

AMERICAN SOCIETY OF CIVIL ENGINEERS

Standards Writing Manual
for
ASCE Standards Committees

Prepared by
ASCE Codes and Standards Committee

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American Society of Civil Engineers Standards Writing Manual for ASCE Standards Committees

1.0 Scope, purpose, and management.

1.1 Scope.

This manual shall define the different classes of standards and describe the required format and writing style for the development of standards by the *ASCE Rules for Standards Committees*.

1.2 Purpose.

The purpose of this manual shall be to standardize the form and style of standards prepared by standards committees of the American Society of Civil Engineers (ASCE) (referred to herein as Society). The overall intent of this manual shall be to achieve standards that are clearly written, consistent in terminology, and in a form and style that is readily usable.

1.3 Management.

This manual shall be maintained by the Society's Codes and Standards Committee (CSC).

2.0 General requirements for all standards.

The following requirements shall apply to all standards promulgated by the Society.

2.1 Definitive.

Requirements in a standard shall be definitive and expressed as specific instructions and not as explanations.

2.2 Realistic.

Requirements shall not be arbitrary, but, instead, shall be based on factors that are necessary to achieve the purpose of the standard. .

2.3 Technically sound.

Requirements shall be technically sound and shall cover only those items which are subject to control and are pertinent. Requirements shall be reasonably consistent with current practices and capable of being specified by the user.

2.3.1 Referenced standards. Standards referenced in ASCE standards shall be developed and maintained through a nationally recognized consensus process such as ANSI or the American Society for Testing and Materials (ASTM). Any exception to this shall be approved by the standards executive committee having technical jurisdiction and by CSC.

2.3.2 Referenced standards availability. Standards referenced in ASCE standards shall be available.

2.4 Clearly stated.

The requirements shall be expressed in understandable language that is free of ambiguity and

shall be clear so that differences of interpretation are unlikely.

2.4.1 Title. The title of the standard shall clearly indicate whether the standard is written in mandatory or nonmandatory language through the use of such terms as “guide,” “guideline,” or “consensus guideline” in the title of nonmandatory standards.

2.4.2 Scope. The scope or application of a standard shall be clearly described.

2.4.3 Definition of terms. All terms shall be defined where they deviate from an ordinarily accepted meaning or dictionary definition.

2.5 Consistent.

Requirements in a standard shall not be contradictory or incompatible with each other. Wherever possible, a standard shall use nationally accepted sizes, shapes, and devices.

2.5.1 Consistency with referenced standards. Requirements incorporated into a standard through reference to another standard shall be consistent.

2.5.2 Conflicts between and standards. A standard shall not state that its provisions govern over the provisions of a referenced standard.

2.6 Wording consistent with application.

The wording of a standard shall determine how it is to be applied by the user. Standards shall contain either prescriptive or performance-based wording. However, standards shall be permitted to contain wording that is both prescriptive as well as descriptive of desired performance.

2.6.1 Prescriptive standard. A prescriptive standard shall be a document that contains wording which specifically describes ways and means of attaining the end results. It shall not only state what is to be attained, but also specify how it is to be attained. It shall be permitted to include limitations on certain elements of the process being described and specify the order or timing of actions, events, or activities.

2.6.2 Performance-based standard. A performance-based standard shall be a document that contains wording which specifically describes the end-result to be attained. This type of standard shall be worded to describe how the design, method, or specification is to perform when completed.

2.7 Wording consistent with classification.

A document, which is prepared by standards committees of the Society in accordance with the *ASCE Rules for Standards Committees*, shall be written to be consistent with its classification as either a mandatory or nonmandatory standard.

2.8 Deviations from general requirements. Deviations from these general requirements within this manual shall only be made with the approval of the Society’s CSC after the submittal of acceptable justification.

