NFPA 170

Standard for Fire Safety and Emergency Symbols

2006 Edition

NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
An International Codes and Standards Organization

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

IMPORTANT NOTICES AND DISCLAIMERS CONCERNING NFPA DOCUMENTS

NOTICE AND DISCLAIMER OF LIABILITY CONCERNING THE USE OF NFPA DOCUMENTS

NFPA codes, standards, recommended practices, and guides, of which the document contained herein is one, are developed through a consensus standards development process approved by the American National Standards Institute. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on fire and other safety issues. While the NFPA administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in its codes and standards.

The NFPA disclaims liability for any personal injury, property or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document. The NFPA also makes no guaranty or warranty as to the accuracy or completeness of any information published herein.

In issuing and making this document available, the NFPA is not undertaking to render professional or other services for or on behalf of any person or entity. Nor is the NFPA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.

The NFPA has no power, nor does it undertake, to police or enforce compliance with the contents of this document. Nor does the NFPA list, certify, test or inspect products, designs, or installations for compliance with this document. Any certification or other statement of compliance with the requirements of this document shall not be attributable to the NFPA and is solely the responsibility of the certifier or maker of the statement.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

ADDITIONAL NOTICES AND DISCLAIMERS

Updating of NFPA Documents

Users of NFPA codes, standards, recommended practices, and guides should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of Tentative Interim Amendments. An official NFPA document at any point in time consists of the current edition of the document together with any Tentative Interim Amendments and any Errata then in effect. In order to determine whether a given document is the current edition and whether it has been amended through the issuance of Tentative Interim Amendments or corrected through the issuance of Errata, consult appropriate NFPA publications such as the National Fire Codes® Subscription Service, visit the NFPA website at www.nfpa.org, or contact the NFPA at the address listed below.

Interpretations of NFPA Documents

A statement, written or oral, that is not processed in accordance with Section 6 of the Regulations Governing Committee Projects shall not be considered the official position of NFPA or any of its Committees and shall not be considered to be, nor be relied upon as, a Formal Interpretation.

Patents

The NFPA does not take any position with respect to the validity of any patent rights asserted in connection with any items which are mentioned in or are the subject of NFPA codes, standards, recommended practices, and guides, and the NFPA disclaims liability for the infringement of any patent resulting from the use of or reliance on these documents. Users of these documents are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

NFPA adheres to applicable policies of the American National Standards Institute with respect to patents. For further information contact the NFPA at the address listed below.

Law and Regulations

Users of these documents should consult applicable federal, state, and local laws and regulations. NFPA does not, by the publication of its codes, standards, recommended practices, and guides, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

This document is copyrighted by the NFPA. It is made available for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of safe practices and methods. By making this document available for use and adoption by public authorities and private users, the NFPA does not waive any rights in copyright to this document.

Use of NFPA documents for regulatory purposes should be accomplished through adoption by reference. The term "adoption by reference" means the citing of title, edition, and publishing information only. Any deletions, additions, and changes desired by the adopting authority should be noted separately in the adopting instrument. In order to assist NFPA in following the uses made of its documents, adopting authorities are requested to notify the NFPA (Attention: Secretary, Standards Council) in writing of such use. For technical assistance and questions concerning adoption of NFPA documents, contact NFPA at the address below.

For Further Information

All questions or other communications relating to NFPA codes, standards, recommended practices, and guides and all requests for information on NFPA procedures governing its codes and standards development process, including information on the procedures for requesting Formal Interpretations, for proposing Tentative Interim Amendments, and for proposing revisions to NFPA documents during regular revision cycles, should be sent to NFPA headquarters, addressed to the attention of the Secretary, Standards Council, NFPA, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

For more information about NFPA, visit the NFPA website at www.nfpa.org.

--`,,```,,,,````-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale

Copyright © 2005, National Fire Protection Association, All Rights Reserved

NFPA 170

Standard for

Fire Safety and Emergency Symbols

2006 Edition

This edition of NFPA 170, *Standard for Fire Safety and Emergency Symbols*, was prepared by the Technical Committee on Fire Safety and Emergency Symbols and acted on by NFPA at its June Association Technical Meeting held June 6–10, 2005, in Las Vegas, NV. It was issued by the Standards Council on July 29, 2005, with an effective date of August 18, 2005, and supersedes all previous editions.

This edition of NFPA 170 was approved as an American National Standard on August 18, 2005.

Origin and Development of NFPA 170

The 1994 edition of NFPA 170 represented the completion of an effort to combine four previously separate documents that covered fire safety symbols for different purposes. These documents included the following:

NFPA 171, *Public Firesafety Symbols*

NFPA 172, *Fire Protection Symbols for Architectural and Engineering Drawings*

NFPA 174, *Fire Protection Symbols for Risk Analysis Diagrams*

NFPA 178, *Symbols for Fire Fighting Operations*

The Technical Committee on Fire Safety Symbols believed that placing all fire safety symbols in one document made it easier for users of symbols to find the one(s) most appropriate for their application. It also eliminated duplication between these and eventually other NFPA documents.

The first edition of NFPA 170 placed these four documents in one document but did not combine them, except for definitions that were in each document.

For the second edition of NFPA 170, the Technical Committee on Fire Safety Symbols completely restructured the text into a logical and cohesive arrangement. The duplication of symbols that occurred during the aforementioned consolidation of documents was eliminated. New symbols added included those for *campfire prohibitions, smoke barriers, illuminated exit signs*, and *belowground tanks*.

For the third edition of NFPA 170, changes included the following:

(1) Upgrading recommendations on *pre-incident planning* to requirements
(2) Adding new symbols for *pull station, area of refuge,* and *cooking prohibition*
(3) Clarifying the symbols for *smoke detectors, battery-powered emergency lights,* and *fire service/ emergency telephone station*
(4) Recognizing the phaseout of Halon now taking place and the introduction of *clean agents*

The fourth edition further recognized the introduction of clean agents by adding new symbols for *clean agent* and *water mist systems*. A new appendix (Appendix C) was added to include symbols that can be used for life safety planning.

The fifth edition was reformatted to conform to the *Manual of Style for NFPA Technical Committee Documents*. Symbols for fire alarm system components were added for consistency with *NFPA 72®*, *National Fire Alarm Code®*.

In 2004, the scope of the committee was expanded to include emergency symbols to allow emergency mapping symbols in a new Chapter 8.

The 2006 edition of NFPA 170 includes the refinement of exit symbology for better recognition of exit, arrow, and flame symbols that are consistent with international standards.

A new Chapter 8, Symbology for Emergency Management Mapping, has been added to assist the user in the preparation for, prevention of, protection against, response to, and recovery from threats to the nation's population centers and critical infrastructure from terrorist, criminal, accidental, or natural origin.

The symbols in Chapter 8 are the result of efforts by the Federal Geographic Data Committee — Homeland Security Working Group (http://www.fgdc.gov/fgdc/homeland/index.html). The symbols have been included in this standard so that they can be processed through an accredited standards-writing organization and made available to the public.

--`,,```,,,-`-`,,`,,`,`,,`---
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Technical Committee on Fire Safety and Emergency Symbols

Thomas R. Wood, *Chair*
Boca Raton Fire Rescue Services, FL [E]

Phillip A. Brown, American Fire Sprinkler Association, Inc., TX [IM]
Randal G. Brown, Randal Brown & Associates, Ltd., Canada [SE]
Randall S. Chaney, Liberty Mutual Property, CA [I]
Rep. Property Casualty Insurers Association of America
David C. Cox, Fire Safety Displays Company, MI [M]
Brad Schiffer, Brad Schiffer/Taxis, Inc., FL [SE]
John M. Stofa, S.A. Comunale Fire Protection, NJ [IM]
Don N. Whittaker, U.S. Department of Energy, ID [U]

Alternates

David Johnson, Randal Brown & Associates, Ltd., Canada [SE]
(Alt. to R. G. Brown)
J. Scott Mitchell, American Fire Sprinkler Association, Inc., TX [IM]
(Alt. to P. A. Brown)

David R. Hague, NFPA Staff Liaison

This list represents the membership at the time the Committee was balloted on the final text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the back of the document.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on fire safety and emergency symbols, including those for building design plans, investigation diagrams, maps, and for public fire safety and emergency. It shall coordinate its work with NFPA technical committees and other groups dealing with subjects to which fire safety symbols apply.

--`,,```,,-`-`,,`,,`,`,,`---
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Contents

Chapter 1 Administration **170–** 4
1.1 Scope **170–** 4
1.2 Purpose **170–** 4
1.3 Retroactivity **170–** 4
1.4 Equivalency **170–** 4
1.5 Units **170–** 4

Chapter 2 Referenced Publications **170–** 4
2.1 General **170–** 4
2.2 NFPA Publication **170–** 4
2.3 Other Publications **170–** 4
2.4 Reference for Extracts in Mandatory Sections **170–** 4

Chapter 3 Definitions **170–** 5
3.1 General **170–** 5
3.2 NFPA Official Definitions **170–** 5
3.3 General Definitions **170–** 5

Chapter 4 Symbols for General Use **170–** 5
4.1 Introduction **170–** 5
4.2 Symbols for General Use **170–** 5
4.3 Class of Fire Symbols **170–**11

Chapter 5 Symbols for Use by the Fire Service **170–**11
5.1 Introduction **170–**11
5.2 Symbols for Use by the Fire Service **170–**11

Chapter 6 Symbols for Use in Architectural and Engineering Drawings and Insurance Diagrams **170–**15
6.1 Introduction **170–**15
6.2 Symbols for Site Features **170–**15
6.3 Symbols for Building Construction **170–**15
6.4 Water Supply and Distribution Symbols ... **170–**18
6.5 Symbols for Control Panels **170–**21
6.6 Symbols Related to Means of Egress **170–**22
6.7 Symbols for Fire Alarms, Detection, and Related Equipment **170–**22
6.8 Symbols for Fire Extinguishing Systems ... **170–**28
6.9 Symbols for Portable Fire Extinguishers ... **170–**30
6.10 Symbols for Fire-Fighting Equipment **170–**31
6.11 Symbols for Smoke/Pressurization Control **170–**31
6.12 Miscellaneous Symbols **170–**32

Chapter 7 Symbols for Use in Pre-Incident Planning Sketches **170–**33
7.1 Introduction **170–**33
7.2 Access Features, Assessment Features, Ventilation Features, and Utility Shutoffs **170–**33
7.3 Detection/Extinguishing Equipment **170–**34
7.4 Water Flow Control Valves and Water Sources **170–**35
7.5 Equipment Rooms **170–**35
7.6 Identification of Hazardous Materials **170–**35

Chapter 8 Symbology for Emergency Management Mapping **170–**36
8.1 Damage Operational Symbology **170–**36
8.2 Operations Symbology **170–**37
8.3 Incidents Symbology **170–**42
8.4 Natural Events Symbology **170–**48
8.5 Infrastructures Symbology **170–**52

Annex A Explanatory Material **170–**61

Annex B Additional Explanatory Information on Chapters 1 through 6 ..... **170–**64

Annex C Symbols for Life Safety Planning **170–**68

Annex D Informational References **170–**71

Index **170–**72

--`,,```,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

NFPA 170

Standard for

Fire Safety and Emergency Symbols

2006 Edition

IMPORTANT NOTE: This NFPA document is made available for use subject to important notices and legal disclaimers. These notices and disclaimers appear in all publications containing this document and may be found under the heading "Important Notices and Disclaimers Concerning NFPA Documents." They can also be obtained on request from NFPA or viewed at www.nfpa.org/disclaimers.

NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex D. Editorial changes to extracted material consist of revising references to an appropriate division in this document or the inclusion of the document number with the division number when the reference is to the original document. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex D.

Chapter 1 Administration

1.1 Scope. This standard presents symbols used for fire safety, emergency, and associated hazards.

1.2 Purpose. The purpose of this standard is to standardize the symbols used in representing fire safety, emergency, and associated hazards.

1.3 Retroactivity. The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued.

1.3.1 Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive.

1.3.2 In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate.

1.3.3 The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

1.4 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.

1.4.1 Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.4.2 The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.5 Units. Metric units of measurement used in this standard shall be in accordance with the International System of Units (SI). One unit (liter), outside of but recognized by SI, is commonly used in international fire protection. For conversion factors, see Table 1.5.

Table 1.5 Metric Conversion Factors

Name of Unit	Unit Symbol	Conversion Factor
Liter	L	1 gal = 3.785 L
Cubic decimeter	dm^3	1 gal = 3.785 dm^3
Pascal	Pa	1 psi = 6894.757 Pa
Meter	m	1 ft = 0.3048 m
Millimeter	mm	1 in. = 25.4 mm

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publication. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response,* 2001 edition.

2.3 Other Publications.

2.3.1 ANSI Publications. American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.

ANSI A117.1, *Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People,* 1992.

ANSI Z535.1, *Safety Color Code,* 2002.

2.3.2 NECA Publication. National Electrical Contractors Association, 3 Bethesda Metro Center, Suite 1100, Bethesda, MD 20814.

NECA 100, *Symbols for Electrical Construction Drawings*, 1999.

2.3.3 Other Publication.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 Reference for Extracts in Mandatory Sections.

NFPA 10, *Standard for Portable Fire Extinguishers,* 2002 edition.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary,* 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.4* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.5 Shall. Indicates a mandatory requirement.

3.2.6 Should. Indicates a recommendation or that which is advised but not required.

3.3 General Definitions.

3.3.1 Pre-Incident Planning. A written document resulting from the gathering of general and detailed information/data to be used by public emergency response agencies and private industry for determining the response to reasonable anticipated emergency incidents at a specific facility.

3.3.2* Referent. An object or concept (message) represented by a symbol.

3.3.3 Self-Luminous. A type of sign that is self-energized with respect to luminosity and requires no external power source.

3.3.4* Supplementary Indicators. Figures, numbers, subscripts, or letter abbreviations used to enhance the effectiveness of symbols.

3.3.5* Symbol. A graphic representation of a referent.

Chapter 4 Symbols for General Use

4.1 Introduction.

4.1.1 This chapter presents general referents and symbols for fire prevention and visual alerting that shall be used for fire and related life safety emergencies.

4.1.2 Purpose.

4.1.2.1 This chapter shall provide uniform fire safety symbols to improve communication wherever signs and symbols are employed to provide fire safety information.

4.1.2.2 This chapter provides uniformity in the selection of symbols that shall be designed to assist in locating exits, fire safety alerting equipment, and safe areas.

4.1.2.3* The fundamental imagery for symbols, as well as their background color and shape, is designated in this chapter.

4.1.2.4* This chapter does not specify viewing distance, size, or optimal combinations of symbols, words, or other presentations.

4.1.3* Symbol Presentation.

4.1.3.1 The orientation for prohibition symbols shall not be altered from that shown in this chapter.

4.1.3.2 The symbol background shape shall be square.

4.1.3.2.1* For prohibition symbols, a circle and diagonal slash (at 45 degrees from upper left to lower right) shall be used.

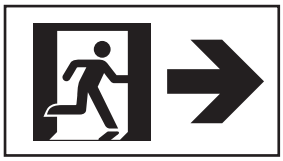
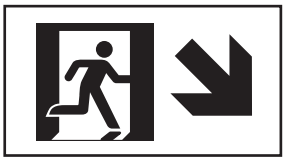
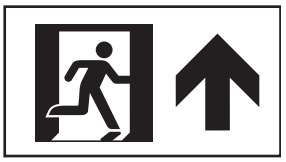
4.1.3.3 Symbol Color. The symbol color shall meet the requirements of ANSI Z535.1, *Safety Color Code.*

4.1.3.4* Symbols shall be permitted to be used in combination with other symbols either vertically or horizontally on the same sign or on separate signs adjacent to each other.

4.2* Symbols for General Use. See Table 4.2.

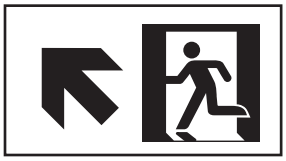
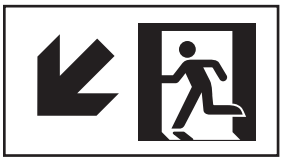
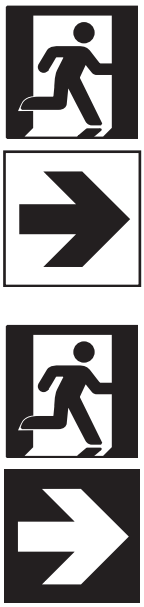
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 4.2 Symbols for General Use

Symbol	Characteristics	Application	Example
Emergency Exit 	Square field Background green Door opening white Image in green	The identification and location of an emergency exit	The location of exit for use in a fire emergency
Emergency Exit Use of Arrows 	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress to the right
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress up and to the right
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress down and to the right
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress forward
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress down
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress to the left

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 4.2 *Continued*

Symbol	Characteristics	Application	Example
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress up and to the left
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress down and to the left
Emergency Exit Route (Combination of Two Symbols) 	Square field Background green Door opening white Image in green For arrows: Square field Green arrow on white background or white arrow on green background	The identification and location of a route to be used in an emergency	The direction to a fire exit
Accessible Emergency Exit (Combination of Two Symbols) 	Square field Background green Door opening white Image in green International symbol of accessibility per ANSI A117.1, *Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People*	The identification of a route that leads to an emergency exit that is accessible to disabled users, as specified by ANSI A117.1, *Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People*	The location of a route toward a fire exit that is accessible to disabled users

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 4.2 *Continued*

Symbol	Characteristics	Application	Example
Accessible Emergency Exit Route (Combination of Three Symbols) 	Square field Background green Door opening white Image in green International symbol of accessibility per ANSI A117.1, *Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People* For arrows: Square field Green arrow on white background or white arrow on green background	The identification of a route that leads to an emergency exit that is accessible to disabled users	The location of the route toward a fire exit that is accessible to disabled users
Not an Exit 	Square field Background white Door frame green Door opening white Image in black Red circle and diagonal slash	The identification of doors that do NOT lead to an exit	The location of an interior door such as one leading to a closet, an interior courtyard, or a basement
Use Stairs in Case of Fire 	Square field Red flame Black figure White background	An instruction to the user to use stairs (downward egress) in case of fire	The identification that stairs are to be used in case of fire
Use Stairs in Case of Fire 	Square field Red flame Black figure White background	An instruction to the user to use stairs (upward egress) in case of fire	The identification that stairs are to be used in case of fire

--`,,```,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale

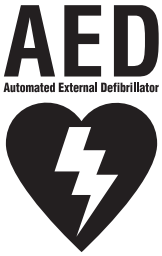
Table 4.2 *Continued*

Symbol	Characteristics	Application	Example
Do Not Use Elevator in Case of Fire 	Rectangular field Red flame Black figures White background Red circle and slash	An instruction not to use elevators in case of fire	Posted near elevator call button
No Smoking 	Circular field Red circle and slash Black image White background	The identification of areas in which smoking is prohibited	The identification of areas, such as those for flammable liquid storage, where smoking could lead to fire or explosion
No Campfires 	Circular field Red circle and slash Black image White background	The identification of areas, such as municipal parks, where campfires are not permitted	
Manual Station — Pull Station/Fire Alarm Box 	Rectangular field Red background White flame White hand White box White horn White wave	An instruction to actuate an alarm-initiating device in a fire emergency	Posted above a manually activated initiating device
No Cooking 	Square field White background Red flame Black pot and steam Red circle and slash	An instruction not to cook food in an area	Posted inside a guest room in a hotel or a student room in a college dormitory

