III. GENERAL GUIDELINES FOR WRITING AND EDITING SPECIFICATIONS (CSI)

FORMAT REQUIREMENTS

Prepare Specifications as recommended by the Construction Specification Institute's (CSI) Manual of Practice Master Format, including spacing, indentation, headings and general arrangement. Provide complete Technical Specification Index.

Specification Page Format:
1. **Page Size**: 8-1/2 inch x 11 inch
2. **Print (Font) Style and Size**: Times New Roman, Size 12 (text).
3. **Margins**: 1 inch left and 3/4 inch right, mirrored on the even pages if using double sided reproduction and binding
4. **Single-sided pages are required** (for reproduction to two-sided pages in bid document).
5. **Each Specification Section is to start with page one on the right hand side.**
6. **Footer**: Division and Section numbering and paragraph numbering shall be consistent with the CSI format. The section number and page is to be numbered at bottom. The words "End of Section" are to appear immediately below the end of text on the last page of each section. The consultant may place only the full consultant company name in the footer, on the far left side.
7. **Header**: Each specification page is to be identified by "University of Alaska Fairbanks", project title and project number (project name and number to be furnished by UAF Facilities Services) in the upper left hand corner. Each specification page is to be identified by Section Number and Section Title in the upper right hand corner.

Completed Specifications are to be provided in the form of a printed master copy (collated for two-sided reproduction) suitable for direct use by photocopy reproduction, and on disk compatible with Microsoft Word.

In addition to the format recommended by the CSI, the following items are set forth for emphasis:
1. **Do not repeat requirements** covered in the Instructions to Bidders, General Conditions, or Special Conditions in the specifications. This is to avoid conflict.
2. **Avoid duplication and conflict** between the various drawings and specifications sections.
3. **Specify items only once** and where needed reference to a specification rather than duplicating the same specification.
DIVISION 01

Certain Division 01 Sections are furnished by UAF Facilities Services. UAF Facilities Services is responsible for the final edit of these Sections, and the Consultant is responsible to ensure that the Technical Specifications conform with, and do not conflict with, these sections. Draft Division 01 Sections, to be finalized by the FS/DDC Project Manager during the development of bid documents, shall be provided to the consultant prior to any specification development. These are furnished to the Consultant for their use in ensuring conformance within the bid documents. Other required Division 1 Sections, are to be prepared by the Consultant, in consultation with the FS/DDC Project Manager.

SPECIAL INSPECTIONS

The consultant shall coordinate requirements for special inspections with the UAF FS/DDC Project Manager. Some inspection services are provided by Facilities Services and others shall be provided by the consultant or separate contract.

STYLES

Command Sentences

The CSI specifications use command type sentences extensively. All directives are assumed to be addressed to the Contractor (or in the case of design guidelines, any member of the design team). In a few instances it may be necessary to address other members of the construction team but these are exceptions. Note that no sentence begins with the tedious "The Contractor shall…” or "Except as otherwise directed…” or “the designer shall specify that the contractor shall…”

Verbs

The key to this style of writing is to make most sentences begin with a verb. Verbs are the action words of the English language and, when used, automatically require use of the active voice rather than the passive voice. These kinds of sentences tend to be shorter, clearer and more direct.

It would be difficult indeed to misunderstand a sentence such as, "Stake and flag locations of known utilities."

Better yet, avoid complete sentence structure by using an item description followed by a colon, followed by the requirement. E.g. “Data outlets: 6 per room.”

Useful Phrases

The CSI format and style lends itself well to brevity. Many of the sections consist of only phrases. Meaning can be conveyed without the need to write complete sentences. Again, this is the result of understanding that all sections are meant to be directives to the contractor, eliminating the need to repeatedly refer to him or her.

Other ways the CSI style helps is by defining several repetitious phrases up front. Examples include:
"as shown" which always means as shown on the plans, drawings, shop drawings or other graphical elements of the contract documents.

"as directed" always means as directed or ordered by the Owner, Architect or Engineer.

"as required" always means as required by some other part of the contract documents which may include reference specifications or manufacturer’s recommended practice.

Where a specification requires the Contractor to coordinate, verify, receive specific direction, etc, it is not uncommon to see the phrase “…with the Engineer” or “…with the Contracting Officer.” These phrases should be replaced in specifications with the phrase “…with the Owner.”

### Confusing and Unnecessary Phrases

Specifications all too often contain confusing phrases easily misunderstood or simply wasteful of everyone’s time. An example might be the phrase, “unless otherwise shown or directed”.

After reading this phrase, the typical bidder will immediately ask him or herself what it means. Does it mean there is some detail of the plans which is different than all the other similar details? Does it mean that the architect may arbitrarily require some construction different from that shown or specified? Does the bidder have to hunt through all the documents looking for such exceptions to the general rules? If the bidder doesn’t find the exception because there are no such exceptions, everyone’s time is wasted with unnecessary questions.

Phrases which create doubt in the mind of the bidder/contractor can cause confusion and usually lead to higher costs or requests for change orders later. In extreme cases they can lead to lawsuits.