3.0 Classification of standards.

A standard shall set the rules, conditions, or requirements concerned with definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, design, or operations; description of fit and measurement of size; and/or measurement of quality and quantity in describing materials, products, systems, services, or

practices. Standards shall be classified as either mandatory or nonmandatory.

3.1 Mandatory standard.

A mandatory standard shall be enforceable and shall be worded so that a person auditing its use or application can point out where it has been followed or where it has not been followed, or the extent to which it has or has not been followed. Portions not intended to be adopted and enforced shall be incorporated in a commentary or other advisory document.

The following are examples of mandatory standards:

- (A) Standard test method that provides a definitive procedure for the identification, measurement, and evaluation of one or more qualities, characteristics, or properties of a material, product, system, or service.
- (B) Standard specification that provides a set of requirements to be satisfied by a material, fabrication process, product, system, or service.
- (C) Design standard that establishes minimum requirements for the design of a product, material, or system that will provide acceptable performance when subjected to prescribed loads and/or conditions.
- (D) Construction standard that establishes minimum requirements for the construction of a product, material, or system that will provide acceptable performance when subjected to prescribed loads and/or conditions.

3.2 Nonmandatory standards.

A nonmandatory standard shall be written in permissive language and requires that a person auditing its use or application rely upon judgment to ascertain whether or not the standard has been followed.

The following are examples of nonmandatory standards:

- (A) Consensus practice that provides recommendations based upon existing practices for construction, materials, testing schemes, and/or other types of practices that, along with significant judgment on the part of users, provide a basis for defining project-specific requirements.
- (B) Consensus guideline that offers a series of options, suggestions, methods or instructions, but normally shall not recommend a specific course of action.
- (C) Standard contract document that provides standard forms of contracts, agreements, standard general provisions, etc. for use in establishing requirements of contracts or agreements.
- (D) Standard drawing that provides illustrations depicting specific items such as standard details, standard connections, standard nomenclature, etc.

4.0 Style.

4.1 Writing style.

The style of writing shall be directed toward the intended audience. It shall be easy to read and

in proper grammatical language. Coined words (i.e., colloquial terms peculiar to a particular industry or technical discipline) shall be avoided. For clarity, conjunctions and compound sentences shall be used with great care. Verbose statements shall be avoided. The style shall be simple to avoid being misunderstood. Other manuals shall be used for detailed instructions on writing. (See 9.1 and 9.3.)

4.2 Spelling.

Webster's Third New International Dictionary of the English Language (Unabridged) shall be used as the guide to correct spelling; the form printed first shall be preferred in most cases. (See 10.2.)

4.3 Hyphenation.

4.3.1 Determination. Webster's Third New International Dictionary shall be consulted on the question of whether a compound word should be hyphenated or presented as one or two words.

4.3.2 Permanent compounds. Words shall be considered permanent compounds (i.e., those that have been accepted into the general vocabulary), if so designated in Webster's Third New International Dictionary.

4.3.3 Temporary compounds. For temporary compounds (i.e., the joining of words for a specific context), the writer or editor shall make the final determination.

4.3.4 Multiple adjectives. The use of multiple adjectives to define a noun shall be avoided. (For example, consider using "requirements for electrical analog indicating instruments" rather than "electrical-analog-indicating-instrument requirements.")

4.4 Abbreviations.

Technical or nontechnical abbreviations, which are words or phrases that have been shortened by leaving out or substituting letters, shall be avoided unless necessary for clarity and style. Where necessary, commonly accepted abbreviations shall be used. Abbreviations that are not commonly known shall be defined in the standard.

4.4.1 Usage. Technical abbreviations shall be used only where necessary to save time and space and only where their meaning is unquestionably clear to the intended reader. Abbreviations and their corresponding full terms or words shall be defined in the definitions section or in a separate section.

4.4.2 Definitions, symbols, and notations. Standard definitions, symbols, and notations that relate to their field of applicability shall be used wherever possible. If a standard has definitions, symbols, and notations that have specific technical meaning or that are unique to the field, a definitions, symbols, and notations section shall be provided.