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 4.2 *Continued*

Symbol	Characteristics	Application	Example
Area of Refuge 	Square field White background Red flame	The identification of an area of refuge	A designated area of refuge to be used in a fire emergency
No Hanger 	Red circle and slash Black image	To prohibit hanging clothes or other items from sprinklers	
Automated External Defibrillator (AED) 	Square field White background Red heart White bolt through the heart Black lettering	To identify the location of AEDs	Airports and other places of assembly
Fire Extinguisher 	Square field Red background White symbol	For everyday use in workplaces and public areas; supplementary text sign can be used to increase comprehension	Fire safety signage, manuals, and notices
Fire Hose or Standpipe 	Square field Red background White symbol	For everyday use in workplaces and public areas; supplementary text sign can be used to increase comprehension	Fire safety signage, manuals, and notices

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

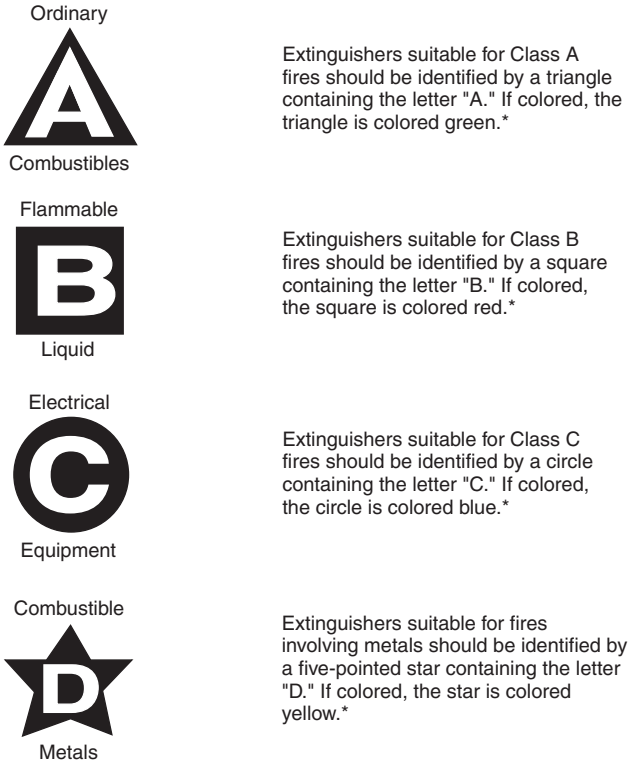


Note: Recommended colors, per PMS (Pantone Matching System) include the following:

BLUE — 299

RED — Warm Red

FIGURE 4.3(a) Recommended Marking System. [10: Figure B.2.1]



* Recommended colors, per PMS (Pantone Matching System) include the following:

GREEN — Basic Green
RED — 192 Red
BLUE — Process Blue
YELLOW — Basic Yellow

FIGURE 4.3(b) Letter-Shaped Symbol Markings. [10: Figure B.2.2]

4.3 Class of Fire Symbols. See Figure 4.3(a) and Figure 4.3(b).

Chapter 5 Symbols for Use by the Fire Service

5.1 Introduction.

5.1.1* This chapter presents standard referents and symbols that shall be used for visually alerting fire fighters and other emergency responders during fire and related emergencies.

5.1.2* Fundamental shapes of symbols, as well as the background color and shape, are designated in this chapter.

5.1.3* Symbol Presentation.

5.1.3.1* Symbol Shapes. The shape of symbols shall be as illustrated in Section 5.2.

5.1.3.2 Symbol Background.

5.1.3.2.1 The symbol background shall be square.

5.1.3.2.2 The symbol background color shall be red, white, or blue as designated and shall meet the requirements of ANSI Z535.1, *Safety Color Code,* for safety red, white, or blue.

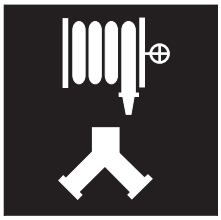
5.1.3.3 Symbol Color. The symbol color shall be safety white or blue and shall meet the requirements of ANSI Z535.1, *Safety Color Code,* for safety white or blue.

5.1.3.4 Symbol Orientation. Symbol orientation shall not be altered from that shown in this chapter.

5.2* Symbols for Use by the Fire Service. See Table 5.2.

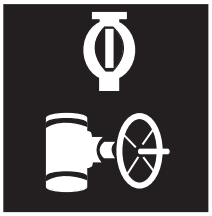
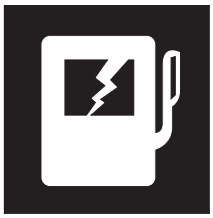
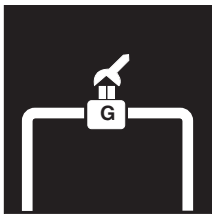
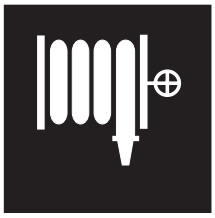
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 5.2 Symbols for Use by the Fire Service

Symbol	Characteristics	Application	Examples
Fire Department Automatic Sprinkler Connection — Siamese 	Square field Red background White symbol	The identification and location of a fire department automatic sprinkler connection	The location of siamese automatic sprinkler connections on buildings The location of siamese freestanding automatic sprinkler connections
Fire Department Automatic Sprinkler Connection — Single 	Square field Red background White symbol	The identification and location of a fire department automatic sprinkler connection	The location of a single automatic sprinkler connection on buildings The location of a single freestanding automatic sprinkler connection
Fire Department Standpipe Connection 	Square field Red background White symbol	The identification and location of a fire department standpipe connection	The location of standpipe connections on buildings and structures The location of freestanding standpipe connections
Fire Department Combined Automatic Sprinkler/ Standpipe Connection 	Square field Red background White symbol	The identification and location of a fire department combined automatic sprinkler/standpipe connection	The location of combined sprinkler/standpipe connections on buildings The location of freestanding combined sprinkler/ standpipe connections

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

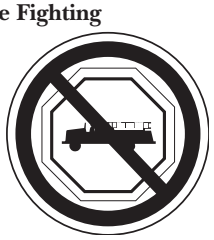
Table 5.2 *Continued*

Symbol	Characteristics	Application	Examples
Fire Hydrant (All Types) 	Square field Red background White symbol	The identification and location of a fire hydrant	The location of fire hydrants, wall hydrants, underground hydrants, or other fire-fighting water supplies
Automatic Sprinkler Control Valve 	Square field Red background White symbol	The identification and location of an automatic sprinkler control valve	The location of control valves for automatic sprinkler systems On doors of rooms containing control valves
Electric Panel or Electric Shutoff 	Square field Blue background White symbol	The identification and location of an electrical panel or other electric shutoff device	The location of electric panels or other electric control devices that can be located in basements or mechanical rooms
Gas Shutoff Valve 	Square field Red background White symbol Red letter G	The location of a gas shutoff valve	The location of gas shutoff valves On doors of rooms containing gas shutoff valves
Fire-Fighting Hose or Standpipe Outlet 	Square field Red background White symbol	The location of a fire-fighting hose or a standpipe outlet	The location of interior fire-fighting hose stations and standpipe outlets in buildings and structures The location on bridges or elevated highways

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 5.2 *Continued*

Symbol	Characteristics	Application	Examples
Fire Extinguisher 	Square field Red background White symbol	The location of a fire extinguisher	The location of fire extinguishers in buildings and exterior locations
Directional Arrow 	Square field Background green to correspond to accompanying sign White symbol	Direction to the location of fire-fighting equipment or utility; always used in conjunction with, and adjacent to, another symbol indicating the particular equipment or utility	
Diagonal Directional Arrow 	Square field Background green to correspond to accompanying sign White symbol	Direction to the location of fire-fighting equipment or utility; always used in conjunction with, and adjacent to, another symbol indicating the particular equipment or utility	
Child Care Center 	Square field Blue infant and hands White background	The identification and location of child care centers	On the door opening into child care centers At a fire department command or access point indicating presence and location of child care centers
Emergency Telephone 	Red background White phone	The identification and location of fire service or emergency telephone system	
No Fire Fighting 	Octagonal field White background Black truck Red prohibition symbol	To be posted on, near, or on the approach to buildings where fire fighting is not to occur	Explosives bunkers, frangible buildings, or contaminated buildings

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 5.2 *Continued*

Symbol	Characteristics	Application	Examples
Self-Contained Breathing Apparatus (SCBA) 	Square field White symbol Green background	To indicate the location of SCBA, breathing air connections, or refill location	For SCBA fill locations in high-rise buildings

Chapter 6 Symbols for Use in Architectural and Engineering Drawings and Insurance Diagrams

6.1* Introduction.

6.1.1 This chapter presents symbols that shall be used in drawings and diagrams.

6.1.2* Symbol Presentation.

6.1.2.1* Symbol Shapes. The shape of symbols shall be as illustrated in Sections 6.2 through 6.12.

6.1.2.2 Screened Lines. Screened lines in the chapter shall not be considered part of the symbol, but shall be used to represent the piping, wiring, or mounting surface associated with the symbol.

6.1.2.3 Symbol Scale. All scales for symbols on any one drawing shall be the same relative size.

6.1.2.4* Symbol Orientation. Symbols shall be oriented to the walls, piping, electrical lines, and so forth to which they are attached.

6.2 Symbols for Site Features.

6.2.1 Buildings.

6.2.1.1 The exterior walls of buildings shall be outlined in single thickness lines if other than fire rated and double thickness lines if fire rated.

6.2.1.2* The perimeter of canopies, loading docks, and other open-walled structures shall be shown by broken lines.

6.2.2 Railroad Tracks. Railroad tracks shall be shown by a single line with cross dashes, as shown in Figure 6.2.2.



FIGURE 6.2.2 Symbol for Railroad Tracks.

6.2.3* Streets. Streets shall be shown.

6.2.4* Bodies of Water. Rivers, lakes, and so forth shall be outlined.

6.2.5 Fences.

6.2.5.1 Fences shall be shown by lines with x's evenly spaced.

6.2.5.2* Gates shall be shown.

6.2.6 Property Lines. The notation given in Figure 6.2.6 shall indicate property lines.

FIGURE 6.2.6 Notation Indicating Property Lines.

6.2.7 Fire Department Access. The symbol for fire department access shall be as shown in Figure 6.2.7.



FIGURE 6.2.7 Symbol for Fire Department Access.

6.2.8 Other Site Features. For other fire protection site features, see Section 6.4.

6.3 Symbols for Building Construction.

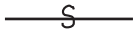
6.3.1* Types of Building Construction. Types of construction shall be shown narratively.

6.3.2* Height. Height shall be shown to indicate number of stories above ground, number of stories below ground, and height from grade to eaves.

6.3.3* Symbols for Walls and Parapets. See Table 6.3.3.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 6.3.3 Symbols for Walls and Parapets

Symbol	Description
	Wall — basic shape
	Smoke barrier wall
	½-hour fire-rated wall
	½-hour fire-rated/smoke barrier wall
	¾-hour fire-rated wall
	¾-hour fire-rated/smoke barrier wall
	1-hour fire-rated wall
	1-hour fire-rated/smoke barrier wall
	2-hour fire-rated wall
	2-hour fire-rated/smoke barrier wall
	3-hour fire-rated wall
	3-hour fire-rated/smoke barrier wall
	4-hour fire-rated wall
	4-hour fire-rated/smoke barrier wall
	Parapet — One cross for each 150 mm (6 in.) parapet that extends above roof (Shown is plan view of symbol.)

6.3.4 Symbols for Floor Openings, Wall Openings, Roof Openings, and Their Protection. See Table 6.3.4.

Table 6.3.4 Symbols for Floor Openings, Wall Openings, Roof Openings, and Their Protection

Symbol	Description
	Opening in wall
	Rated fire door in wall (less than 3 hours)
	Fire door in wall (3-hour rated)
	Elevator in combustible shaft
	Elevator in noncombustible shaft
	Open hoistway
	Escalator
	Stairs in combustible shaft
	Stairs in fire-rated shaft
	Stairs in open shaft
	Skylight

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.3.5* Special Symbols for Cross Sections. The symbols shown in Table 6.3.5 shall be used to indicate features of cross sections. It is recognized that descriptive notes often are required.

6.3.6 Miscellaneous Features. A number of features related to fire protection that do not fall under 6.3.1 through 6.3.5 are given in Table 6.3.6.

Table 6.3.5 Special Symbols for Cross Sections

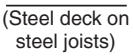
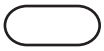
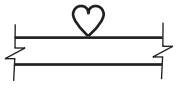
Symbol	Description	Comment
	Fire-resistive floor or roof	
	Wood joisted floor or roof	
	Other floors or roofs	Note construction
	Floor/ceiling or roof/ceiling assembly	Details indicated, as necessary
	Floor on ground	
	Truss roof	Note construction

Table 6.3.6 Miscellaneous Features

Symbol	Description	Comment
	Boiler	
	Chimney	Describe height and construction
	Fire escape	
	Horizontal aboveground tank	Indicate type, dimensions, construction, capacity, pressurization, and content
	Vertical aboveground tank	Indicate type, dimensions, construction, capacity, pressurization, and content
	Belowground tank	Indicate type, dimensions, construction, capacity, pressurization, and content
	Class I, Division 1 or 0	Hatch patterns for electrically classified locations
	Class I, Division 1 or Zone 1	Hatch patterns for electrically classified locations
	Class I, Division 2 or Zone 2	Hatch patterns for electrically classified locations
	Designates the location of automated external defibrillators (AEDs) on plans	

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

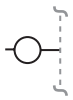
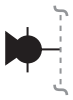
6.4* Water Supply and Distribution Symbols. See Table 6.4.

Table 6.4 Water Supply and Distribution Symbols

Symbol	Description	Comments
	Public water main	Indicate pipe size and material
	Private water main	Indicate pipe size and material
	Water main under building	Indicate pipe size and material
	Suction pipe	Indicate pipe size and material
	Thrust block	
	Riser	
	Valves (general)	Basic shape; indicate valve size
	Valve in pit	Indicate valve size
	Post-indicator valve	Indicate valve size
	Key-operated valve	Indicate valve size
	OS&Y valve (outside screw and yoke, rising stem)	Indicate valve size
	Indicating butterfly valve	Indicate valve size
	Nonindicating valve (nonrising-stem valve)	Indicate valve size

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

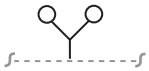
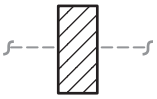
Table 6.4 *Continued*

Symbol	Description	Comments
	Check valve	Basic shape; indicate valve size, direction of flow
	Backflow preventer — double check type	Also referred to as a double check valve assembly
	Backflow preventer — reduced pressure zone (RPZ) type	
	Pressure regulating valve	
	Pressure relief valve	
	Float valve	
	Meter	Indicate type
	Private hydrant, one hose outlet	Indicate size, type of thread, or connection
	Public hydrant, two hose outlets	Indicate size, type of thread, or connection
	Public hydrant, two hose outlets, and pumper connection	Indicate size, type of thread, or connection
	Wall hydrant, two hose outlets	Indicate size, type of thread, or connection

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 6.4 ***Continued***

Symbol	Description	Comments
	Private housed hydrant, two hose outlets	Indicate size, type of thread, or connection
	Siamese fire department connection	Specify type, size, and angle
	Freestanding siamese fire department connection	Sidewalk or pit type; specify size
	Single fire department connection	Specify type, size, thread, and angle
	Fire pump with drives	
	Freestanding test header	Freestanding; specify number and sizes of outlets
	Wall-mounted test header	Wall; specify number and sizes of outlets
	Screen/strainer	

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.5 Symbols for Control Panels. See Table 6.5.

Table 6.5 Symbols for Control Panels

Symbol	Description
	Control panel — basic shape
FACP	Fire alarm control panel
FSA	Fire system annunciator alarm
FAA	Annunciator panel — from NECA 100, symbol 7.006
FTR	Fire alarm transponder or transmitter
ESR	Elevator status/recall
FAC	Fire alarm communicator
FSCP	Fire system control panel
FSCP$_{HL}$	Halon
FSCP$_{CO_2}$	Carbon dioxide
FSCP$_{DC}$	Dry chemical
FSCP$_{FO}$	Foam
FSCP$_{WC}$	Wet chemical
FSCP$_{CA}$	Clean agent
FSCP$_{WM}$	Water mist
FSCP$_{DL}$	Deluge sprinkler
HVA	Control panel for heating, ventilation, air-conditioning, exhaust stairwell pressurization, or similar equipment
MIC	Remote MIC for voice evacuation system
EVAC	Voice evacuation panel — from NECA 100, symbol 7.008
FATC	Fire alarm terminal cabinet — from NECA 100, symbol 7.009
FCS	Fire command system
FACU	Fire alarm control unit
SAP	Sprinkler alarm panel
RP	Relay alarm panel
DGP	Data gathering panel
AMP	Amplifier rack
PP	Purge panel
BATT	Battery pack and charger — from NECA 100, symbol 7.010
ASFP	Air sampling control detector panel with associated air sampling piping network — from NECA 100, symbol 7.011

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.6 Symbols Related to Means of Egress. See Table 6.6.

6.7* Symbols for Fire Alarms, Detection, and Related Equipment.

6.7.1* Signal Initiating Devices and Activation Switches. See Table 6.7.1.

