 days, 1M = 1 month, etc.

19. **Pre-Installation Conference:** Place a check (√) in the column if a pre-installation / pre-work meeting is required.

20. **Mock Up:** Place a check (√) in the column if a site mock-up is required, i.e. masonry walls, precast panels, etc.

21. **Special Testing Requirements:** Note any special testing requirements. Notations are not necessary for code required testing, only testing specifically requested by the contract specifications.

22. **Maint. Contract (Maintenance Contract):** Place the number of years of the term for special maintenance service contracts, i.e. elevator / escalator maintenance.

23. **Overstock Materials:** Place in the column the amount the owner is to receive as overstock, i.e. square yards of carpet – 1000sqyd; boxes of floor tile - 20B = 20 boxes, etc.

24. **Training:** Place a check (√) in the column if the Contractor is to provide training to the Owner's personnel.

25. **Installed and Warranty by Installer outlined in other Spec Section:** Place the CSI specification section number for items that are specified in one section but the installation warranty is covered by another specification section, i.e. Section 088000 GLAZING, the products are specified in this section but the systems warranty is specified in SECTION 084113 ALUMINUM ENTRANCES AND STOREFRONT. In this instance, for products described in Section 088000 but warranted in Section 084113, place the spec number “084113” in the column associated with that product.

**END OF CHAPTER 11**