4.4.3 Presentation. Lowercase letters shall be used for abbreviations for units in text except for those derived from proper names. (For example, psi is the abbreviation for pounds per square inch; and Rh, the abbreviation for Rockwell hardness.) Periods shall be omitted at the end of abbreviations and between letters in abbreviations. .

4.5 Notes.

Explanatory statements shall not be used in the text of mandatory standards for emphasis or offering informative suggestions. Such explanatory statements, if necessary, shall be included in the commentary. A note in a table or figure shall be considered a part of the standard.

4.6 Footnotes.

4.6.1 General. Footnotes shall be permitted in a standard for purposes of clarification.

4.6.2 Mandatory standards. Footnotes shall be discouraged in standards written in mandatory language and shall not be considered as part of the standard unless indicated otherwise in the footnote.

4.6.3 Nonmandatory standards. Footnotes shall be permitted in a nonmandatory standard and shall be considered a part of that standard.

4.6.4 Numbering. Footnotes to the text shall be numbered consecutively, beginning with the first page of the text of the standard and continuing through the appendixes. If the same footnote occurs frequently throughout the text, the number of the first reference to it shall be retained.

4.6.5 Table footnotes. Table footnotes shall be considered part of the table.

4.7 Numbers.

4.7.1 Numbers from one to ten. Numbers from one to ten shall be spelled-out unless used with dimensional terms.

4.7.2 Numbers above ten. Figures shall be used for numbers above ten. Where an isolated number of less than 100 appears in the general text, the number shall be spelled-out.

4.7.3 Mixing number forms. Figures and spelled-out numbers shall not be mixed in the same paragraph.

4.7.4 Time and physical quantities. Arabic numerals shall be used for all units of measuring time and physical quantity.

4.7.5 Tolerances. Numbers for tolerances shall be either plus (+), or minus (-), or both (\pm), and, where necessary, the direction shall be specified.

4.8 Acronyms.

Full terms to which an acronym applies shall be spelled out with the acronym listed in parentheses where first used in the standard. Acronyms shall be in all capital letters.

4.9 Capitalization.

All capitals shall be used for lettering on figures (except for units and symbols not usually capitalized) and for acronyms. Capital and lowercase letters (capitals for the first letter of the first word; lowercase for the balance) shall be used for section and subsection headings, captions for figures, titles for tables, and column headings in tables.

4.10 Sections and subsections.

4.10.1 Arabic numerals. Arabic numerals shall be used in sequence for sections and subsections. A subsection shall be designated by adding a period and number to the section number (for example, 4.1). This subsection, in turn, shall be permitted to be divided by a second period and a second number and indented (for example, 4.1.1), if subsections are used. There shall be no fewer than two numbered subdivisions. Five numbers divided by periods (for example, 4.1.1.1.1) shall be the maximum.

4.10.2 Paragraphs within sections. Paragraphs within sections and subsections shall be numbered only where more than one is required. The terms "section" and "subsection" shall not be used in headings or references; cross-references shall be made by referring simply to the appropriate section or subsection number. The number and section headings shall be permitted to be used individually or together where referring to major section headings.

4.10.3 Lists. A list of items within a section or subsection shall be presented in outline form with the items numbered (A), (B), (C), etc. If further breakdown of the list is necessary, “(1), (2), (3), etc” shall be used. Only one such list shall be presented in any one section or subsection to avoid confusing cross-references. Closing punctuation in lists of short items shall be omitted. In general, bulleted items shall be discouraged.

4.11 Language.

4.11.1 Shall. The word "shall" is to be understood as denoting a mandatory requirement. "Shall" is to be used wherever the criterion for conformance with the specific recommendation requires that there be no deviation. Its use shall not be avoided on the grounds that compliance with the standard is considered voluntary.