Table 6.6 Symbols Related to Means of Egress

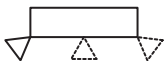
Symbol	Description	Comments
	Emergency light, battery-powered	Number of lamps on unit to be indicated. Indicate whether light head(s) [lamp(s)] is remote from battery
	Illuminated exit sign, single face	Indicate direction of flow for the face
	Illuminated exit sign, double face	Indicate direction of flow for each face

Table 6.6 *Continued*

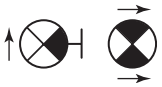
Symbol	Description	Comments
	Combined battery-powered emergency light and illuminated exit sign	Number of lamps on unit to be indicated; indicate whether light head(s) [lamp(s)] is remote from battery; indicate direction of flow for the face
	Exit lighting	Exit lighting fixture, arrows, and exit face as indicated on drawings (mounting heights to be determined by job specifications) — from NECA 100, symbol 2.005
	Luminaire providing emergency illumination (filled in)	From NECA 100, symbol 2.300

Table 6.7.1 Symbols for Signal Intiating Devices and Activation Switches

Symbol	Description	Comments
	Manual station	Basic shape
	Manual station — Halon	
	Manual station — carbon dioxide	
	Manual station — dry chemical	
	Manual station — foam	
	Manual station — wet chemical	

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 6.7.1 *Continued*

Symbol	Description	Comments
	Manual station — pull station/fire alarm box	
	Manual station — clean agent	
	Manual station — water mist	
	Manual station — deluge sprinkler	
	Fire alarm master box	
	Drill key	
	Preaction system	
	Fire service or emergency telephone station	Basic shape
	Fire service or emergency telephone station — accessible	
	Fire service or emergency telephone station — jack	
	Fire service or emergency telephone station — handset	
	Abort switch	Basic shape
	Abort switch — Halon	
	Abort switch — carbon dioxide	

(continues)

--`,,```,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 6.7.1 *Continued*

Symbol	Description	Comments
	Abort switch — dry chemical	
	Abort switch — foam	
	Abort switch — wet chemical	
	Abort switch — clean agent	
	Abort switch — water mist	
	Abort switch — deluge sprinkler	
	Abort switch — preaction system	
	Abort switch — emergency power off	
	Automatic detection and supervisory devices	Basic shape
	Heat detector (thermal detector)	Symbol orientation not to be changed
	Heat detector — combination: rate of rise and fixed temperature	Combination device
	Heat detector — rate compensation	
	Heat detector — fixed temperature	

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 6.7.1 *Continued*

Symbol	Description	Comments
	Heat detector — rate of rise only	
	Heat detector — line-type detector (heat-sensitive cable)	
	Smoke/heat detector	Combination device
	Smoke detector	Symbol orientation not to be changed
	Smoke detector — photoelectric products of combustion detector	
	Smoke detector — ionization products of combustion detector	
	Smoke detector — beam transmitter	
	Smoke detector — beam receiver	
	Smoke detector — air sampling	
	Smoke detector for duct	
	Gas detector	
	Flame detector	Indicate ultraviolet (UV), infrared (IR), ultraviolet/ infrared (UV/IR), or visible radiation-type detectors; symbol orientation not to be changed
	Flame	
	Ultraviolet	

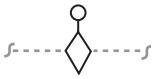
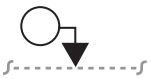
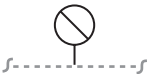
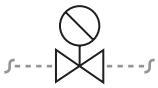
(continues)

--`,,```,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale

Table 6.7.1 ***Continued***

Symbol	Description	Comments
	Infrared	
	Combination ultraviolet/infrared	
	Visible radiation	
	Flow detector/switch	
	Pressure detector/switch	Specify type — water, low air, high air, and so forth; symbol orientation not to be changed
	Level detector/switch	Symbol orientation not to be changed
	Tamper detector	Alternate term — tamper switch
	Valve with tamper detector/switch	
	Output relay	
	Temperature switch — high temperature	
	Temperature switch — low temperature	

--`,,```,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale

6.7.2 Indicating Appliances. See Table 6.7.2.

Table 6.7.2 Symbols for Indicating Appliances

Symbol	Description	Comments
	Speaker/horn (electric horn)	
	Mini-horn	
	Gong	
	Water motor alarm (water motor gong)	Shield optional
	Bell — vibrating	
	Bell — vibrating/strobe	
	Bell — single stroke gong	
	Bell — single stroke gong/ strobe	
	Bell — trouble	
	Bell — chime	
	Horn with light as separate assembly	
	Horn with light as one assembly	
	Light (lamp, signal light, indicator lamp, strobe)	

Table 6.7.2 *Continued*

Symbol	Description	Comments
	Rotating beacon to indicate emergency response points	
	Remote alarm indicating and test switch	

6.7.3 Related Equipment. See Table 6.7.3.

Table 6.7.3 Symbols for Related Equipment

Symbol	Description
	Door holder
	Addressable input module
	Addressable output module

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.8* Symbols for Fire Extinguishing Systems.

6.8.1 Various Types of Fire Extinguishing Systems.

6.8.1.1 Water-Based Systems. See Table 6.8.1.1.

Table 6.8.1.1 Symbols for Water-Based Systems

Symbol	Description
	Wet charged system — automatically actuated
	Wet charged system — manually actuated
	Dry system — automatically actuated
	Dry system — manually actuated
	Foam system — automatically actuated
	Foam system — manually actuated
	Water mist extinguishing system — automatically actuated
	Water mist extinguishing system — manually actuated

6.8.1.2 Dry Chemical Systems. See Table 6.8.1.2.

Table 6.8.1.2 Symbols for Dry Chemical Systems

Symbol	Description
	For liquid, gas, and electrical fires — automatically actuated
	For liquid, gas, and electrical fires — manually actuated
	For fires of all types (except metals) — automatically actuated
	For fires of all types (except metals) — manually actuated

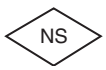
6.8.1.3 Systems Utilizing a Gaseous Medium. See Table 6.8.1.3.

Table 6.8.1.3 Symbols for Systems Utilizing a Gaseous Medium

Symbol	Description
	Carbon dioxide system — automatically actuated
	Carbon dioxide system — manually actuated
	Halon system or clean agent extinguishing system — automatically actuated
	Halon system or clean agent extinguishing system — manually actuated

6.8.1.4 Supplementary Symbols. See Table 6.8.1.4.

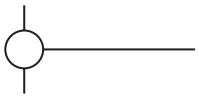
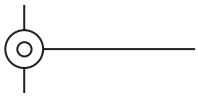
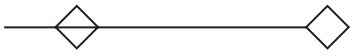
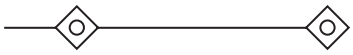
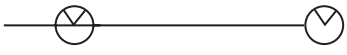
Table 6.8.1.4 Supplementary Symbols

Symbol	Description
	Fully sprinklered space
	Partially sprinklered space
	Nonsprinklered space
	Water spray system

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.8.2* Symbols for Fire Sprinklers. See Table 6.8.2.

Table 6.8.2 Symbols for Fire Sprinklers

Symbol	Description	Comments
	Upright sprinkler	
	Pendent sprinkler	Note "DP" on drawing and/or in specifications where dry pendent sprinklers are employed
	Upright sprinkler; on sprig	
	Upright sprinkler on top of riser nipple	
	Upright sprinkler on top of riser nipple with sprig	
	Pendent sprinkler; on drop nipple	Note "DP" on drawing and/or in specifications where dry pendent sprinklers are employed
	Sprinkler, with guard	Upright sprinkler head shown
	Sidewall sprinkler	
	Outside sprinkler	Specify type, orifice size; for example, open sprinkler (window or cornice)
	Open sprinkler on branch line	
	Open sprinkler on branch line with sprig	
	Water spray nozzle	
	Window sprinklers	

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.8.3* Symbols for Piping, Valves, Control Devices, and Hangers. See Table 6.8.3.

Table 6.8.3 Symbols for Piping, Valves, Control Devices, and Hangers

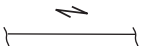
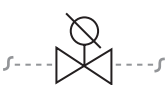
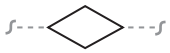
Symbol	Description	Comments
	Sprinkler piping and branch line	Indicate pipe size
	Pipe trace heater	See NECA 100, symbol 5.106
	Mechanical coupling	
	Pipe hanger	This symbol is a diagonal stroke imposed on the pipe that it supports
	Lateral brace	
	Longitudinal brace	
	Four-way brace	Only used to brace risers
	Angle valve (angle hose valve)	Indicate size, type, and other required data
	Check valve (general)	
	Alarm check valve	Specify size, direction of flow
	Dry pipe valve	Specify size
	Dry pipe valve with quick opening device (accelerator or exhauster)	Specify size and type

Table 6.8.3 *Continued*

Symbol	Description	Comments
	Deluge valve	Specify size and type
	Preaction valve	Specify size and type

6.9 Symbols for Portable Fire Extinguishers. See Table 6.9.

Table 6.9 Symbols for Portable Fire Extinguishers

Symbol	Description	Comments
	Portable fire extinguisher	Basic shape
	Water extinguisher	
	Foam extinguisher	
	Dry chemical extinguisher — for liquid, gas, or electrical fires	BC type
	Dry chemical extinguisher — for fires of all types (except metals)	ABC type
	CO_2 extinguisher	
	Halon or clean agent extinguisher	
	Extinguisher for metal fires	

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.10 Symbols for Fire-Fighting Equipment. See Table 6.10.

Table 6.10 Symbols for Fire-Fighting Equipment

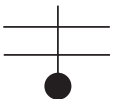
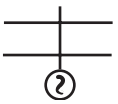
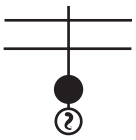
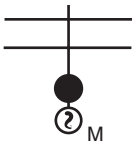
Symbol	Description	Comments
	Fire-fighting equipment	Basic shape
	CO_2 reel station	
	Dry chemical reel station	
	Foam reel station	
	Hose station, dry standpipe	
	Hose station, wet standpipe	
	Monitor nozzle, dry	Specify orifice size
	Monitor nozzle, charged	Specify orifice size

6.11 Symbols for Smoke/Pressurization Control. See Table 6.11.

Table 6.11 Symbols for Smoke/Pressurization Control

Symbol	Description	Comments
	Purge controls — manual control	
	Hand (manual)/ off-automatic	
	Fans — general	Arrow indicates direction of flow

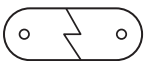
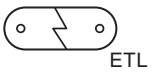
Table 6.11 *Continued*

Symbol	Description	Comments
	Fans — duct	Arrow indicates direction of flow
	Fans — roof	Arrow indicates direction of flow
	Fans — wall	Arrow indicates direction of flow
	Dampers — fire	
	Dampers — smoke	
	Dampers — fire/smoke	
	Dampers — motorized fire/smoke	
	Dampers — barometric	
	Pressurized stairwell	Orient as required for base or head injection
	Ventilation openings	Orient as required for intake or exhaust

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

6.12* Miscellaneous Symbols. See Table 6.12.

Table 6.12 Miscellaneous Symbols

Symbol	Description	Comments
	Agent storage container	Specify type of agent and mounting
	Agent storage container — foam	
	Agent storage container — Halon	
	Agent storage container — carbon dioxide	
	Agent storage container — clean agent	
	Agent storage container — dry chemical	
	Agent storage container — water mist	
	Agent storage container — wet chemical	
	Special spray nozzle	Specify type, orifice, size, other required data (shown here on pipe)
	Fusible link	Specify degrees
	Fusible link with electrothermal feature	Specify degrees
	Solenoid valve	
	End of line device — resistor	

--`,,```,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 6.12 *Continued*

Symbol	Description	Comments
EOL RI	End of line device — relay	
EOL C	End of line device — capacitor	
EOL D	End of line device — diode	
ATS	Transfer switch — automatic with handle	
MTS	Transfer switch — manual with handle	

Chapter 7 Symbols for Use in Pre-Incident Planning Sketches

7.1 Introduction.

7.1.1* This chapter presents symbols that shall be used in pre-incident planning sketches.

7.1.2* Symbol Shapes. The symbol shapes were chosen for their ease of reproduction through either freehand drawing or with the use of templates.

7.2* Access Features, Assessment Features, Ventilation Features, and Utility Shutoffs. See Table 7.2.

Table 7.2 Symbols for Access Features, Assessment Features, Ventilation Features, and Utility Shutoffs

Symbol	Description	Comments
	Access features, assessment features, ventilation features, and utility shutoffs	Basic shape
FD	Access feature — fire department access point	
K	Access feature — fire department key box	

Table 7.2 *Continued*

Symbol	Description	Comments
RA	Access feature — roof access	
AP	Assessment feature — fire alarm annunciator panel	
RP	Assessment feature — fire alarm reset panel	
CP	Assessment feature — fire alarm voice communication panel	
SP	Assessment feature — smoke control and pressurization panel	
WB	Assessment feature — sprinkler system water flow bell	
SL	Ventilation feature — skylight	

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 7.2 *Continued*

Symbol	Description	Comments
SV	Ventilation feature — smoke vent	
E	Utility shutoff — electric	
W	Utility shutoff — domestic water	
G	Utility shutoff — gas	
LPG	Specific variations — LP-gas shutoff	
NG	Specific variations — natural gas shutoff	
CNG	Specific variations — compressed natural gas shutoff	

7.3 Detection/Extinguishing Equipment. See Table 7.3.

Table 7.3 Symbols for Detection/Extinguishing Equipment

Symbol	Description	Comments
	Detection/ extinguishing equipment	Basic shape
DD	Duct detector	
HD	Heat detector	
SD	Smoke detector	
FS	Flow switch (water)	
PS	Manual station — pull station/fire alarm box	
TS	Tamper switch	
HL	Halon system	
DC	Dry chemical system	
CO_2	Carbon dioxide system	
WC	Wet chemical system	
FO	Foam system	
CA	Clean agent system	
BSD	Beam smoke detector	

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

7.4 Water Flow Control Valves and Water Sources. See Table 7.4.

7.5 Equipment Rooms. See Table 7.5.

Table 7.4 Symbols for Water Flow Control Valves and Water Sources

Symbol	Description	Comments
◯	Water flow control valves and water sources	Basic shape
PIV	Post-indicator valve	
RV	Riser valve	
ZV	Sprinkler zone valve	
SCV	Sectional control valve	
HC	Hose cabinet or connection	
WH	Wall hydrant	
TH	Test header (fire pump)	
TC	Inspector's test connection	
FH	Fire hydrant	
FDC	Fire department connection	
DS	Drafting site	
WT	Water tank	

Table 7.4 *Continued*

Table 7.5 Symbols for Equipment Rooms

Symbol	Description	Comments
□	Equipment rooms	Basic shape
AC	Air-conditioning equipment room	AHUs = air handling units
EE	Elevator equipment room	
EG	Emergency generator room	
FP	Fire pump room	
TE	Telephone equipment room	
BR	Boiler room	
ET	Electrical/ transformer room	

7.6* Identification of Hazardous Materials. NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*, shall be permitted to be used to identify the location of hazardous materials within a structure.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Chapter 8 Symbology for Emergency Management Mapping

8.1 Damage Operational Symbology. Use Table 8.1 to cross-reference the damage operational symbols with their definitions.

Table 8.1 Damage Operational Symbology Reference

Symbol Types and Terms	Symbols	Definitions
Incident (No levels) (violet)		Not applicable
Natural Event (No levels) (black)		Not applicable
Operation (Level 1) (green)		Fully operational/open
Operation (Level 2) (blue)		Operational, but filled to capacity or otherwise closed
Operation (Level 3) (orange)		Operational, but partially damaged or partially incapacitated
Operation (Level 4) (red)		Destroyed or totally incapacitated
Infrastructure (Level 1) (green)		Fully operational/open
Infrastructure (Level 2) (blue)		Operational, but filled to capacity or otherwise closed
Infrastructure (Level 3) (orange)		Operational, but partially damaged or partially incapacitated
Infrastructure (Level 4) (red)		Destroyed or totally incapacitated

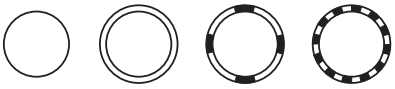
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

8.2 Operations Symbology.

8.2.1 Organizations, services, capabilities, or resources available during or implemented due to an emergency management situation.

8.2.2 Use Table 8.2.2 to cross-reference the operations symbols with their definitions.

Table 8.2.2 Operations Symbology Reference

Symbol Types and Terms	Symbols	Keystroke	Definitions
Operations Background Symbol (Background)		!	The background fill shape for the Operations symbol, level 1
Operations Frame Symbol (Frame)		#	The frame shape for the Operations symbol, level 1
Emergency Medical Operation (Theme)		A	Urgent and unexpected medicinal treatment and/or transport during serious situations that require immediate action[1]
EMT Station Locations (Emergency Medical Feature)		B	The locus of an emergency medical team
Medical Evacuation Helicopter Station (Emergency Medical Feature)		C	The locus of an emergency helicopter landing pad, utilized to transport severely injured persons
Health Department Facility (Emergency Medical Feature)		D	The locus of a facility operated by a public institution that is dedicated to promotion of health and prevention of disease at the community, county, state, or national level[2]
Hospital (Emergency Medical Feature)		E	The locus of an institution where the sick or injured are given medical or surgical care
Hospital Ship (Emergency Medical Feature)		F	The locus of a ship where the sick or injured are given medical or surgical care
Medical Facilities Outpatient (Emergency Medical Feature)		G	The locus of a facility providing medical treatment to patients whose sickness or injury does not require hospitalization

(continues)

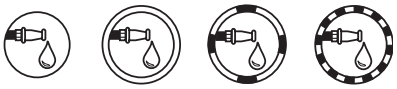
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.2.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Morgue (Emergency Medical Feature)		H	The locus of a place where the bodies of persons found dead are kept until identified and claimed by relatives or released for burial[3]
Pharmacies (Emergency Medical Feature)		I	The locus of a place where medicines are compounded or dispensed[3]
Triage (Emergency Medical Feature)		J	The locus of a place where sorting and allocation of treatment to patients (especially victims of war or disaster) are performed according to a system of priorities designed to maximize the number of survivors[3]
Emergency Operation (Theme)		K	Those actions taken during the emergency period to protect life and property, care for the people affected, and temporarily restore essential community services[4]
Emergency Collection/Evacuation Point (Emergency Operation Feature)		L	A designated place where displaced persons or victims of war or disaster are assembled and/or evacuated from
Emergency Incident Command Center (Emergency Operation Feature)		M	The physical location from which an incident commander manages an incident[5]
Emergency Operations Center (Emergency Operation Feature)		N	The physical location where an organization comes together during an emergency to coordinate response and recovery actions and resources and make management decisions[6]
Emergency Public Information Center (Emergency Operation Feature)		O	No definition
Emergency Public Service Center (Emergency Operation Feature)		P	No definition

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.2.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Emergency Shelters (Emergency Operation Feature)		Q	The locus of a designated emergency/relief shelter
Emergency Staging Areas (Emergency Operation Feature)		R	A designated place where emergency response forces, equipment, and supplies are assembled prior to engagement in operations
Emergency Teams (Emergency Operation Feature)		S	The locus of an emergency response team
Emergency Water Distribution Center (Emergency Operation Feature)		T	A place where potable water is distributed to displaced persons or victims of war or disaster
Emergency Food Distribution Centers (Emergency Operation Feature)		U	A place where food is distributed to displaced persons or victims of war or disaster
Fire Suppression Operation (Theme)		V	The extinguishing of a burning (and flaming) object by means of applying an agent, such as water[7]
Fire Hydrant (Fire Suppression Feature)		W	A discharge pipe with a valve and spout from which water may be drawn from a water main in sufficient volume and at sufficient pressure for fire-fighting purposes[8]
Other Water Supply Location (Fire Suppression Feature)		X	Any source of water other than a fire hydrant that is sufficient for the purpose of fire fighting
Fire Station (Fire Suppression Feature)		Y	A facility housing fire-fighting equipment and/or personnel
Law Enforcement Operation (Theme)		Z	Act of ensuring obedience to the laws[9]

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.2.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
ATF (Law Enforcement Feature)		a	A locus of U.S. Bureau of Alcohol, Tobacco, and Firearms facilities, equipment, or personnel
Border Patrol (Law Enforcement Feature)		b	A locus of U.S. Border Patrol facilities, equipment, or personnel
Customs Service (Law Enforcement Feature)		c	A locus of U.S. Customs Service facilities, equipment, or personnel
DEA (Law Enforcement Feature)		d	A locus of U.S. Drug Enforcement Administration facilities, equipment, or personnel
DOJ (Law Enforcement Feature)		e	A locus of U.S. Department of Justice facilities, equipment, or personnel
FBI (Law Enforcement Feature)		f	A locus of Federal Bureau of Investigation facilities, equipment, or personnel
Police (Law Enforcement Feature)		g	A locus of federal, state, or local police facilities, equipment, or personnel
Prison (Law Enforcement Feature)		h	A facility for the confinement of persons convicted of serious crimes[3]
Secret Service (Law Enforcement Feature)		i	A locus of U.S. Secret Service facilities, equipment, or personnel
TSA (Law Enforcement Feature)		j	A locus of U.S. Transportation Security Administration facilities, equipment, or personnel

