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Standard Guide for Evacuation Route Diagrams¹

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1. Scope

1.1 This standard is intended to provide minimum guidelines for the design and placement of evacuation route diagrams (ERDs) used in buildings. It covers the evacuation of building occupants when directed by emergency response authorities in emergencies such as fire, earthquake, and bomb threat.

NOTE 1—Evacuation from the facility is not appropriate in all emergencies. For example, a tornado or a release of hazardous materials may require sheltering within the building. This diagram standard is intended to be used in conjunction with a facility emergency plan and instructions on appropriate actions from building management, or emergency response authorities, or both.

2. Referenced Documents

2.1 ASTM Standards:²

E2072 Specification for Photoluminescent (Phosphorescent) Safety Markings

2.2 Other Standards:

NFPA 101 Life Safety Code® (Safety to Life from Fire in Buildings and Structures)³

NFPA 170 Standard for Fire Safety and Emergency Symbols³

UL 1994 Standard for Luminous Egress Path Marking Systems⁴

ICC/ANSI A117.1 Standard for Accessible and Usable Buildings and Facilities⁵

FEMA Guideline: Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters November 2010.

¹ This specification is under the jurisdiction of ASTM Committee E34 on Occupational Health and Safety and is the direct responsibility of Subcommittee E34.40 on Hazard Communications.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.

⁴ Available from Underwriters Laboratories (UL), 333 Pfingsten Rd., Northbrook, IL 60062-2096, <http://www.ul.com>.

⁵ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

3. Terminology

3.1 Definitions:

3.1.1 *area of refuge*—an area that is either (1) a story in a building where the building is protected throughout by an approved, supervised automatic sprinkler system and has not less than two accessible rooms or spaces separated from each other by smoke-resisting partitions; or (2) a space located in a path of travel leading to a public way that is protected from the effects of fire, either by means of separation from other spaces in the same building or by virtue of location, thereby permitting a delay in egress travel from any level.

NOTE 2—An area of refuge is intended for use by impaired persons awaiting rescue by trained emergency personnel in the event of fire. It is not necessarily designed for use in emergencies requiring the use of substantial construction, such as windstorm.

3.1.2 *area of rescue assistance*—an area in a building constructed for physically disabled persons to enter and await fire department assistance during fire and emergency conditions in accordance with ADA Guidelines 4.1.3 to 4.3.11.5.

3.1.3 *assembly points*—area(s) outside of the building that has been predetermined as a meeting point for building occupants to gather and be accounted.

3.1.4 *dead end*—a path that leads to no exit.

3.1.5 *path of egress*—the way(s) out of a building, consisting of the exit access, exit, and exit discharge.

3.1.6 *temporary shelter*—a pre-determined room/area of the building where occupants are directed in the event that the emergency requires remaining in the building, such as a tornado or release of hazardous material.

4. Significance and Use

4.1 Evacuation route diagrams are informational signs used to advise building occupants, be they employees, residents, patients, or visitors, of the best route(s) to egress the building, or to temporary shelter from their location. It is a pictorial representation of the building/floor layout showing the closest such route from a given point in the building. This standard will provide guidelines that can be used to provide uniformity in the development and use of these signs. Consistency in design and placement of these signs can serve to increase familiarity and comprehension as well as reduce confusion, thus improving the ability of occupants to egress from the facility more easily and quickly in an emergency.