4.11.2 Should. The word "should" denotes a recommendation. "Should" is to be used wherever noncompliance with the specific recommendation is permissible. "Should" is not to be substituted for "shall" on the grounds that compliance with the standard is considered voluntary. The word "should" is not to be used in a mandatory standard.

4.11.3 May. The use of the word "may" is to be considered permissive and shall not be used in a mandatory standard.

5.0 Format.

5.1 Required sections.

5.1.1 General. In addition to the text, standards shall contain the following sections: Title, Abstract, Copyright Page (prepared by the Society’s staff), Foreword, Standards Committee Roster, Table of Contents, Scope of Standard, Applicable Documents, Tables (where required), Figures (where required), Equations (where required), References, Commentary (for mandatory standards – see 7.0), and Appendices where applicable.

5.1.2 Additional sections. Sections other than those specified in 5.1.1 shall depend on the classification of the standard being prepared.

5.1.3 Tables, figures, and equations. Tables, figures, and equations shall, if practicable, be included in or close to the section to which they refer. If not practicable, tables, figures, and equations shall be placed in the back of the standard before the Appendices.

5.1.4 Units of measurement. The choice of which shall be left to the standards committee to consider the best interests of the users of the standard and they should follow the units of measurement as specified in the *ASCE Rules for Standards Committees*.

5.2 Optional sections.

The following sections shall be optional: Index, Commentary (see 7.0), Acknowledgments, Disclaimer (see 6.5), and Definitions, Symbols, and Notations (highly recommended where standards contain numerous notations.)

5.3 Section descriptions.

5.3.1 Title. The title shall convey the subject of the standard in a clear and concise manner with minimum words.

5.3.2 Abstract. An informational retrieval abstract shall be included on a separate page. It shall

not be considered part of the standard and shall be limited to 200 words.

5.3.3 Copyright page. A copyright page shall be included, which is prepared by the Society's staff.

5.3.4 Foreword.

5.3.4.1 A foreword shall be required. The following paragraph shall be included as the first paragraph of the foreword:

The Board of Direction approved revisions to the ASCE Rules for Standards Committees to govern the writing and maintenance of standards developed by ASCE. All such standards are developed by a consensus standards process managed by the ASCE Codes and Standards Committee (CSC). The consensus process includes balloting by a balanced standards committee, and reviewing during a public comment period. All standards are updated or reaffirmed by the same process at intervals between five to ten years.

5.3.4.2 Nonmandatory standards shall also include the following paragraph in their foreword:

The provisions of this document are written in permissive language and, as such, offer to the user a series of options or instructions, but do not prescribe a specific course of action. Significant judgment is left to the user of this document.

5.3.4.3 Additionally, the foreword shall include the following elements: a brief history of the standard's development; a description of its purpose; information as to who would benefit from use of the standard; an explanation of the principal differences between current and earlier editions; whether or not the appendixes in the standard are intended to be a requirement of the standard, as in the case of mandatory standards; and, for mandatory standards, that the document is written in such a form that it may be adopted by reference.

5.3.4.4 The following paragraph shall be included as the last paragraph in the foreword:

This standard has been prepared in accordance with recognized engineering principles and should not be used without the user's competent knowledge for a given application. The publication of this standard by ASCE is not intended to warrant that the information contained therein is suitable for any general or specific use, and ASCE takes no position respecting the validity of patent rights. The user is advised that the determination of patent rights or risk of infringement is entirely their own responsibility.

5.3.6 Standards committee roster. A list of the standards committee's officers and members at the time the standard is approved by CSC shall be included.

5.3.7 Table of contents. The table of contents shall contain the main sections and at least the first tier of subsections along with a list of tables, figures, and appendixes.

5.3.8 Scope of standard. The scope shall include the technical area of coverage and, if necessary for clarity, what is not covered and any additional comments that describe the content of the standard. Each scope statement shall include the standards committee's intention relative to the use of International System of Units (SI).

5.3.9 Applicable documents. This section shall include a listing of all standards that are

incorporated in the standard by reference.