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.2.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
U.S. Coast Guard (Law Enforcement Feature)		k	A locus of U.S. Coast Guard facilities, equipment, or personnel
U.S. Marshals Service (Law Enforcement Feature)		l	A locus of U.S. Marshals Service facilities, equipment, or personnel
Sensor Operation (Theme)		m	A device that receives and responds to a signal or stimulus[9]
Biological Sensor (Sensor Operation Feature)		n	A device designed to respond to the presence of one or more biological substances and to transmit a resulting impulse[10]
Chemical Sensor (Sensor Operation Feature)		o	A device designed to respond to the presence of one or more chemicals and to transmit a resulting impulse[10]
Intrusion Sensor (Sensor Operation Feature)		p	A device designed to respond to physical penetration of, or attempts to physically penetrate, a protected area or spatial volume and to transmit a resulting impulse[10]
Nuclear Sensor (Sensor Operation Feature)		q	A device designed to respond to one or more decay product(s) of one or more radioactive nuclides and to transmit a resulting impulse[11]
Radiological Sensor (Sensor Operation Feature)		r	A device designed to respond to one or more decay product(s) of one or more radioactive nuclides and to transmit a resulting impulse[11]

Notes:
1. Source: www.dictionary.com; combined definition of *emergency* and *medical*
2. Source: Based on the APHA public health mission statement
3. Source: Merriam-Webster Online Dictionary
4. Source: Adapted from San Diego State University Emergency Plan Glossary, http://bfa.sdsu.edu/emergencyplan/glossary.htm
5. Source: Commonwealth of Virginia ICS, www.vdfp.state.va.us/ components.htm
6. Source: EMS web site
7. Source: Adapted from www.firewise.org glossary of terms
8. Source: Adapted from Merriam-Webster Online Dictionary definition of *hydrant*
9. Source: www.dictionary.com
10. Source: Adapted from Merriam-Webster Online Dictionary, definition of *sensor*
11. Source: Adapted from Merriam-Webster Online Dictionary definition of *sensor* and inherent knowledge of the process, detection, and measurement of radioactivity

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

8.3 Incidents Symbology.

8.3.1 Table 8.3.2 lists 8 themes and 42 features that symbolize a "cause of action" or "source of disaster."

8.3.2 Use Table 8.3.2 to cross-reference the Incidents symbols with their definitions.

Table 8.3.2 Incidents Symbology Reference

Symbol Types and Terms	Symbols	Keystroke	Definitions
Incidents Stage 01 Background Symbol (Background)		!	The background fill shape for the Incidents symbol, level 1
Incidents Stage 01 Frame Symbol (Frame)		#	The frame shape for the Incidents symbol, level 1
Civil Disturbance Incident (Theme)		A	Human activities resulting in the disrupting of services or requiring varying levels of support, law enforcement, or attention
Civil Demonstrations (Civil Disturbance Feature)		B	A public display of group feelings toward a person or cause[1]
Civil Displaced Population (Civil Disturbance Feature)		C	Persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, violations of human rights, or natural or human-made disasters[2]
Civil Rioting (Civil Disturbance Feature)		D	A public disturbance involving (1) an act or acts of violence by one or more persons part of an assemblage of three or more persons, which act or acts shall constitute a clear and present danger of, or shall result in, damage or injury to the property of any other person or to the person of any other individual, or (2) a threat or threats of the commission of an act or acts of violence by one or more persons part of an assemblage of three or more persons having, individually or collectively, the ability of immediate execution of such threat or threats, where the performance of the threatened act or acts of violence would constitute a clear and present danger of, or would result in, damage or injury to the property of any other person or to the person of any other individual[3]

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.3.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Criminal Activity Incident (Theme)		E	An unlawful pursuit or action in which an individual participates[4]
Bomb Threat (Criminal Activity Feature)		F	A warning of the of the possible presence of a bomb or expression of the intention to detonate a bomb
Bomb (Criminal Activity Feature)		G	An explosive device fused to detonate under specific conditions[5]
Bomb Explosion (Criminal Activity Feature)		H	A violent outburst resulting from detonation of a chemical or nuclear explosive or from the loss of a high pressure vessel's integrity
Looting (Criminal Activity Feature)		I	Burglary committed within an affected area during an emergency[6]
Poisoning (Criminal Activity Feature)		J	Use of a poisonous substance to injure or kill[1]
Shooting (Criminal Activity Feature)		K	Use of a firearm to kill or injure or to damage property[1]
Fire Incident (Theme)		L	The destructive act of something burning; caused by electrical or technological malfunction, lightning, arson, human error, or human negligence
Commercial Facility Fire (Fire Incident Feature)		M	A fire that originates at or affects a commercial facility, resulting in partial damage or total destruction of the structure and/or bodily injury, smoke inhalation, or death
Forest Fire (Fire Incident Feature)		N	An uncontrolled fire in a wooded area[7]

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.3.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Grassland Fire (Fire Incident Feature)		O	An uncontrollable fire in areas of vegetation dominated by grasses, grass-like plants, forbs, mosses, lichens, and/or ferns[8]
Hot Spot (Fire Incident Feature)		P	An area of intensified fire activity and increased heat or a particularly active part of a fire
Industrial Facility Fire (Fire Incident Feature)		Q	A fire that originates at or affects an industrial facility, resulting in partial damage or total destruction of the structure and/or bodily injury, smoke inhalation, or death
Origin (Fire Incident Feature)		R	Location of where the fire started[9]
Residential Fire (Fire Incident Feature)		S	A fire affecting a home or housing complex, resulting in partial or total destruction of the structure and/or bodily injury, smoke inhalation, or death
School Fire (Fire Incident Feature)		T	A fire that originates at or affects an educational facility, resulting in partial or total destruction of the structure and/or bodily injury, smoke inhalation, or death
Smoke (Fire Incident Feature)		U	The visible products of combustion rising above the fire[10]
Special Needs Fire (Fire Incident Feature)		V	A fire that affects special treatment facilities, such as nursing homes or assisted living centers, resulting in partial or total destruction of the structure and/or bodily injury, smoke inhalation, or death
Hazardous Incident (Theme)		W	See Note 11.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.3.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Chemical Agent (Hazardous Incident Feature)		X	A chemical substance that is intended for use in military operations to kill, resulting in psychological disorientation, serious injury, incapacitation or death[12]
Corrosive Material (Hazardous Incident Feature)		Y	Uncontrolled or potentially dangerous presence of a liquid or solid that causes full thickness destruction of human skin at the site of contact within a specified period of time
Dangerous When Wet (Hazardous Incident Feature)		Z	Uncontrolled or potentially dangerous presence of a material that, by contact with water, is liable to become spontaneously flammable or to give off flammable or toxic gas at a rate greater than 1 L/hr per kilogram of the material per hour
Explosive (Hazardous Incident Feature)		a	Uncontrolled or potentially dangerous presence of any substance or article, including a device that is designed to function by explosion (i.e., an extremely rapid release of gas and heat) or that, by chemical reaction within itself, is able to function in a similar manner even if not designed to function by explosion
Flammable Gas (Hazardous Incident Feature)		b	Uncontrolled or potentially dangerous presence of any material that is a gas at 20°C (68°F) or less and 101.3 kPa (14.7 psia) of pressure [a material that has a boiling point of 20°C (68°F) or less at 101.3 kPa (14.7 psia)]; that Is ignitable at 101.3 kPa (14.7 psia) when in a mixture of 13 percent or less by volume with air; or that has a flammable range at 101.3 kPa (14.7 psia) with air of at least 12 percent regardless of the lower limit
Flammable Liquid (Hazardous Incident Feature)		c	Uncontrolled or potentially dangerous presence of a liquid having a flash point of not more than 60.5°C (141°F)
Flammable Solid (Hazardous Incident Feature)		d	Uncontrolled or potentially dangerous presence of desensitized explosives that when dry are explosives of Class 1, which are wetted with sufficient water, alcohol, or plasticizer to suppress explosive properties

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.3.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Non-Flammable Gas (Hazardous Incident Feature)		e	Uncontrolled or potentially dangerous presence of any material (or mixture) that exerts in the packaging an absolute pressure of 280 kPa (40.6 psia) or greater at 20°C (68°F) and is not classified as a flammable gas
Organic Peroxides (Hazardous Incident Feature)		f	No definition
Oxidizers (Hazardous Incident Feature)		g	Uncontrolled or potentially dangerous presence of a material that can, generally by yielding oxygen, cause or enhance the combustion of other materials
Radioactive Material (Hazardous Incident Feature)		h	Uncontrolled or potentially dangerous presence of any material having a specific activity greater than 70 Bq/g
Spontaneously Combustible (Hazardous Incident Feature)		i	Uncontrolled or potentially dangerous presence of a liquid or solid that, even in small quantities and without an external ignition source, can ignite within five (5) minutes after coming in contact with air or a material that, when in contact with air and without an energy supply, is liable to self-heat
Toxic Gas (Hazardous Incident Feature)		j	Uncontrolled or potentially dangerous presence of a gas that presents a hazard to human health
Toxic and Infectious (Hazardous Incident Feature)		k	Uncontrolled or potentially dangerous presence of a poisonous substance that is a specific product of the metabolic activities of a living organism and is usually very unstable and can easily be transferred between organisms
Unexploded Ordnance (Hazardous Incident Feature)		l	Uncontrolled or potentially dangerous presence of an unexploded weapon or ammunition
Air Incident (Theme)		m	An event involving aircraft resulting in damage, bodily injury, death, or the disruption of transportation service

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.3.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Air Accident (Air Incident Feature)		n	A sudden, unexpected event involving aircraft resulting in fuselage damage, bodily injury, death and/or the disruption of transportation service; prompting emergency landing procedures or uncontrolled impact with the ground
Air Hijacking (Air Incident Feature)		o	The unexpected, unlawful and forceful seizure of control aboard an aircraft by an individual or group of individuals resulting in passenger and crew endangerment, injury or death, and/or the redirection of flight destination[13]
Marine Incident (Theme)		p	An event involving a boat or ship and resulting in damage, bodily injury, death, or the disruption of transportation service
Marine Accident (Marine Incident Feature)		q	A sudden, unexpected event involving a boat or ship and resulting in vessel submerging, damage, bodily injury, death and/or the disruption of transportation service
Marine Hijacking (Marine Incident Feature)		r	The unexpected, unlawful and forceful seizure of control aboard a boat or ship by an individual or group of individuals resulting in passenger and crew endangerment, injury or death, and/or the redirection of destination[13]
Rail Incident (Theme)		s	An event involving a train and resulting in damage, bodily injury, death, or the disruption of transportation service
Rail Accident (Rail Incident Feature)		t	A sudden, unexpected event involving a wheeled or tracked vehicle resulting in derailment, damage, bodily injury, death, and/or the disruption of transportation service
Rail Hijacking (Rail Incident Feature)		u	The unexpected, unlawful and forceful seizure of control aboard a wheeled or tracked vehicle by an individual or group of individuals resulting in passenger and crew endangerment, injury or death, and/or the redirection of destination[13]
Vehicle Incident (Theme)		v	An event involving a wheeled or tracked vehicle and resulting in damage, bodily injury, death, or the disruption of transportation service

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.3.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Vehicle Accident (Vehicle Incident Feature)		w	A sudden, unexpected event involving a vehicle and resulting in damage, bodily injury, death, and/or the disruption of transportation service
Vehicle Hijacking (Vehicle Incident Feature)		x	The unexpected, unlawful, and forceful seizure of control aboard a vehicle by an individual or group of individuals resulting in passenger and crew endangerment, injury or death, and/or the redirection of destination[13]

Notes:
1. Source: Merriam-Webster Online Dictionary
2. Source: United Nations *Guiding Principles on Internal Displacement*
3. Source: 18 USC Section 2102
4. Source: www.dictionary.com; combined definitions of *criminal* and *activity*
5. Source: International military definition
6. Source: http://peace-officers.com glossary
7. Source: www.realdictionary.com
8. Source: Adapted from *forest fire* definition and the Forestry Resource glossary located at http://forestry.about.com/library/b/forgls.htm
9. Source: U.S. Department of Agriculture, Forest Service, www.fs.fed.us
10. Source: www.firewise.org
11. Note: All of these proposed definitions are from the following source: Office of Hazardous Materials Safety, Hazmat Regulations and Interpretations.
12. Source: Adapted from NATO definition, www.nato.int/docu/stanag/aap006/aap6.htm
13. Source: www.dictionary.com, definition of *hijack*

8.4 Natural Events Symbology.

8.4.1 A natural event is a phenomenon found in or created by naturally occurring conditions.

8.4.2 Use Table 8.4.2 to cross-reference the Natural Events symbols with their definitions.

Table 8.4.2 Natural Events Symbology Reference

Symbol Types and Terms	Symbols	Keystroke	Definition
Natural Events Stage 01 Background Symbol (Background)		!	The background fill shape for the Natural Events symbol, level 1
Natural Events Stage 01 Frame Symbol (Frame)		#	The frame shape for the Natural Events symbol, level 1
Geologic (Theme)	Reserved		
Aftershock (Geologic Feature)		A	An earthquake that follows a larger earthquake and originates at or near the latter's focus[1]

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.4.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definition
Avalanche (Geologic Feature)		B	A large mass of snow, ice, soil, or rock, or mixtures of these materials, falling, sliding, or flowing very rapidly under the force of gravity[1]
Earthquake Epicenter (Geologic Feature)		C	The point on the earth's surface directly above the focus of an earthquake[1]
Landslide (Geologic Feature)		D	A general term for a wide variety of processes and landforms involving the down slope movement under the force of gravity of masses of soil and rock material[1]
Subsidence (Geologic Feature)		E	Sinking or downward settling of the Earth's surface[1]
Volcanic Eruption (Geologic Feature)		F	The ejection of volcanic materials (lava, pyroclasts, and volcanic gases) from a vent or fissure in the Earth's crust[1]
Volcanic Threat (Geologic Feature)		G	A vent or fissure in the Earth's crust where volcanic eruption is believed to be imminent[2]
Hydro-Meteorologic (Theme)	Reserved		
Drizzle (Hydro-Meteorologic Feature)		H	Sometimes called *mist*; very small, numerous, and uniformly dispersed water droplets that appear to float while following air currents and that, unlike fog droplets, fall to the ground
Drought (Hydro-Meteorologic Feature)		I	A period of abnormally dry weather sufficiently prolonged for the lack of water to cause a serious hydrologic imbalance across the affected area. Drought severity depends upon the degree of moisture deficiency, the duration, and (to a lesser extent) the size of the affected area. In general, the term should be reserved for periods of moisture deficiency that are relatively extensive in both space and time.

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.4.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definition
Flood (Hydro-Meteorologic Feature)		J	A relatively high stream flow that overtops the stream banks in any part of its course, covering land that is not normally under water[1]; a condition that occurs when water overflows the natural or artificial confines of a stream or other body of water, or accumulates by drainage over low-lying areas
Fog (Hydro-Meteorologic Feature)		K	A visible aggregate of minute water droplets suspended in the atmosphere near the earth's surface (According to international definition, fog reduces visibility to less than ⅝ mile (1 km). Fog differs from clouds only in that the base of the fog is at the Earth's surface, while clouds are above the surface.)
Hail (Hydro-Meteorologic Feature)		L	Precipitation in the form of circular or irregular-shaped lumps of ice[3]
Inversion (Hydro-Meteorologic Feature)		M	A departure from the standard decrease or increase with altitude of value of an atmosphere property; almost always used to mean temperature inversion
Rain (Hydro-Meteorologic Feature)		N	Precipitation in the form of liquid water drops that have diameters greater than 0.2 in. (0.5 mm)
Sand Dust Storm (Hydro-Meteorologic Feature)		O	A strong wind carrying sand through the air, the diameter of most of the particles ranging from 0.08 mm to 1 mm; in contrast to a dust storm, sand particles mostly confined to the lowest 2 ft (0.6 m) and rarely rising more than 50 ft (15.2 m) above the ground
Snow (Hydro-Meteorologic Feature)		P	Precipitation composed of white or translucent ice crystals, chiefly of complex branched hexagonal form and often agglomerated into snowflakes
Thunderstorm (Hydro-Meteorologic Feature)		Q	A consequence of atmospheric instability that constitutes an overturning of layers in order to achieve a more stable atmosphere; generally produces lightning, thunder, strong gusts of wind, heavy rain, and sometimes hail

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.4.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definition
Tornado (Hydro-Meteorologic Feature)		R	A violently rotating column, or funnel, of air in contact with the ground and extending from the base of a thunderstorm[3]
Tropical Cyclone (Hydro-Meteorologic Feature)		S	The general term for a cyclone that originates over the tropical oceans
Tsunami (Hydro-Meteorologic Feature)		T	A great sea wave produced by an earthquake or volcanic eruption, characterized by high speed of propagation, long wavelength, long period, and low observable amplitude on the open ocean[1]; can reach enormous dimensions and has sufficient energy to travel across entire oceans; no connection with tides, as can be inferred from the commonly used term *tidal wave*
Infestation (Theme)	Reserved		
Insect Infestation (Infestation Feature)		U	A harassing or troublesome invasion of insects
Microbial Infestation (Infestation Feature)		V	A harassing or troublesome invasion of microbes
Reptile Infestation (Infestation Feature)		W	A harassing or troublesome invasion of reptiles
Rodent Infestation (Infestation Feature)		X	A harassing or troublesome invasion of rodents

Notes:
1. Source: *Dictionary of Geological Terms, Third Ed.*
2. Source: logical extension of *volcanic eruption*
3. Source: Adapted from National Weather Service glossary, www.nws.noaa.gov/glossary.htm

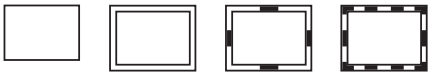
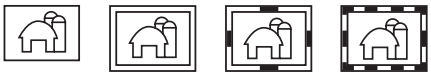
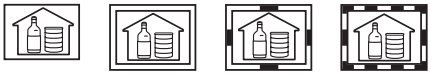
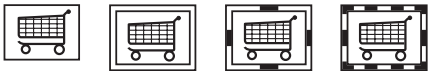
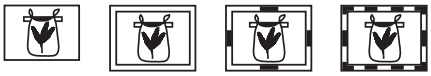
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

8.5 Infrastructures Symbology.

8.5.1 Infrastructure is the basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communications systems, water and power lines, and public institutions, including schools, post offices, and prisons.

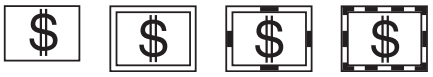
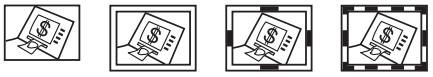
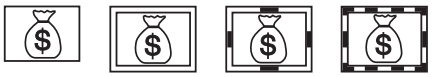
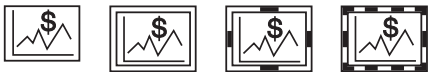
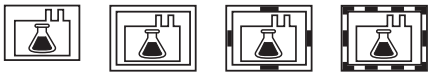
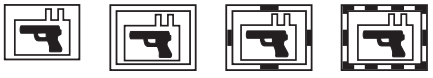
8.5.2 Use Table 8.5.2 to cross-reference the Infrastructures symbols with their definitions.