### Prescriptive vs. Objective

Both kinds of specifications may be used on any particular project, although objective specifications should be favored.

### Prescriptive

Specifications which require not only that some work be done, but which also detail the means for accomplishing that work are prescriptive. Such specifications are appropriate in some cases, however. For example, the specifications for pressure testing a water main are usually written this way. The water supplier, in order to be consistent on all projects, will usually provide this test procedure. The procedure will ordinarily have been developed over many years and be pretty close to a standard.

Remember, however, that even when a prescriptive specification is used it is a good idea to avoid lengthy explanations and background information which is of no use to the contractor. You want to tell the Contractor what he is to do not why he is to do it. The latter tends to add "word weight" to the specifications without adding clarity.
Objective

Generally it is a good idea to give the contractor as much freedom as possible in performing the work. Doing so will almost always result in lower costs and good contractors can be very innovative in devising ways to get the work done. For this reason, it is a good idea to specify the results desired without dictating procedures. Most specification sections should be written this way.

PRODUCTS

The use of unusual materials or those not readily available on the local market shall be avoided without written approval of UAF Facilities Services. Where materials may not be well known, the name and address of either the manufacturer or local supplier(s) should be included in the Specifications. The Consultant is to verify that all products specified are of current manufacture. Consultants' record of time and date and written documentation as to the availability of the product or materials specified in conformance with the project schedule may be requested by the FS/DDC Project Manager or Facilities Engineer.

Alaska Products

Where practical, Alaska Products are to be specified pursuant to Alaska Product Preference requirements in AS 36.30 and AS 36.15.

Alternate Brands / Substitutions

As stated in the standard "Notice Of Invitation For Bids", the "University of Alaska has a procedure for accepting alternate products or systems prior to bid opening. Substitutions after award are limited." The intent is to establish the minimum quality of materials, and to effectively control the materials used in the actual construction, so that the University's needs are met and that the materials of construction presented by the Consultant during the design process, and reviewed by UAF Facilities Services, are placed in the work. The contractual procedures for the implementation process are given in the Instructions to Bidders and General Conditions.

The use of the term "or Equal" in the bid document specifications shall not be used. The Consultant is required (notwithstanding the requirement for specifying Alaska Products) to specify at least two (2) and preferably three (3) brand names as a standard for all materials and products specified, (exception - Case 5, Brand Name Only, see below). Products specified by reference standards, technical specifications, or by description will only be considered for special purposes and approval must be given as an exception to the Specification Standards.

CASE 1: Alternate Brand Request or Substitution Request not required: For commodities and materials, more typically of standard architectural materials, that are common and generic, and UAF Facilities Services has not developed a preference of manufacturers, then Part II of the technical specification shall state:
"Acceptable Manufacturers include, but are not limited to, the following:"

A. First Mfg identified by Consultant.
B. Second...
C. Third....
D. Any other manufacturer meeting the requirements of the contract documents. Alternate Brand Request or Substitution Request not required."

CASE 2: *Alternate Brand Request or Substitution Request required:* For materials, more typically of mechanical and electrical components, that UAF Facilities Services has not developed a preference of manufacturers, then the Consultant shall list at least three acceptable manufacturers in Part II of the technical specifications and shall state:

"Acceptable Manufacturers are limited to the following:

A. First Mfg identified by Consultant.
B. Second ...
C. Third ....
D. Alternate Brand Request or Substitution Request required .

CASE 3: *No substitutions:* When preferred manufacturers are listed in the Design Standards, it is UAF Facilities Services intent to not entertain substitutions. Therefore, the following statement should be utilized in Part II of the Specification Section:

"Acceptable Manufacturers are limited to the following:"

A. First Mfg listed in Design Standards
B. Second ...
C. Third ....
D. No substitutions.

CASE 4: *No substitutions:* When one or two manufacturer(s) is listed in the Design Standards followed by the words "or equal", the Consultant is required to list one (1) and preferably two (2) additional brand names of equal products in the specification. The manufacturer(s) listed in the Specification Standards is preferred by UAF Facilities Services but it is not approved as Brand Name Only, (see Appendix for approved list). The specification shall then state:

"Acceptable Manufacturers are limited to the following:

A. Mfg from Design Standards
B. Mfg identified by Consultant
C. Mfg identified by Consultant
D. No substitutions
The use of the term "or equal" in the bid documents shall not be used for this situation.

CASE 5: **No Alternate Brands; No Substitutions (Brand Name Only):** The University has the authority to limit certain products to one or two brand names, without allowing Alternate Brands ("or Equal") or Substitutions. All of the approved Brand Name Only products are listed in an Appendix. When specifying these products the Consultant is to state in the Specification Section, Part II:

"Acceptable Manufacturers are limited to the following:"

A. Brand Name from Design Standards  
B. No Alternate Brands; No Substitutions.

The use of the term "or equal" in the bid documents shall not be used for this situation.

END OF SECTION