5.3.10 Tables. Each table shall be given a title, explained in the text, and numbered with Arabic numbers in the order in which they are used in each section or subsection. All columns shall be labeled and numbered. (See 5.1.3.)

5.3.11 Figures. All figures shall be referred to in each section or subsection in consecutive order. Figures shall be numbered sequentially within a section and bear the section number. (See 5.1.3.)

5.3.12 Equations. Equations shall use standard nomenclature wherever possible. Elements in an equation shall be clearly defined the first time the equation is used. Equations shall be centered and numbered sequentially within a section and bear the section number blocked to the right. Arabic numbers in parentheses shall be used. (See 5.1.3.)

5.3.13 References. References shall be listed either alphabetically by author or in the same order as mentioned in the text. Only those references considered by the standards committee in developing the standard shall be included.

5.3.14 Appendices. Appendices shall be for the inclusion of additional material and shall be designated as either part of the standard or for information purposes only. (Sample calculations and derivation of formulas are examples of materials to be included in the appendices.)

5.3.15 Commentary. Those standards classified as mandatory shall have a commentary accompanying the standard. (See 7.0.). A commentary is optional for standards classified as nonmandatory. When a commentary is provided, it shall be in a format that facilitates understanding. (See 7.0.)

6.0 Special policies.

6.1 Copyrighted material.

If a standards committee proposes to incorporate material from a copyrighted publication other than the Society's, written permission shall be obtained from the owner. Permission shall be requested for use in the ASCE standard. The copyright source shall be referenced at the location where the material is incorporated into the standard.

6.2 Equipment and trademarks.

Photographs and drawings shall be generic. References to equipment shall be generic and shall not include trademarks or other proprietary designations. Where a sole source is believed to exist for essential materials or equipment, the standard shall contain the name and address of the source in a footnote as long as the words "or the equivalent" are included in the reference.

6.3 Safety in standards.

Where a standard involves the use of hazardous materials, operations, and equipment, a generic caveat or caution shall appear in the scope of the standard. The generic caveat shall be:

This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address the safety problems associated with its application. It is the responsibility of whoever uses this standard to establish appropriate safety and health practices and to determine the applicability of regulatory and non-regulatory

limitations.

6.4 Use of standards.

Users of ASCE standards may need special knowledge or professional training and experience to properly and safely apply a standard. If necessary, specific caveats or limitations shall be included in a standard. Those who use a standard shall accept full responsibility for its use. Standards shall not preclude professional judgment in situations where they are used.

7.0 Commentary.

A commentary shall be permitted to contain explanatory material, references, and additional information related to each particular section of the standard for which it is intended. The commentary shall not be written in mandatory language and shall not provide alternatives to the standard. A commentary shall not be a research document or a textbook, but it shall directly address the reasons for and provide additional information on the requirements contained in the standard. References cited in a commentary shall contain the backup research data related to the provisions of the standard. Commentary proposed for adoption by the Society shall be approved by the standards committee by letter ballot using the voting procedures prescribed in the *ASCE Rules for Standards Committees*.

8.0 Printing and publication

A clean, digital copy of the proposed standard prepared in accordance with this Standards Writing Manual shall be sent to the Society's standard's staff. Staff shall review the document, prepare sections that are the responsibility of staff, and submit the final document to the Society's Publications Department for copy editing, typesetting, proofreading, indexing, and printing. The standard shall be published in the 8-1/2 inch by 11 inch size.

9.0 References

9.1 The Chicago Manual of Style. Chicago: University of Chicago Press, 15th edition, 2005.

9.2 Webster's Third New International Dictionary of the English Language (Unabridged). Springfield, Massachusetts: Merriam-Webster, Inc., 2002.

9.3 ASCE Editor's Instructions for Preparing Standards, ASCE Pubs Web Site under information for Author's and Editor's, www.pubs.asce.org.