Table 8.5.2 Infrastructure Symbology Reference

Symbol Types and Terms	Symbols	Keystroke	Definitions
Infrastructures Background Symbol (Background)		!	The background fill shape for the Infrastructures symbol, level 1
Infrastructures Frame Symbol (Frame)		#	The frame shape for the Infrastructures symbol, level 1
Agriculture and Food Infrastructure (Theme)		$	Production and retail services of foodstuffs
Agricultural Laboratory (Agriculture and Food Feature)		%	Facilities used for scientific research in farming
Animal Feedlot (Agriculture and Food Feature)		&	Area designated for feeding livestock
Commercial Food Distribution Center (Agriculture and Food Feature)		(	Facility used for the disbursement of marketable foodstuffs
Farm/Ranch (Agriculture and Food Feature)		)	A piece of land on which crops or animals are raised
Food Production Center (Agriculture and Food Feature)		*	The locus where foodstuffs are produced
Food Retail (Agriculture and Food Feature)		+	Facility where foodstuffs are sold for a profit
Grain Storage (Agriculture and Food Feature)		’	Facility used for the housing of cereal seeds such as corn, wheat, or barley

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

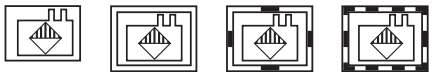
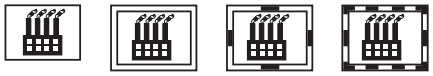
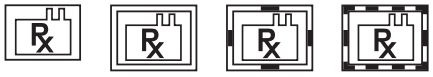
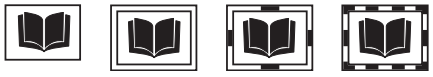
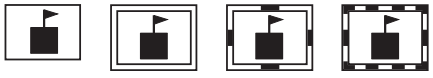
Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Banking, Finance, and Insurance Infrastructure (Theme)		–	The management of money and other assets and their protection[1]
ATM (Banking, Finance, and Insurance Feature)		·	An unattended machine commonly located at a bank's exterior that dispenses money when a personal coded card is inserted[2]
Bank (Banking, Finance, and Insurance Feature)		/	A business establishment in which money is kept for saving for commercial purposes or is invested, supplied for loans, or exchanged[1]
Bullion Storage (Banking, Finance, and Insurance Feature)		0	A facility used to deposit and warehouse gold or silver bars or ingots[3]
Federal Reserve Bank (Banking, Finance, and Insurance Feature)		1	One of twelve regional banks that monitor and act as depositories for banks in their region[2]
Financial Exchange (Banking, Finance, and Insurance Feature)		2	A marketplace in which shares, options, and futures on stocks, bonds, commodities, and indexes are traded[4]
Financial Service Other (Banking, Finance, and Insurance Feature)		3	A business establishment, other than a bank, for the provision of financial or monetary-related products and services; a location that deals with money management business
Commercial Infrastructure (Theme)		4	The locus of where a business enterprise is undertaken[2]
Chemical Plant (Commercial Infrastructure Feature)		5	An industrial site where chemical substances and/or compounds are produced[2]
Firearm Manufacturer (Commercial Infrastructure Feature)		6	A location where hand weapons of explosive force when shot are mass produced[5]
Firearm Retailer (Commercial Infrastructure Feature)		7	A location where hand weapons of explosive force when shot are sold[6]

(continues)

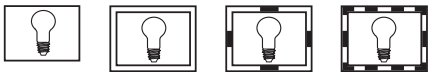
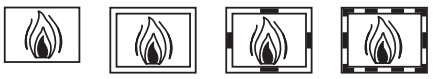
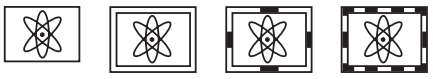
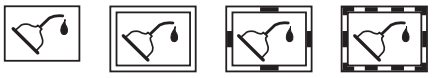
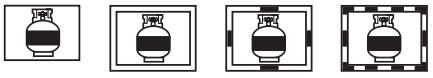
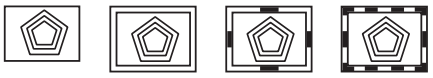
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Hazardous Material Production (Commercial Infrastructure Feature)		8	The locus of where hazardous chemicals and/or substances are produced and stored under regulated conditions
Hazardous Material Storage (Commercial Infrastructure Feature)		9	A storing location for a substance or combination of substances that, because of quantity, concentration, or physical, chemical, radiological, explosive, or infectious characteristics, poses a potential danger to humans and/or the environment[7]
Industrial Site (Commercial Infrastructure Feature)		:	The locus of an industrial facility or facilities used for the commercial production and selling of manufactured goods[1]
Landfill (Commercial Infrastructure Feature)		;	An area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile[8]
Pharmaceutical Manufacturer (Commercial Infrastructure Feature)		=	The location where medicinal drugs are mass produced[9]
Superfund Site National Priorities List (Commercial Infrastructure Feature)		?	A location in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency as a candidate for clean-up because it poses a risk to human health and/or the environment[10]
Toxic Release Inventory (Commercial Infrastructure Feature)		@	The location according to a publicly available database of chemical and other toxic waste releases[10]
Educational Facilities Infrastructure (Theme)		A	A building or collection of buildings or places in which knowledge is provided[11]
College/University (Educational Facilities Feature)		B	An institution of higher learning offering courses of studies leading to bachelor's, master's, or doctoral degrees[12]
School (Educational Facilities Feature)		C	A facility for the primary and secondary education of children[13]

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

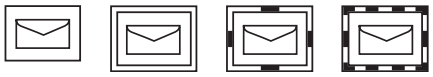
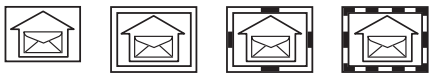
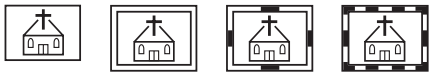
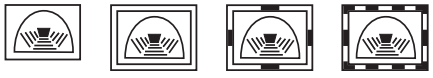
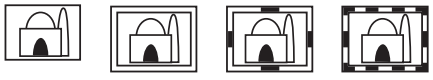
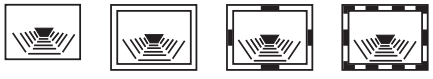
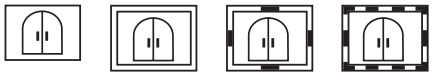
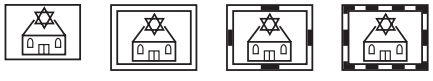
Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Energy Facilities Infrastructure (Theme)		D	A building or collection of buildings and/or places that generates and provides electrical power
Generation Station (Energy Facilities Feature)		E	A facility equipped with special equipment used for the production of heat or electricity[14]
Natural Gas Facility (Energy Facilities Feature)		F	A location equipped with special equipment used to generate natural gas power
Nuclear Facility (Energy Facilities Feature)		G	A location equipped with special equipment used to generate nuclear power
Petroleum Facility (Energy Facilities Feature)		H	A building or place that provides and distributes petroleum gas
Propane Facility (Energy Facilities Feature)		I	A building or place that provides and distributes propane gas
Government Site Infrastructure (Theme)		J	The locus of where executive, legislative, and/or judicial activities take place in the service of the government
Military Infrastructure (Theme)		K	Refers collectively to the four major branches of the United States' armed forces as associated with armed services as contrasted with civilians
Military Armory (Military Feature)		L	A military structure where arms and ammunition and other military equipment are manufactured and stored, and also where training is given in the use of arms[2]
Military Base (Military Feature)		M	The locus of where military personnel, weapons, and supplies are located and also where attacks and other operations are coordinated and launched

(continues)

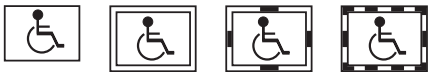
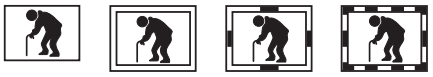
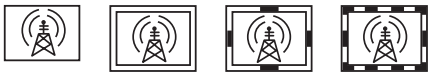
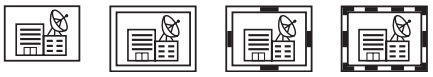
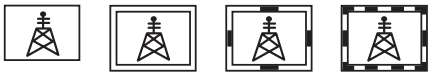
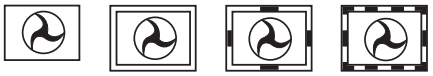
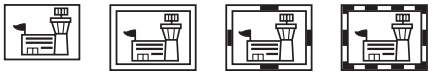
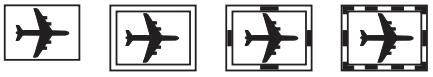
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Postal Service Infrastructure (Theme)		N	The system whereby letters and other parcels are transmitted and delivered via the post office
Postal Distribution Center (Postal Feature)		O	A U.S. Postal Service (USPS) facility where mail is sorted and routed
Post Office (Postal Feature)		P	A U.S. Postal Service (USPS) facility that directly delivers postal services to the public
Public Venue Infrastructure (Theme)		Q	An unrestricted place or places and events for a large gathering of people[1]
Church (Public Venues Feature)		R	A building for public and especially Christian worship[13]
Enclosed Facility (Public Venues Feature)		S	A roofed facility with walls
Mosque (Public Venues Feature)		T	A building used for public worship by Muslims[13]
Open Facility (Public Venues Feature)		U	An open air facility with or without walls, for example, stadium or parking lot
Recreational Area (Public Venues Feature)		V	A place dedicated to the refreshment of strength and spirits after work[13]
Religious Institution (Public Venues Feature)		W	Any place of worship where religious services are held or prayers are said by a congregation loyal to a belief
Synagogue (Public Venues Feature)		X	The house of worship and communal center of a Jewish congregation[13]
Temple (Public Venues Feature)		Y	A building for Mormon sacred ordinances[13]

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

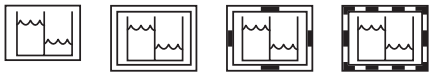
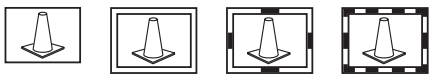
Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Special Needs Infrastructure (Theme)		Z	Of or relating to people who have specific needs, such as those associated with a disability[1]
Adult Day Care (Special Needs Feature)		[	The locus of a nonresidential facility that provides supervision and assisted living services to adults, typically during the daylight hours
Child Day Care (Special Needs Feature)		]	A service involving care for other people's children[1]
Elder Care (Special Needs Feature)		^	The locus of a nursing home or a residential assisted-living facility in which full-time care is provided for the chronically ill, disabled, and elderly
Telecommunications Infrastructure (Theme)		‘	The electronic systems used in transmitting messages, as by telegraph, cable, telephone, radio, television, or computer[1]
Telecommunications Facility (Telecommunications Feature)		a	Any facility housing telecommunications equipment, studios, control rooms, or personnel
Telecommunications Tower (Telecommunications Feature)		b	A structure typically higher than its diameter and high relative to its surroundings to which telecommunications antennae are affixed[13]
Transportation Infrastructure (Theme)		c	Infrastructure, means of transport, and equipment necessary for the movement of passengers and/or goods
Air Traffic Control Facility (Transportation Feature)		d	A facility operated by the appropriate authority to promote the safe, orderly, and expeditious flow of air traffic[8]
Airport (Transportation Feature)		e	An area of land or other hard surface, excluding water, that is used or intended to be used for the landing and takeoff of aircraft and includes its buildings and facilities, if any[8]

(continues)

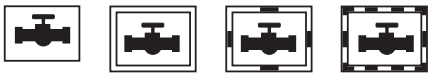
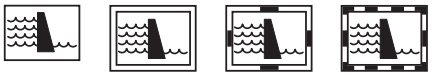
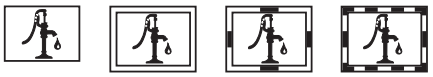
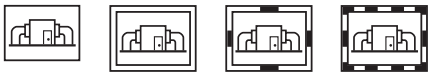
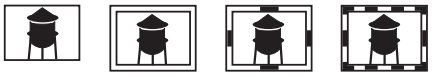
Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Bridge (Transportation Feature)		f	A structure built over a gap to connect and maintain transportation flow between both sides of the gap[15]
Bus Station (Transportation Feature)		g	A terminal that serves bus passengers[2]
Ferry Terminal (Transportation Feature)		h	The location of a vehicle-carrying and commuter boat line terminus[1]
Helicopter Landing Site (Transportation Feature)		i	A site within a landing zone that contains one or more points for helicopters to land[16]
Lock (Transportation Feature)		j	An enclosed part of a canal or river equipped with gates for raising or lowering the level of water so that boats and other vessels may pass[15]
Maintenance Facility (Transportation Feature)		k	A location where vehicles, machines, or any other mechanical devices are serviced for inspection or repair[2]
Port (Transportation Feature)		l	A location on a waterway with facilities for loading and unloading ships and other vessels[1]
Rail Station (Transportation Feature)		m	A depot where tracked transport vehicles or trains load and/or unload passengers or goods[17]
Rest Stop (Transportation Feature)		n	A roadside facility at which motorists may purchase refreshments, use restrooms, and/or acquire area information
Ship Anchorage (Transportation Feature)		o	A location suitable for securely anchoring ships and other vessels[1]
Toll Facility (Transportation Feature)		p	A gate or booth at which money is collected before and/or after motorists enter or exit a toll road (turnpike)[15]
Traffic Control Point (Transportation Feature)		q	The location of absolute signals controlled by an operator to regulate and maintain transportation flow

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

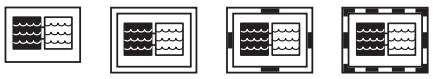
Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Traffic Inspection Facility (Transportation Feature)		r	Permanent facility equipped with scales where motor (shipping) vehicles transporting goods on public highways are required to stop and obtain gross vehicle and/or axle weights[18]
Tunnel (Transportation Feature)		s	An underground passageway used to connect and maintain transportation flow between physical or human-built obstructions[15]
Water Supply Infrastructure (Theme)		t	The storage, disinfection, filtration, and provision of drinking water to the consumer/community by means of pipelines, pumps, water towers, wells, and other appurtenances[19]
Critical Valve (Water Supply Feature)		u	A valve that regulates the speed, flow, or pressure of a fluid[20]
Dam (Water Supply Feature)		v	A barrier constructed across a waterway to control the flow or raise the level of water[1]
Discharge Outfall (Water Supply Feature)		w	The volume of effluent that is released into receiving waters at a given location and within a given period of time[21]
Ground Well (Water Supply Feature)		x	An artificial excavation drilled into the ground for the purposes of withdrawing water from underground aquifers[22]
Pumping Station (Water Supply Feature)		y	Facility that lifts water up and over hills[23]
Reservoir (Water Supply Feature)		z	An off-steam water storage facility that is filled with water pumped from a river or stream[24]
Storage Tower (Water Supply Feature)		{	A large (usually metallic) container for holding gases or liquids[2]

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table 8.5.2 *Continued*

Symbol Types and Terms	Symbols	Keystroke	Definitions
Surface Water Intake (Water Supply Feature)		}	A pipe through which wastewater is transferred directly to another site[25]
Water Treatment Facility (Water Supply Feature)		~	A place designed to receive the wastewater from domestic sources and to remove materials that damage water quality and threaten public health and safety when discharged into receiving streams or bodies of water[22]

Notes:
1. Source: Adapted from www.dictionary.com
2. Source: Adapted from www.hyperdictionary.com
3. Source: www.hyperdictionary.com; combined definitions of *bullion* and *storage*
4. Source: Yahoo! Finance glossary, http://biz.yahoo.com/f/g
5. Source: *Webster's New World Dictionary*; combined definitions of *firearm* and *manufacture*
6. Source: *Webster's New World Dictionary*; combined definitions of *firearm* and *retail*
7. Source: San Diego State University Emergency Plan Glossary, http://bfa.sdsu.edu/emergencyplan/glossary.htm
8. Source: The Federal Aviation Administration glossary, www.faa.gov/library/glossaries
9. Source: *Webster's New World Dictionary*; combined definitions of *pharmaceutical* and *manufacture*
10. Source: Environmental Protection Agency, www.epa.gov
11. Source: www.hyperdictionary.com; combined definitions of *educational* and *facility*
12. Source: Adapted from Merriam-Webster Online Dictionary definitions of *college* and *university*
13. Source: Adapted from Merriam-Webster Online Dictionary
14. Source: www.hyperdictionary.com; combined definitions of *generation* and *station*
15. Source: Adapted from *Webster's New World Dictionary*
16. Source: J. Reimer Training and Doctrine Digital Library, military terms glossary, www.adtdl.army.mil/cgi-bin/atdl.dll/fm/3-21.38/gloss.htm
17. Source: www.hyperdictionary.com, adapted definition of *depot*
18. Source: Nextlinx, www.nextlinx.com/global%5Fcontent/traderefs/glossary.shtml, definition of *weigh station*
19. Source: County of Maui (Hawaii) Water Supply glossary, www.mauiwater.org/glossary.html, combined definitions of *water system* and *treated water*
20. Source: "Valve World" glossary, www.valve-world.net/glossary/index.asp, definition of *control valve*
21. Source: Combined definitions of *outfall* from the Ohio Environmental Protection Agency glossary and *discharge* from the U.S. Geologic Survey, www.epa.state.oh.us/ddagw/documents/swapdocglo.pdf and http://ga.water.usgs.gov/edu/dictionary.html
22. Source: Adapted from the U.S. Geological Survey Water Science glossary, http://ga.water.usgs.gov/edu/dictionary.html
23. Source: Ridenbaugh Press, www.ridenbaugh.com
24. Source: Ohio Environmental Protection Agency glossary (term *upground reservoir*), http://www.epa.state.oh.us/ddagw/documents/swapdocglo.pdf
25. Source: U.S. Geological Survey Water Resources of New Hampshire and Vermont glossary. Combined definitions of *intake pipe* and *surface water return flow*, http://nh.water.usgs.gov/Publications/OFR01-328/ofr01-328_glossary.pdf

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Annex A Explanatory Material

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.3.2.1 Approved. The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A.3.2.2 Authority Having Jurisdiction (AHJ). The phrase "authority having jurisdiction," or its acronym AH1J, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

A.3.2.4 Listed. The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

A.3.3.2 Referent. A referent can be abstract, such as a condition concept, function, relationship, fact, or action.

A.3.3.4 Supplementary Indicators. Effectiveness of symbols can be supplemented by figures, numbers, subscripts, or letter abbreviations. These supplementary indicators can be placed inside of, or adjacent to, the symbol as seen fit. A legend of these indicators, with their meaning, should accompany each set of documents on which they are used.

A.3.3.5 Symbol. Ideally, a symbol should be graphically simple, should be readily understood, should have a strong impact, and should be easily remembered.

A.4.1.2.3 Changes in line thickness, scale, or details are not recommended. In practice, symbols can be combined with other symbols or devices such as words and lighted panels to provide optimal visual alerting.

A.4.1.2.4 The user is referred to other standards, such as those prepared by the NFPA Committee on Safety to Life and the ANSI Z535 Committee on Safety Signs and Colors, for such information.

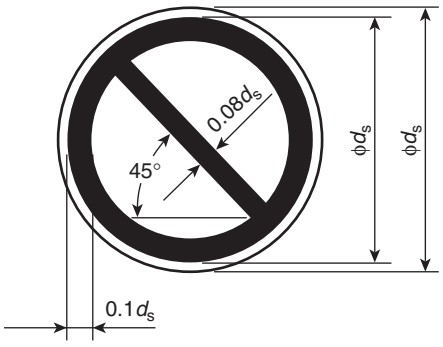
A.4.1.3 Reflective material or self-luminous materials can be used. Consideration needs to be given to the proper mounting of self-luminous symbols in well-lighted locations to ensure charging by exposure to ambient light.

A.4.1.3.2.1 See Figure A.4.1.3.2.1.

A.4.1.3.4 Examples of combinations of symbols that can be used include Exit Symbol Arrow, Exit Symbol with International Symbol of Accessibility, and Exit Symbol with Arrow and International Symbol of Accessibility.

A.4.2 Use of the symbols is not restricted to the examples cited.

A.5.1.1 The purpose of this chapter is to present uniform fire-fighting symbols in order to improve communication wherever symbology is employed in order to provide information to fire fighters and other emergency responders.



The colors of the sign shall be as follows:

Background color:	white
Circular band and diagonal bar:	red
Graphical symbol:	black
Border:	white

The safety color red shall cover at least 35 percent of the total area of the sign.

FIGURE A.4.1.3.2.1 Example of a Prohibition Symbol.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

This chapter provides uniformity in the selection of symbols that are intended to assist fire fighters in locating utilities and fire-fighting equipment.

A.5.1.2 In practice, symbols can be combined with other devices, such as words and lighted panels, to provide optimal visual alerting. This chapter does not specify viewing distance, size, or optimal combinations of symbols, words, and other presentations.

A.5.1.3 Reflective material or self-luminous materials can be used. Consideration needs to be given to the proper mounting of self-luminous symbols in well-lighted locations to ensure charging by exposure to ambient light.

A.5.1.3.1 Drawing scale, line thickness, and so forth are the subject of standards on drawing practice.

A.5.2 Use of the symbols is not restricted to the examples cited.

The symbol for fire hydrant (all types) shown in Table 5.2 can be of particular use where vehicles or snowfall frequently obscures hydrant locations.

A.6.1 This chapter on architectural and engineering symbols draws heavily on the symbols already developed by various societies, agencies, and industry.

The purpose of this chapter is to provide uniformity in the use of fire safety and related symbols in the preparation of drawings and diagrams.

The symbols in this chapter are intended to be simple, transferable by use of templates, and limited to those referents that are used repetitively in a set of drawings.

The symbols in this chapter are intended for, but not limited to, architectural and engineering drawings, fire detection and suppression drawings, and fire risk and/or loss analysis diagrams.

The effectiveness of the symbols in this chapter can be enhanced by the use of supplementary figures, subscripts, numbers, or letter abbreviations.

Devices infrequently used in a given set of drawings and diagrams are not standardized by this document. They usually are accompanied by narrative description, either on the drawing or in specifications.

A.6.1.2 *Diagram Preparation and Contents.* Where appropriate, diagrams include, but are not limited to, the following *(see Figure A.6.1.2)*:

(1) Title block indicating the following:
   (a) Name of company or organization
   (b) Person making drawing and date of drawing
   (c) Name and location of facility involved
(2) "North" direction arrow properly oriented to the position of buildings shown.
(3) Scale of diagram, if used, or "not to scale." Scale can be given with a bar measurement if reduction copies are to be made.

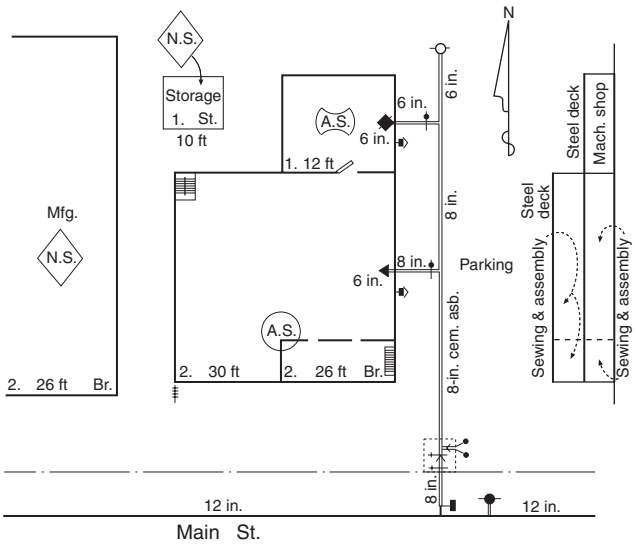
A.6.1.2.1 Drawing scale, line thickness, and so forth are the subject of standards on drawing practice.

A.6.1.2.4 See Figure A.6.1.2.4(a) and Figure A.6.1.2.4(b) for examples of symbol orientation.

A.6.2.1.2 See Figure A.6.2.1.2 for examples of open-walled structures.

A.6.2.3 See Figure A.6.2.3 for an example of a street.

A.6.2.4 See Figure A.6.2.4 for examples of bodies of water.



For SI units: 1 in. = 25 mm; 1 ft = 0.305 m

FIGURE A.6.1.2 Diagram to Exemplify the Use of Symbols for Risk Analysis Drawing.

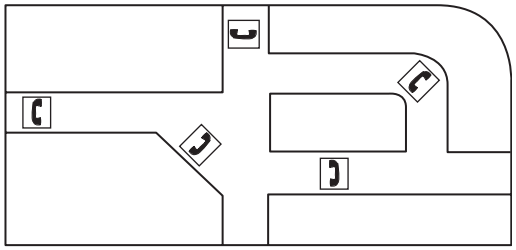


FIGURE A.6.1.2.4(a) Symbol Orientation — Example 1.

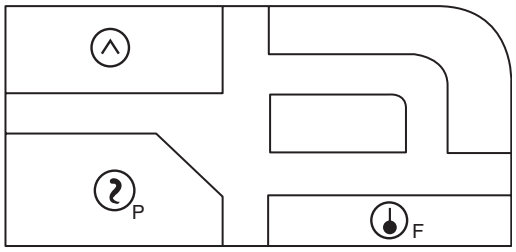


FIGURE A.6.1.2.4(b) Symbol Orientation — Example 2.

A.6.2.5.2 See Figure A.6.2.5.2 for an example of a fence with a gate.

A.6.3.1 See Figure A.6.3.1 for an example of building construction identification. *(See* NFPA 220, *Standard on Types of Building Construction.*)

A.6.3.2 See Figure A.6.3.2 for an example of height symbols used for a building.

A.6.3.3 See Figure A.6.3.3(a) and Figure A.6.3.3(b) for examples of wall symbols.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

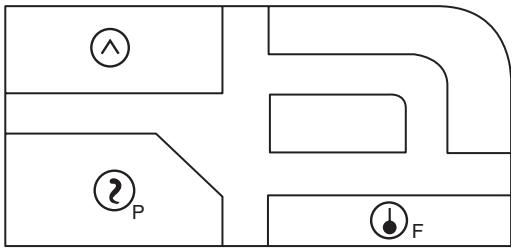


FIGURE A.6.2.1.2 Examples of Open-Walled Structures.

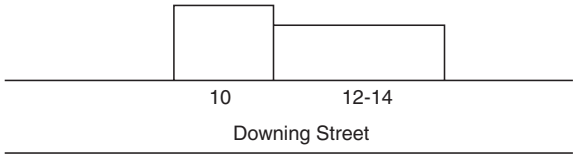


FIGURE A.6.2.3 Example of a Street.



FIGURE A.6.2.4 Examples of Bodies of Water.



FIGURE A.6.2.5.2 Example of a Fence with a Gate.

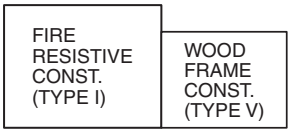


FIGURE A.6.3.1 Example of Building Construction Identification.

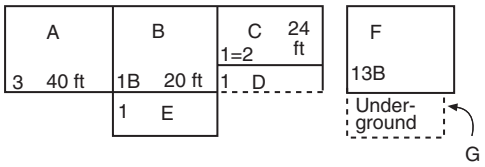
See Figure A.6.3.3(a) for examples of parapet symbols used for a building.

A.6.3.5 See Figure A.6.3.5 for an example of cross-section symbols used for a building.

A.6.4 For private hydrant, one hose outlet; public hydrant, two hose outlets; public hydrant, two hose outlets and pumper connection; wall hydrant, two hose outlets; and private housed hydrant, two hose outlets, all shown in Table 6.4, symbol elements can be utilized in any combination to fit the type of hydrant.

A.6.7 Additional subscript identifiers can be included with a slash after the primary subscript to indicate such things as WP for weather proof or EP for explosion proof or others.

A.6.7.1 For the manual station symbol shown in Table 6.7.1, electrical or mechanical actuation can be shown.



A Three stories, no basement, 40 ft to eaves.
B One story with basement, 20 ft to eaves.
C One-equals-two stories, no basement, 24 ft to eaves.
D One-story open porch or shed.
E One-story addition.
F Thirteen stories with basement.
G Underground structure.

FIGURE A.6.3.2 Examples of Building Height Symbols. (Figure includes copyrighted material of Insurance Services Office with its permission. Copyright, Insurance Services Office, 1975.)

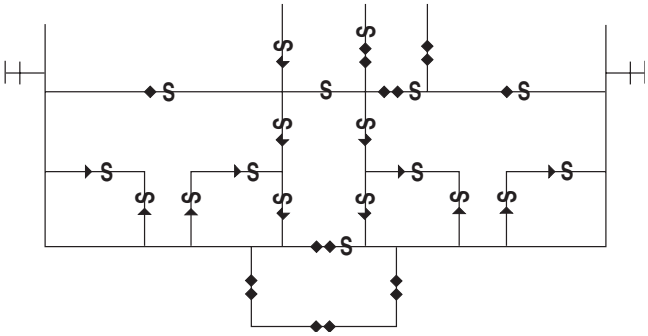


FIGURE A.6.3.3(a) Symbols Used to Note Wall Ratings and Parapets on Life Safety Plans and Risk Analysis Plans/Cross Sections.

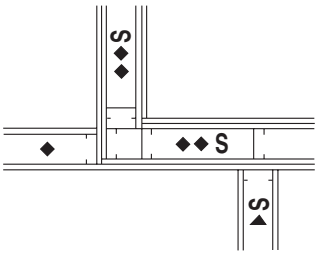


FIGURE A.6.3.3(b) Symbol Used to Note Wall Ratings on Design and Construction Documents.

See NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems*, for a generic list of clean agents.

The telephones referred to in the fire service or emergency telephone station symbols, shown in Table 6.7.1, are those for a dedicated system for fire and related emergencies.

Temperature rating of heat detectors, in Table 6.7.1, can be shown.

Velocity can be shown for the smoke detector for duct symbol shown in Table 6.7.1.

For the gas detector symbol shown in Table 6.7.1, the drawing should show the type of gas or gases being monitored. The

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

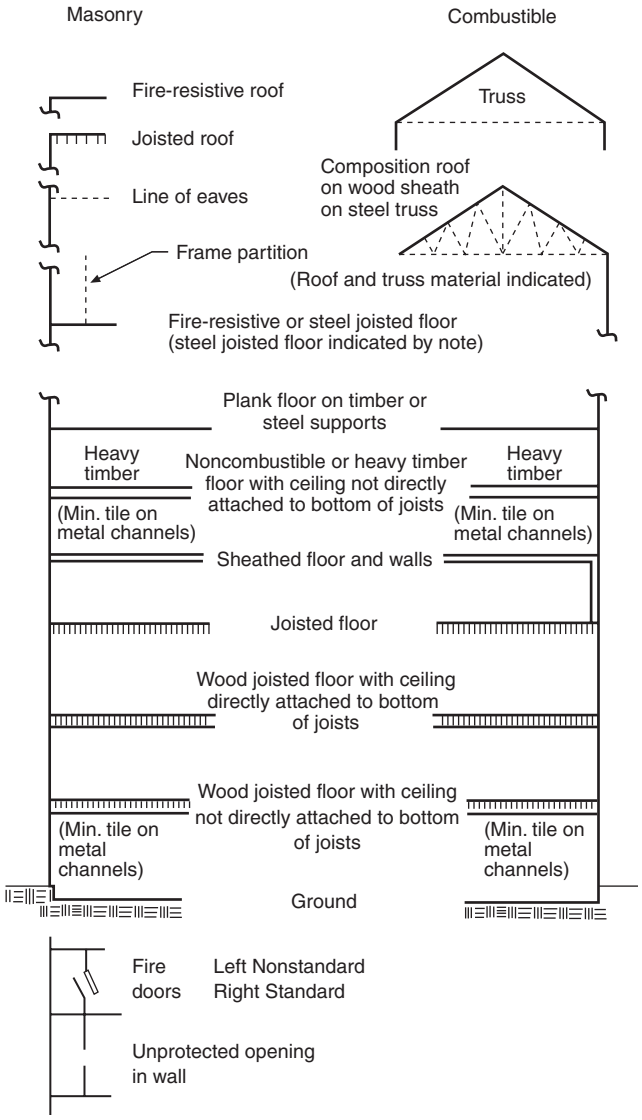


FIGURE A.6.3.5 Examples of Symbols and Notations Used for Fire Risk Analysis Cross Section. (Figure includes copyrighted material of Insurance Services Office with its permission. Copyright, Insurance Services Office, 1975.)

drawing should indicate the lower explosive limit (LEL) and/or the upper explosive limit (UEL) of gas or gases.

A.6.8 These symbols are intended for use in identifying the type of system installed to protect an area within a building.

A.6.8.2 For sprinklers shown in Table 6.8.2, the temperature rating of the sprinkler and other characteristics can be shown via legends where a limited number of an individual type of sprinkler is called for by the design.

A.6.8.3 See also Table 6.4 for related symbols.

A.6.12 The electrothermal link (ETL) is a multipurpose dual-response fusible link/release device. These devices are used in various applications, such as smoke/damper control and door closures. The symbol should be shown with its rated thermal point.

A.7.1.1 The purpose of this chapter is to provide uniformity in the use of fire safety and related symbols in the preparation of pre-incident planning sketches.

The symbols in this chapter are provided to assist fire service or emergency response personnel who are responsible for preparing and using pre-incident planning sketches.

A.7.1.2 Triangle symbols are used for access features, assessment features, ventilation features, and utility shutoffs and can point at a specific location or direction. Diamond symbols identify a specific location by touching a wall. Circle symbols are used for all piping system components, such as valves, since most pipes are round.

Square symbols are used for room designations, as they represent most rooms having four sides.

A.7.2 For Section 7.2 through Section 7.5, other features to complete the pre-incident planning sketch can be used as appropriate.

A.7.6 Figure A.7.6 shows an example of hazardous identification.



FIGURE A.7.6 Example of Hazardous Identification.

Annex B Additional Explanatory Information on Chapters 1 through 6

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

B.1 Reserved.

B.2 Reserved.

B.3 Additional Explanatory Information on Chapter 4.

B.3.1 Symbol Testing. Two or more versions of a symbol were developed for the referents listed in Chapter 4. The effectiveness of each of these symbols was evaluated by testing its meaningfulness (i.e., understandability) with groups of different participants. On the basis of these results, a symbol was selected for each referent. In some cases, the symbols were refined graphically to incorporate modifications suggested by the test results. Symbol development and refinement included the efforts of research psychologists, graphic designers, safety engineers, and fire professionals.

The life safety symbols were tested in the course of several different research projects during a 7-year period. These results are referenced in a series of publications by the National Bureau of Standards.

Although a variety of testing procedures were used to assess understandability, the basic method consisted of asking people either to write down short definitions or to pick the correct definition from a set of carefully selected choices. In several studies, data on symbol preference and rated effectiveness also were obtained.

For these testing efforts, one set of participants consisted of 222 industrial personnel and 78 students; another set consisted of 271 miners and mine personnel; and another set consisted of 94 paid volunteers. No major differences between

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

participant groups were observed for the symbols selected for Chapter 4.

In addition to the studies of understandability, a detailed assessment was made of exit symbol visibility. This study used a laboratory optical viewing system to present a set of exit symbols included in a much larger set (108) of safety and information symbols. Three viewing conditions that simulated smoke were used (luminance of 0.085, 0.060, and 0.032 candela/m^2). Forty-two participants were familiarized with a randomly selected set of exit symbols to identify the separate effects of understandability and visibility. The symbol given in Chapter 4 was the symbol that was most frequently identified correctly under all three viewing conditions. In addition, the identification data were virtually the same whether participants had been familiarized with the symbol or not — suggesting that the symbol has high initial understandability. (This suggestion is reinforced by the high percentages of correct identification found in those studies that evaluated understandability.)

The results of the visibility testing program are important because an exit symbol must be both well understood and visible when under degraded viewing conditions such as smoke.

The goal of the overall testing program was to identify versions or elements of symbols for the selected referents that appeared to be most effective in communicating the intended message. It is recognized that further education and/or supplemental word messages can be useful in optimizing the effectiveness of these symbols with the general public. Nevertheless, the symbols selected have demonstrated good initial understandability. Symbols for the referents generally showed good understandability (better than 85 percent correct identification). Symbols that presented some understandability problems included "No Exit" and "Fire Alarm Call Point." The examples shown herein, however, represent the imagery that was best understood. It is hoped that use of these images will strengthen public recognition.

It also should be noted that the symbol for handicapped accessibility was not tested in this program. It is, however, in an existing ANSI standard, A117.1, *Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People,* and has achieved wide use and good recognition.

B.4 Additional Explanatory Information on Chapter 5.

B.4.1 Symbol Testing. At least two versions of a symbol were developed for each of the following referents:

(1) Fire department automatic sprinkler connection — siamese
(2) Fire department standpipe connection
(3) Fire department combined automatic sprinkler/standpipe connection
(4) Fire hydrant (all types)
(5) Automatic sprinkler control valve
(6) Electric panel or electric shutoff

The following referents are discussed in this section:

(1) Gas shutoff valve
(2) Fire-fighting hose or standpipe outlet
(3) Fire extinguisher
(4) Directional arrow
(5) Diagonal directional arrow

Subsequently, the effectiveness of the symbols was evaluated by testing their meaningfulness to groups of fire professionals; the procedures are outlined in this section. On the basis of the test results, a symbol was selected for each referent. This set of symbols was further refined graphically, incorporating modifications suggested by the test results. Symbol development and refinement through a Subcommittee on Visual Alerting Symbols included the efforts of fire professionals, graphic artists and designers, research psychologists, and safety engineers.

Symbols for gas shutoff valve, fire-fighting hose or standpipe outlet, fire extinguisher, directional arrow, and diagonal directional arrow were adapted from International Organization for Standardization (ISO) publications. The fire extinguisher symbol was included in the test procedure. Although the standpipe outlet symbol was not tested in isolation, it was incorporated as an element in two of the tested symbols (fire department standpipe connection and fire department combined automatic sprinkler/standpipe connection).

Participants in the test program included fire professionals attending a national convention or local (Maryland) training classes and totaled 86 participants. The test procedure involved two phases. In the first phase, the participants were shown one symbol at a time, in slide form, and were asked to write down a short definition of what they thought each symbol meant. In the second phase, two symbolic versions of each referent were shown together, and their intended meaning was provided; the participants indicated which version (if either) of each pair they felt better conveyed the meaning. They also were asked to give the reason for their preference and were free to offer any suggestions for improvement.

The goal of the testing program was to identify versions or elements of symbols for the selected referents that were most effective in visually alerting fire fighters. It is recognized that education might be required to optimize the effectiveness of the symbols for fire fighters. Nevertheless, it is important to select symbols that initially are meaningful. Symbols for seven of the nine referents tested showed good recognizability (85 to 100 percent) and no serious confusion with other possible meanings. However, for two referents — wall hydrant and gas control valve — recognition was poor, and confusion was common for both symbolic versions of each message. Therefore, no symbol for these two referents is presented in this standard. Graphic improvements and alternative conceptions are being sought. (A symbol for a gas shutoff valve was accepted for the 1991 edition of NFPA 170, *Standard for Firesafety Symbols.*)

B.4.2 The NFPA Committee on Fire Safety Symbols was able to identify a set of shapes for symbols to be used to direct responding fire fighters.

B.5 Additional Explanatory Information on Chapter 6.

B.5.1 Symbol Selection Procedure. See Figure B.5.1 for an example of the procedures involved in selecting fire safety symbols.

B.5.2 Discussion of Basic Symbols.

B.5.2.1 Symbol Testing. Inevitably, when a new standard is introduced to a field in which standardized symbols are not established and everyone is acting independently, controversy looms over the effort as to which (whose) alleged "standard" should be used. Such controversy can be met only with a national logic for meeting the standardization task. Such logic was used in developing former NFPA 172, *Standard Fire Protection Symbols for Architectural and Engineering Drawings*, now incorporated into Chapter 6.

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

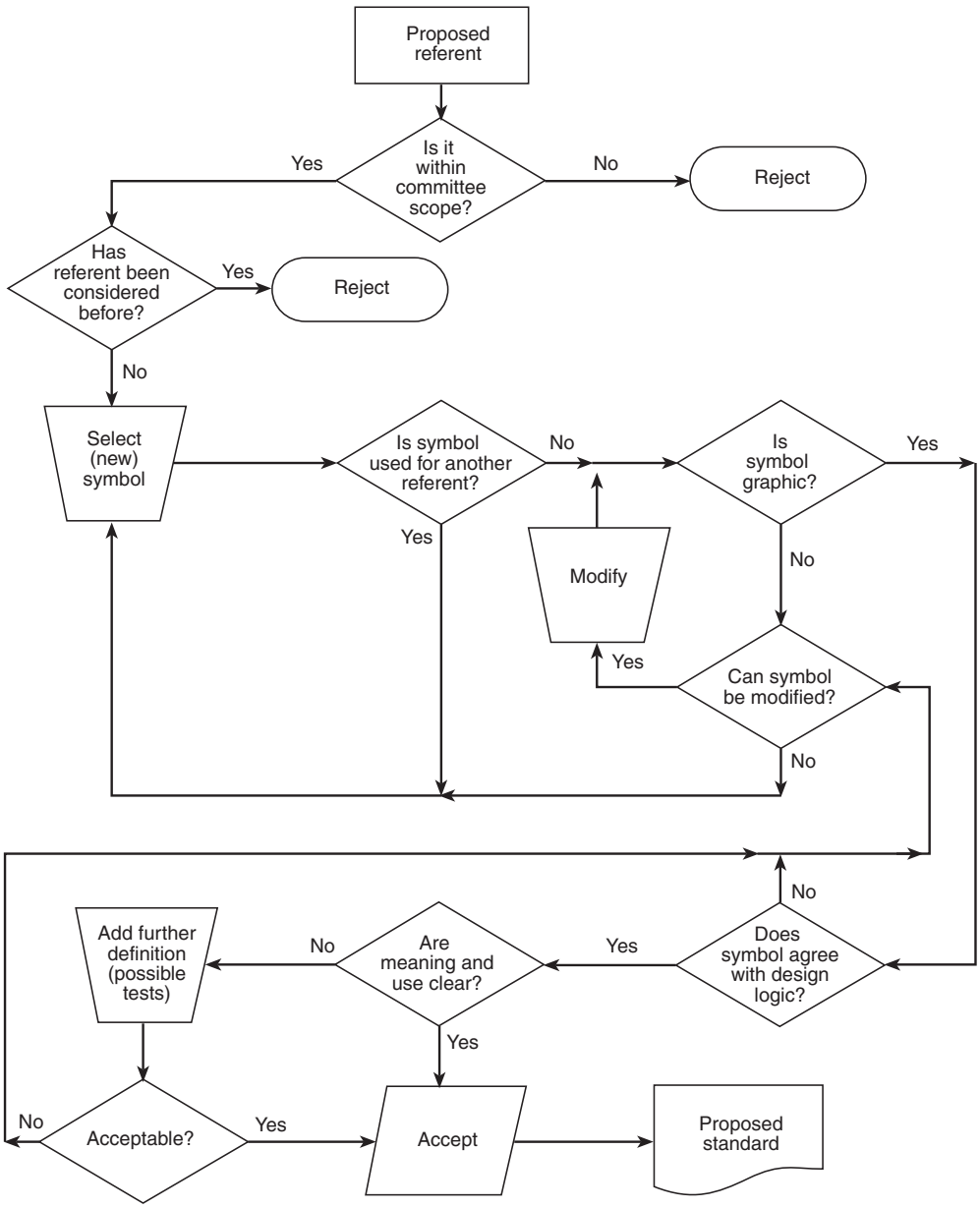


FIGURE B.5.1 Symbol Selection Procedure.

B.5.2.2 This symbology effort ultimately employed the following steps:

(1) Identify problem. Is a standard for fire protection symbols needed?
(2) Identify referents. What devices should be symbolized? Consider applicability to fire protection and frequency of use.
(3) Identify symbols' availability. What symbols exist, and how widely are they used for fire protection and other disciplines?
(4) Develop a system of symbol selection. Can a system be identified so that referents and symbols can be rationally selected or developed? *(See B.5.1.)*
(5) Can a scheme of basic shapes be utilized in developing symbol sets for categories of referents?
(6) Adhere to the scheme. Make exceptions only where an overwhelming level of usage makes changes unreasonable.
(7) Avoid conflicts. Are there other practices and/or standards with which the proposed standard might be in conflict?

B.5.2.3 To accomplish step B.5.2.2(5), two factors had to be considered. First, there is very little agreement on symbols throughout North America. For the most part, various industry segments disagree on symbols and even on basic shapes. Second, the ISO Committee on Fire Protection Symbols for Use on Drawings completed most of its work on this subject before 1980 and proposed a set of basic symbol shapes.

B.5.2.4 With the two foregoing considerations, the NFPA Committee on Fire Safety Symbols was able to develop a set of basic shapes for symbols to be used on fire protection

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

drawings. The basic shapes shown in Table B.5.2.4 were selected by uniting the ISO proposed basic shapes and, where existent, the North American common practice. Thus, the collection of shapes (menu) represents a compromise with the sole major objective of developing a symbols standard aimed at a common language to improve future communication among users of fire protection drawings worldwide.

Table B.5.2.4 Basic Symbol Shapes and Relative Sizes

General Referent	Shape	Relative Size*	Comments
Major Elements			
Automatically actuating systems		5⁄32 in. (4 mm) diameter	Detection, extinguishment
Manually actuating systems		5⁄32 in. (4 mm) square	Manual alarm system
Control panel		5⁄32 in. × 5⁄16 in. (4 mm × 8 mm)	Supplementary element used to describe the panel
Portable fire extinguisher		3⁄16 in. (5 mm) sides	Supplementary element used to further describe the extinguisher
Fire-fighting equipment		1⁄4 in. (6 mm) sides	Supplementary element used to describe a specific device
Supplementary Elements			
Water system components		3⁄32 in. (2 mm) diameter	General shape, a circle. Shading of this element indicates a wet device
Foam agent		3⁄16 in. (5 mm) diameter	
Dry chemical agent		3⁄32 in. (2 mm) square	
Gaseous agent		1⁄8 in. (3 mm) sides	
Nozzle			Used on pipe or other symbol
Pressure notation			Used with another symbol shape, such as a detector or a tank
Switch (electrical) or contact		5⁄64 in. (2 mm) diameter	
Valve		5⁄32 in. (4 mm) high	
Check valve		1⁄4 in. (6 mm) high (with arrow)	
Tamper detector		5⁄32 in. (4 mm) diameter	
Heat detector		3⁄64 in. (1 mm) diameter	
Flow detector		5⁄32 in. (4 mm) high	
1-hour fire rating		3⁄16 in. (5 mm) square	Used to indicate fire rating of walls in hours

**Relative* is emphasized since it is not the intent here to specify actual dimensions. For comparisons, this column lists the suggested sizes of the symbols presented here.

--`,,```,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

B.5.2.5 The collection of basic shapes in Table B.5.2.4 is broken down into a major classification of symbol elements and a supplementary set of symbol elements that can be used singly or in combination with other symbol elements. These basic symbol shapes and relative sizes are not exclusive of all the shapes and sizes that were used in developing former NFPA 172 (now incorporated into Chapter 6). They are a guide that was used in developing the family scheme.

It is recognized that former NFPA 172 did not include all the fire safety symbols that can be required on architectural and engineering drawings. Table B.5.2.4 can therefore be used as a basis for future development of Chapter 6 or for the design of specialized symbols by the draftsperson.

Symbol elements have definite meanings and therefore should always be represented at the same relative size when used in different symbols.

B.5.2.6 The NFPA Committee on Fire Safety Symbols was able to identify a set of shapes for symbols to be used on fire protection drawings and diagrams *(see Table B.5.2.4)*. The shapes were selected through a reconciliation of the symbols presented in former NFPA 172 (now incorporated into Chapter 6), the general shapes being drafted by ISO, and, where existent, the common practice in North America. Thus, the family of shapes represents a compromise, with the major objective of developing a common language to improve future communication among users of fire protection diagrams worldwide.

B.5.3 Use of Color Coding.

B.5.3.1 General. The use of color coding to indicate various types of building construction is recommended and can be justified. Where used, color coding should be in conformity with this annex to maximize communication. Where color coding is not used, it is necessary to rely on printed detail.

B.5.3.2 Table B.5.3.2 presents a recommended system for color coding.

Table B.5.3.2 Color Coding of Construction Types

Construction Type*	Color
Fire resistive (Type I)	Light brown
Noncombustible/limited combustible (Type II)	Gray (brown border if masonry walls)
Heavy timber and ordinary (Type III and IV)	Pink
Wood frame (Type V)	Yellow

*See NFPA 220, *Standard on Types of Building Construction.*

Annex C Symbols for Life Safety Planning

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

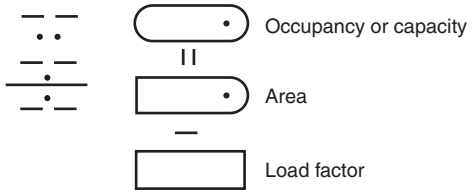
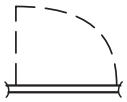
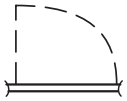
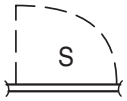
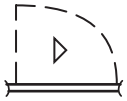
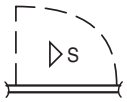
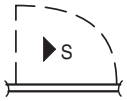
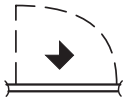
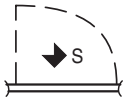
C.1 The symbols shown in Table C.1 are presented for use in developing plans showing life safety–related components. Other features that can be indicated include wall rating *(see Table 6.3.3)*, emergency lighting *(see Table 6.6)*, and so forth.

Table C.1 Symbols for Use in Developing Plans Showing Life Safety–Related Components

Symbol	Description	Comments
E: _ _	Egress component identifier	Specify egress component: EX# = Exit number HE = Horizontal exit EP = Exit passageway CP = Common path of travel PD = Public discharge RD = Room door ES = Escape
< _ _ >	Egress component capacity	Specify allowable number of persons through egress component (e.g., < 25 >)
<< _ _ >>	Governing component capacity	Specify maximum capacity of the egress path
_ _ > _ _	Travel distance	Left side: Distance to egress component Right side: Egress component identifier

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

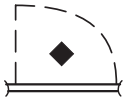
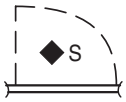
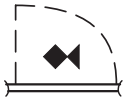
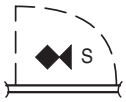
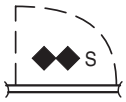
Table C.1 *Continued*

Symbol	Description	Comments
	Occupancy capacity	Top: Specify capacity Middle: Specify area [square feet (square meters)] Bottom: Specify occupant load factor
	Fire door	
	Non-rated fire door	
	Non-rated smoke-resistant fire door	
	20-minute fire-rated fire door	
	20-minute fire-rated, smoke-resistant fire door	
	½-hour fire-rated fire door	
	½-hour fire-rated, smoke-resistant fire door	
	¾-hour fire-rated fire door	
	¾-hour fire-rated, smoke-resistant fire door	

(continues)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Table C.1 ***Continued***

Symbol	Description	Comments
	1-hour fire-rated fire door	
	1-hour fire-rated, smoke-resistant fire door	
	1½-hour fire-rated fire door	
	1½-hour fire-rated, smoke-resistant fire door	
	2-hour fire-rated fire door	
	2-hour fire-rated, smoke-resistant fire door	
	3-hour fire-rated fire door	
	3-hour fire-rated, smoke-resistant fire door	
	Exit	Wide, black, solid line
	Exit access	Wide, black, dashed line
	Exit discharge	Wide, black, short, dashed line

--`,,```,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale

Annex D Informational References

D.1 Referenced Publications. The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

D.1.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 170, *Standard for Firesafety Symbols*, 1991 edition.

NFPA 172, *Standard Fire Protection Symbols for Architectural and Engineering Drawings*, 1980 edition.

NFPA 220, *Standard on Types of Building Construction*, 2006 edition.

NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems*, 2004 edition.

D.1.2 Other Publications.

D.1.2.1 ANSI Publication. American National Standards Institute, Inc., 11 West 43rd Street, 4th floor, New York, NY 10036.

ANSI A117.1, *Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.*, 1992.

D.2 Informational References. The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

D.2.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471 .

Fire Protection Handbook, 19th edition, 2003.

Fire and Life Safety Inspection Manual, 8th edition, 2002.

National Fire Codes®, 2006.

D.2.2 ANSI Publications. American National Standards Institute, Inc., 11 West 43rd Street, 4th floor, New York, NY 10036.

ANSI Z535.1, *Safety Color Code*, 2002.

ANSI Z535.3, *Criteria for Safety Symbols*, 2002.

ANSI Z535.4, *Production Safety Signs and Labels*, 2002.

D.2.3 IEC Publication. International Electrotechnical Commission, 3 rue de Varembé, P.O. Box 131, CH-1211 Geneva 20, Switzerland.

IEC, Pub. 117-3, *Graphical Symbols*, 1977.

D.2.4 ISO Publications. International Organization for Standardization, 1, rue de Varembé, Case Postale 56, CH-1211 Geneva 20, Switzerland.

ISO 3461-1976(E), *General Principles for the Creation of Graphical Symbols,* 1988.

ISO 3864, *Safety Colors and Safety Signs*, 1984.

ISO 6309, *Fire Protection — Safety Signs*, 1987.

ISO 6790, *Equipment for Fire Protection and Fire Fighting Graphical Symbols for Fire Protection Plans — Specification*, 1986.

D.3 References for Extracts in Informational Sections. (Reserved)

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Index

© 2005 National Fire Protection Association. All Rights Reserved.

The copyright in this index is separate and distinct from the copyright in the document that it indexes. The licensing provisions set forth for the document are not applicable to this index. This index may not be reproduced in whole or in part by any means without the express written permission of NFPA.

-A-

Aboveground tanks ..... Table 6.3.6
Access, fire department
Drawing and diagram symbols 6.2.7
Pre-incident planning sketch symbols ..... Table 7.2, A.7.2
Access to exits, disabled users ..... Table 4.2
Agricultural and food infrastructure ..... Table 8.5.2
Air-conditioning equipment rooms ..... Table 7.5
Air incidents ..... Table 8.3.2
Alarms, fire
Control panels ..... Table 6.5
Drawing and diagram symbols ..... Table 6.7.1, A.6.7.1
Manual ..... *see* Manual alarms
Pre-incident planning sketch symbols ..... Table 7.2
Approved (definition) 3.2.1, A.3.2.1
Architectural drawings, symbols used in .... *see* Drawings and diagrams, symbols used in
Arrows, directional ..... Table 5.2
Authority having jurisdiction (definition) 3.2.2, A.3.2.2

-B-

Banking, finance, and insurance infrastructure ..... Table 8.5.2
Boiler rooms ..... Table 7.5
Boilers ..... Table 6.3.6
Building construction, symbols for ..... 6.3, A.6.3.1 to A.6.3.5
Buildings, symbols for ..... 6.2.1, A.6.2.1.2, Fig. A.6.2.1.2

-C-

Campfires prohibition ..... Table 4.2
Child care center ..... Table 5.2
Chimneys ..... Table 6.3.6
Civil disturbance incidents ..... Table 8.3.2
Commercial infrastructure ..... Table 8.5.2
Compressed natural gas shutoff ..... Table 7.2
Connections, fire department ..... *see* Fire department connections
Construction, building, symbols for 6.3, A.6.3.3, A.6.3.5
Control devices, sprinkler system ..... 6.8.3, Table 6.8.3
Control panels ..... Table 6.5, Table B.5.2.4
Cooking prohibition ..... Table 4.2
Criminal activity incidents ..... Table 8.3.2
Cross sections ..... 6.3.5, A.6.3.5, Fig. A.6.3.5

-D-

Damage operational symbology ..... *see* Emergency management mapping, symbology for
Definitions ..... Chap. 3
Detection equipment and systems
Drawing and diagram symbols ..... Table 6.7.2, Table B.5.2.4
Pre-incident planning sketch symbols ..... Table 7.3
Diagrams ..... *see* Drawings and diagrams, symbols used in
Directional arrows ..... Table 5.2
Disabled users, exit access for ..... Table 4.2
Door holders ..... Table 6.7.3
Doors, fire ..... Table 6.3.4, Table C.1
Drawings and diagrams, symbols used in ..... Chap. 6
Alarms, fire ..... Table 6.7.1, A.6.7.1
Building construction ..... 6.3, A.6.3.1 to A.6.3.5
Color coding, use of B.5.3
Control panels ..... Table 6.5
Descriptions of symbols ..... 6.2 to 6.12, A.6.2 to A.6.4, A.6.7, A.6.8, A.6.12
Detection equipment ..... Table 6.7.2
Development B.5.2
Extinguishers, portable fire ..... Table 6.9
Extinguishing systems 6.8, A.6.8
Fire-fighting equipment ..... Table 6.10
Means of egress ..... Table 6.6
Miscellaneous ..... Table 6.12, A.6.12
Orientation ..... 6.1.2.4, A.6.1.2.4, Fig. A.6.1.2.4(a), Fig. A.6.1.2.4(b)
Presentation 6.1.2, A.6.1.2
Scale 6.1.2.3
Screened lines 6.1.2.2
Selection procedure B.5.1
Shapes ..... 6.1.2.1, A.6.1.2.1, B.5.2.4 to B.5.2.6
Site features ..... 6.2, A.6.2.3 to A.6.2.5.2
Sizes, relative ..... Table B.5.2.4
Smoke/pressurization control ..... Table 6.11
Sprinkler ..... Table 6.8.1.4, Table 6.8.2, A.6.8.2
Testing B.5.2.1
Water supply and distribution ..... Table 6.4, A.6.4
Dry chemical extinguishing systems ..... Table 6.8.1.2, Table 7.3
Dry chemical portable fire extinguishers ..... Table 6.9

-E-

Educational facilities infrastructure ..... Table 8.5.2
Egress, means of ..... *see* Means of egress
Electrical/transformer rooms ..... Table 7.5
Electric panel or electric shutoff ..... Table 5.2, Table 7.2
Elevators
Building construction symbols ..... Table 6.3.4
Equipment rooms ..... Table 7.5
Prohibition of use ..... Table 4.2
Emergency management mapping, symbols for ..... Chap. 8
Damage operational symbology reference ..... 8.1, Table 8.1
Incidents symbology ..... 8.1, Table 8.1, 8.3, Table 8.3.2
Infrastructures symbology ..... 8.1, Table 8.1, 8.5, Table 8.5.2
Natural events symbology ..... 8.1, Table 8.1, 8.4, Table 8.4.2
Operations symbology ..... 8.1, Table 8.1, 8.2, Table 8.2.2
Emergency medical operations ..... Table 8.2.2
Emergency operations ..... Table 8.2.2
Energy facilities infrastructure ..... Table 8.5.2
Engineering drawings, symbols used in ... *see* Drawings and diagrams, symbols used in
Equipment rooms ..... Table 7.5
Equivalency to standard 1.4
Escalators ..... Table 6.3.4
Exits
Disabled users, access for ..... Table 4.2
Drawing and diagram symbols ..... Table 6.3.6, Table 6.6
General use symbols ..... Table 4.2
Symbols for ..... Table C.1
Extinguishers, portable fire
Drawing and diagram symbols ..... Table 6.9, Table B.5.2.4
Fire service symbols ..... Table 5.2
Extinguishing agents ..... Table B.5.2.4
Storage containers ..... Table 6.12
Extinguishing systems
Control panels ..... Table 6.5
Drawing and diagram symbols ..... 6.8, A6.8, Table B.5.2.5
Pre-incident planning sketch symbols ..... Table 7.3

--`,,```,,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale

-F-

Fences ..... 6.2.5, A.6.2.5.2, Fig. A.6.2.5.2
Fire department access ..... *see* Access, fire department
Fire department connections
Drawing diagram symbols ..... Table 6.4
Fire service use symbols ..... Table 5.2
Pre-incident planning sketch symbols ..... Table 7.4
Fire doors ..... Table 6.3.4, Table C.1
Fire escapes ..... Table 6.3.6
Fire-fighting equipment ..... Table 6.10, Table B.5.2.4
Fire-fighting hoses ..... Table 5.2
Fire hydrants ..... *see* Hydrants
Fire incidents ..... Table 8.3.2
Fire pumps ..... Table 6.4, Table 7.4
Fire service, symbols for use by ..... Chap. 5
Background 5.1.3.2
Color 5.1.2, 5.1.3.2.2, 5.1.3.3, A.5.1.2
Descriptions of symbols ..... Table 5.2, A.5.2
Fundamental imagery 5.1.2, A.5.1.2
Orientation 5.1.3.4
Presentation 5.1.3, A.5.1.3
Shapes 5.1.2, 5.1.3.1, 5.1.3.2.1, A.5.1.2, A.5.1.3.1, B.4.2
Testing B.4.1
Fire suppression operations ..... Table 8.2.2
Flame detectors ..... Table 6.7.1
Flammable materials (hazardous incident features) ..... Table 8.3.2
Floor assemblies ..... Table 6.3.5
Floor openings ..... Table 6.3.4
Fusible links ..... Table 6.12, A.6.12

-G-

Gas detectors ..... Table 6.7.1, A.6.7.1
Gaseous mediums, systems utilizing ..... Table 6.8.1.3
Gas (hazardous incident features) ..... Table 8.3.2
Gas shutoff ..... Table 7.2
Gas shutoff valves ..... Table 5.2
General use, symbols for ..... Chap. 4
Color 4.1.2.3, 4.1.3.3
Descriptions of symbols ..... Table 4.2, A.4.2
Fundamental imagery 4.1.2.3, A.4.1.2.3
Presentation 4.1.3, A.4.1.3
Shape 4.1.2.3, 4.1.3.2, A.4.1.2.3
Testing B.3.1
Uniformity in use of 4.1.2.1, 4.1.2.2, A.4.1.2.3, A.4.1.2.4
Generator rooms, emergency ..... Table 7.5
Geologic natural events ..... Table 8.4.2
Government site infrastructure ..... Table 8.5.2

-H-

Hanger prohibition ..... Table 4.2
Hangers, sprinkler pipe ..... 6.8.3, Table 6.8.3
Hazardous incidents ..... Table 8.3.2
Hazardous materials, identification of 7.6, A.7.6
Headers ..... Table 6.4
Heat detectors
Drawings and diagrams, symbols used in ..... Table 6.7.1, A.6.7.1, Table B.5.2.4
Pre-incident planning sketch symbols ..... Table 7.3
Height (building), symbols for ..... 6.3.2, A.6.3.2, Fig. A.6.3.2
Hoistways, open ..... Table 6.3.4
Hose cabinets or connections ..... Table 7.4
Hoses, fire fighting ..... Table 5.2
Hydrants
Drawing and diagram symbols ..... Table 6.4, A.6.4
Fire service use symbols ..... Table 5.2
Fire suppression feature symbol ..... Table 8.2.2
Pre-incident planning sketch symbols ..... Table 7.4
Hydro-meteorological events ..... Table 8.4.2

-I-

Incidents symbology ..... 8.1, Table 8.1, 8.3, Table 8.3.2
Indicating appliances ..... Table 6.7.2
Infestation events ..... Table 8.4.2
Infrastructures symbology ..... 8.1, Table 8.1, 8.5, Table 8.5.2
Insurance diagrams, symbols used in ..... *see* Drawings and diagrams, symbols used in

-L-

Labeled (definition) 3.2.3
Law enforcement operations ..... Table 8.2.2
Life safety planning symbols ..... Annex C
Lights
Emergency ..... Table 6.6
Indicating ..... Table 6.7.2
Listed (definition) 3.2.4, A.3.2.4
Loss analysis diagrams ..... *see* Drawings and diagrams, symbols used in
LP-Gas shutoff ..... Table 7.2

-M-

Mains, pipe ..... Table 6.4
Manual alarms
Drawing and diagram symbols ..... Table 6.7.1, A.6.7.1, Table B.5.2.4
General use symbols ..... Table 4.2
Pre-incident planning sketch symbols ..... Table 7.3
Marine incidents ..... Table 8.3.2
Means of egress ..... *see also* Exits
Drawing and diagram symbols ..... Table 6.6
Life safety planning symbols ..... Table C.1
Measurement, units of 1.5
Medical facility/operation symbols ..... Table 8.2.2
Meters ..... Table 6.4
Military infrastructure ..... Table 8.5.2

-N-

Natural events symbology ..... 8.1, Table 8.1, 8.4, Table 8.4.2
Natural gas shutoff ..... Table 7.2

-O-

Openings (floor, wall, roof) ..... Table 6.3.4
Open-walled buildings ..... A.6.2.1.2, Fig. A.6.2.1.2
Operations symbology ..... 8.1, Table 8.1, Table 8.2.2

-P-

Parapets ..... Table 6.3.3
Piping, sprinkler system ..... 6.8.3, Table 6.8.3
Postal service infrastructure ..... Table 8.5.2
Pre-incident planning (definition) 3.3.1
Pre-incident planning sketches, symbols used in ..... Chap. 7
Access features ..... Table 7.2, A.7.2
Assessment features ..... Table 7.2
Detection/extinguishing equipment ..... Table 7.3
Equipment rooms ..... Table 7.5
Hazardous materials, identification of 7.6, A.7.6
Shapes 7.1.2, A.7.1.2
Utility shutoffs ..... Table 7.2
Ventilation features ..... Table 7.2
Water flow control valves and water sources ..... Table 7.4
Pressurization control ..... Table 6.11
Pressurization panel ..... Table 7.2
Prohibition symbols ..... 4.1.3.2.1, Fig. A.4.1.3.2.1
Orientation 4.1.3.1
Types ..... Table 4.2
Property lines 6.2.6
Public venues infrastructure ..... Table 8.5.2
Pump rooms ..... Table 7.5

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Pumps, fire
Drawing and diagram symbols ..... Table 6.4
Pre-incident planning sketch symbols ..... Table 7.4
Purpose of standard 1.2

-R-

Rail incidents ..... Table 8.3.2
Railroad tracks 6.2.2
References ..... Chap. 2, Annex D
Referent (definition) 3.3.2, A.3.3.2
Refuge, area of ..... Table 4.2
Retroactivity of standard 1.3
Riser ..... Table 6.4
Risk analysis drawings ...*see* Drawings and diagrams, symbols used in
Roof assemblies ..... Table 6.3.5
Roof openings ..... Table 6.3.4

-S-

Scope of standard 1.1
Screen/strainer ..... Table 6.4
Self-luminous (definition) 3.3.3
Sensor operations ..... Table 8.2.2
Shall (definition) 3.2.5
Should (definition) 3.2.6
Shutoffs, utility ..... Table 5.2, Table 7.2
Shutoff valves, gas ..... Table 5.2
Siamese fire department connections
Drawing and diagram symbols ..... Table 6.4
Fire service use symbols ..... Table 5.2
SI units 1.5
Skylights ..... Table 6.3.4, Table 7.2
Smoke control
Drawing and diagram symbols ..... Table 6.11
Pre-incident planning sketch symbols ..... Table 7.2
Smoke detectors
Control panels ..... Table 6.5
Drawing and diagram symbols ..... Table 6.7.1, A.6.7.1
Pre-incident planning sketch symbols ..... Table 7.3
Smoke (fire incident feature) ..... Table 8.3.2
Smoke vents ..... Table 7.2
Smoking prohibition ..... Table 4.2
Special needs infrastructure ..... Table 8.5.2
Spray nozzles, special ..... Table 6.12
Sprinkler systems
Drawing and diagram symbols ..... Table 6.8.1.4, Table 6.8.2, Table 6.8.3
Fire service use symbols ..... Table 5.2
Hanger prohibition ..... Table 4.2
Pre-incident planning sketch symbols ..... Table 7.2, Table 7.4
Stairs
Building construction symbols ..... Table 6.3.4
Use in case of fire, symbols for ..... Table 4.2
Standpipes
Fire department connections ..... Table 5.2
Outlets ..... Table 5.2
Streets ..... 6.2.3, A.6.2.3, Fig. A.6.2.3
Suction pipe ..... Table 6.4
Supplementary indicators (definition) 3.3.4, A.3.3.4
Symbol (definition) 3.3.5, A.3.3.5

-T-

Tanks
Drawing and diagram symbols ..... Table 6.3.6
Pre-incident planning sketch symbols ..... Table 7.4
Telecommunications infrastructure ..... Table 8.5.2
Telephone, emergency ..... Table 5.2
Telephone equipment rooms ..... Table 7.5
Telephone station, emergency ..... Table 6.7.1, A.6.7.1
Testing
Drawing and diagram symbols B.5.2.1
Fire service use symbols B.4.1
General use symbols B.3.1
Thrust block ..... Table 6.4
Transformer rooms ..... Table 7.5
Transportation infrastructure ..... Table 8.5.2

-U-

Underground tanks ..... Table 6.3.6
Units of measurement 1.5
Utility shutoffs ..... Table 5.2, Table 7.2

-V-

Valves ..... Table B.5.2.4
Drawing and diagram symbols ..... Table 6.4
Gas shutoff ..... Table 5.2
Solenoid ..... Table 6.12
Sprinkler control ..... Table 5.2
Sprinkler system ..... 6.8.3, Table 6.8.3
Water flow control ..... Table 7.4
Vehicle incidents ..... Table 8.3.2
Ventilation features ..... Table 6.5, Table 6.11, Table 7.2
Vents, smoke ..... Table 7.2

-W-

Wall openings ..... Table 6.3.4
Walls ..... Table 6.3.3, A.6.3.3, Fig. A.6.3.3(a), A.6.3.3(b)
Water, bodies of ..... 6.2.4, A.6.2.4, Fig. A.6.2.4
Water-based extinguishing systems ..... Table 6.8.1.1
Water flow control valves ..... Table 7.4
Water flow detectors/alarms
Drawing and diagram symbols ..... Table 6.7.1, Table 6.7.2, Table B.5.2.4
Pre-incident planning sketch symbols ..... Table 7.2, Table 7.3
Water shutoff ..... Table 7.2
Water supply and distribution ..... Table 6.4, Table 7.4, Table 8.2.2, Table 8.5.2, A.6.4, Table B.5.2.4
Water tanks ..... Table 7.4

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

Sequence of Events Leading to Publication of an NFPA Committee Document

Call goes out for proposals to amend existing document or for recommendations on new document.

▼

Committee meets to act on proposals, to develop its own proposals, and to prepare its report.

▼

Committee votes on proposals by letter ballot. If two-thirds approve, report goes forward. Lacking two-thirds approval, report returns to committee.

▼

Report — *Report on Proposals* (ROP) — is published for public review and comment.

▼

Committee meets to act on each public comment received.

▼

Committee votes on comments by letter ballot. If two-thirds approve, supplementary report goes forward. Lacking two-thirds approval, supplementary report returns to committee.

▼

Supplementary report — *Report on Comments* (ROC) — is published for public review.

▼

NFPA membership meets (Annual or Fall Meeting) and acts on committee report (ROP or ROC).

▼

Committee votes on any amendments to report approved at NFPA Annual or Fall Meeting.

▼

Appeals to Standards Council on Association action must be filed within 20 days of the NFPA Annual or Fall Meeting.

▼

Standards Council decides, based on all evidence, whether or not to issue standard or to take other action, including upholding any appeals.

Committee Membership Classifications

The following classifications apply to Technical Committee members and represent their principal interest in the activity of the committee.

M *Manufacturer:* A representative of a maker or marketer of a product, assembly, or system, or portion thereof, that is affected by the standard.

U *User:* A representative of an entity that is subject to the provisions of the standard or that voluntarily uses the standard.

I/M *Installer/Maintainer:* A representative of an entity that is in the business of installing or maintaining a product, assembly, or system affected by the standard.

L *Labor:* A labor representative or employee concerned with safety in the workplace.

R/T *Applied Research/Testing Laboratory:* A representative of an independent testing laboratory or independent applied research organization that promulgates and/or enforces standards.

E *Enforcing Authority:* A representative of an agency or an organization that promulgates and/or enforces standards.

I *Insurance:* A representative of an insurance company, broker, agent, bureau, or inspection agency.

C *Consumer:* A person who is, or represents, the ultimate purchaser of a product, system, or service affected by the standard, but who is not included in the *User* classification.

SE *Special Expert:* A person not representing any of the previous classifications, but who has a special expertise in the scope of the standard or portion thereof.

NOTES:

1. "Standard" connotes code, standard, recommended practice, or guide.
2. A representative includes an employee.
3. While these classifications will be used by the Standards Council to achieve a balance for Technical Committees, the Standards Council may determine that new classifications of members or unique interests need representation in order to foster the best possible committee deliberations on any project. In this connection, the Standards Council may make such appointments as it seems appropriate in the public interest, such as the classification of "Utilities" in the National Electrical Code Committee.
4. Representatives of subsidiaries of any group are generally considered to have the same classification as the parent organization.

--`,,```,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale

NFPA Technical Committee Document Proposal Form

Note: All proposals must be received by 5:00 p.m. EST/EDST on the published proposal closing date.

For further information on the standards-making process, please contact Codes and Standards Administration at 617-984-7249. For technical assistance, please call NFPA at 617-770-3000.

FOR OFFICE USE ONLY
Log #: _____
Date Rec'd: _____

Please indicate in which format you wish to receive your ROP/ROC: ☐ **CD ROM** ☐ **paper** ☐ **download**
(Note: In choosing the download option you intend to view the ROP/ROC from our Website. No copy will be sent to you.)

Date 12/18/02 **Name** John B. Smith **Telephone** 617-555-1212
Company _____
Address 9 Seattle St. **City** Seattle **State** WA **Zip** 02255
Please indicate organization represented (if any) Fire Marshals Assn. of North America

1. **a) NFPA Document Title** National Fire Alarm Code
   b) NFPA No. & Edition NFPA 72, 2002 ed. **c) Section/Paragraph** 4.4.7.1.1

2. **Proposal Recommends:** *(check one)* ☐ **new text** ☐ **revised text** ☒ **deleted text**

3. **Proposal.** *(Include proposed new or revised wording, or identification of wording to be deleted.)* Note: Proposed text should be in legislative format, that is, use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (~~deleted wording~~). Delete exception.

4. **Statement of Problem and Substantiation for Proposal.** Note: State the problem that will be resolved by your recommendation. Give the specific reason for your proposal including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication. A properly installed and maintained system should be free of ground faults. The occurrence of one or more ground faults should be required to cause a "trouble" signal because it indicates a condition that could contribute to future malfunction of the system. Ground fault protection has been widely available on these systems for years and its cost is negligible. Requiring it on all systems will promote better installations, maintenance and reliability.

5. ☒ **This Proposal is Original Material.** Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought, or research and, to the best of his/her knowledge, is not copied from another source.

   ☐ **This Proposal is Not Original Material; Its Source** ***(if known)*** **is as Follows:** _____

Sample

I hereby grant the NFPA all and full rights in copyright to this proposal, and I understand that I acquire no rights in any publication of NFPA in which this proposal in this or another similar or analogous form is used.

Signature ***(Required)*** John B. Smith

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL • NFPA FAX (617) 770-3500

Mail to: Secretary, Standards Council • NFPA • 1 Batterymarch Park • PO Box 9101 • Quincy, MA 02269-9101

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS
Not for Resale

NFPA Technical Committee Document Proposal Form

Note: All proposals must be received by 5:00 p.m. EST/EDST on the published proposal closing date.

For further information on the standards-making process, please contact Codes and Standards Administration at 617-984-7249. For technical assistance, please call NFPA at 617-770-3000.

FOR OFFICE USE ONLY
Log #: _____
Date Rec'd: _____

Please indicate in which format you wish to receive your ROP/ROC: ☐ **CD ROM** ☐ **paper** ☐ **download**
(Note: In choosing the download option you intend to view the ROP/ROC from our Website. No copy will be sent to you.)

Date _____ **Name** _____ **Telephone** _____
Company _____
Address _____ **City** _____ **State** _____ **Zip** _____
Please indicate organization represented (if any) _____

1. **a) NFPA Document Title** _____
   b) NFPA No. & Edition _____ **c) Section/Paragraph** _____

2. **Proposal Recommends:** *(check one)* ☐ **new text** ☐ **revised text** ☐ **deleted text**

3. **Proposal.** *(Include proposed new or revised wording, or identification of wording to be deleted.)* Note: Proposed text should be in legislative format, that is, use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (~~deleted wording~~). _____

4. **Statement of Problem and Substantiation for Proposal.** Note: State the problem that will be resolved by your recommendation. Give the specific reason for your proposal including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication. _____

5. ☐ **This Proposal is Original Material.** Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought, or research and, to the best of his/her knowledge, is not copied from another source.

   ☐ **This Proposal is Not Original Material; Its Source *(if known)* is as Follows:** _____

I hereby grant the NFPA all and full rights in copyright to this proposal, and I understand that I acquire no rights in any publication of NFPA in which this proposal in this or another similar or analogous form is used.

Signature *(Required)* _____

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL • NFPA FAX (617) 770-3500

Mail to: Secretary, Standards Council • NFPA • 1 Batterymarch Park • PO Box 9101 • Quincy, MA 02269-9101

--`,,```,,-`-`,,`,,`,`,,`---

Copyright National Fire Protection Association
Provided by IHS under license with NFPA
No reproduction or networking permitted without license from IHS

Not for Resale