

**CHAPTER 2**

**PROTECTION OF UNDERGROUND FACILITIES:**

**ONE-CALL DAMAGE PREVENTION SYSTEM**

**Authority**

Underground Facility Protection Act, N.J.S.A. 48:2-73 et seq., specifically N.J.S.A. 48:2-76 and 80.

**Source and Effective Date**

R.1996 d.467, effective October 7, 1996.  
See: 27 N.J.R. 3773(a), 28 N.J.R. 4489(a).

**Executive Order No. 66(1978) Expiration Date**

Chapter 2, Protection of Underground Facilities: One-Call Damage Prevention System, expires on October 7, 2001.

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**SUBCHAPTER 1. SCOPE**

**14:2-1.1 Scope**

The rules in this chapter govern the standards for the temporary markout of underground facilities pursuant to the Underground Facility Protection Act, N.J.S.A. 48:2-73 et seq., specifically N.J.S.A. 48:2-80.

**SUBCHAPTER 2. DEFINITIONS**

**14:2-2.1 Words defined**

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

“Act” means the Underground Facility Protection Act.

“Board” means the Board of Public Utilities.

“One-Call Damage Prevention Center” means the communication system established pursuant to N.J.S.A. 48:2-76.

“Operator” means a person owning or operating, or controlling the operation of, an underground facility, but shall not include a homeowner who owns only residential underground facilities, such as an underground lawn sprinkler system or an underground structure for a residential low-voltage lighting system.

“Site” means the specific place where excavation work is performed or to be performed.

“Underground facility” means any public or private personal property which is buried, placed below ground, or submerged on a right-of-way, easement, public street, other public place or private property and is being used or will be used for the conveyance of water, forced sewage, telecommunications, cable television, electricity, oil, petroleum products, gas, optical signals, or traffic control, or for the transportation of a hazardous liquid regulated pursuant to the provisions of 49 U.S.C. §§ 60101 et seq., but does not include storm drains or gravity sewers. For the purpose of this definition, “personal property” means a single conduit, or multiple conduits of the same facility type within a rigid envelope such as a concrete envelope. This envelope shall be considered one facility for the purposes of these rules, except as otherwise specifically provided.

**SUBCHAPTERS 3 THROUGH 4. (RESERVED)**

**SUBCHAPTER 5. MARKOUTS**

**14:2-5.1 Temporary markouts**

All temporary markouts shall conform with the requirements of the Act, as supplemented by this subchapter.

**14:2-5.2 Locations of markouts**

(a) Markouts of an underground facility 12 inches or less in nominal outside dimension shall be over the center line of the underground facility, but no more than 18 inches horizontally from either outside wall of the underground facility.

(b) Markouts of an underground facility greater than 12 inches in nominal outside dimension shall be over each

outside wall of the underground facility, but no more than 18 inches horizontally from either outside wall of the underground facility.

(c) Markouts shall be made at intervals sufficient to clearly indicate the location and direction of the underground facility. However, the distance between any two marks indicating the same facility shall not be more than 25 feet. Site conditions or directional changes of the underground facility may necessitate a shorter distance between marks.

(d) Markouts shall conform with those standards set forth in Appendix A to this subchapter, incorporated herein by reference.

(e) If conditions exist which make it impossible to mark out the center line or outside walls of the underground facility, the operator may indicate the location of the underground facility by use of offset markings that clearly indicate the location and course of the underground facility. Offset markings must follow the criteria set forth in N.J.A.C. 14:2-5.7.

(f) Whenever more than one underground facility of the same type is located within a rigid envelope, there shall be only one centerline or outside wall markout for the entire envelope.

**14:2-5.3 Color and letter codes for markouts**

(a) Markouts shall conform to the following colors and letters codes:

<u>Facility or Product</u>	<u>Letter Designation Code</u>	<u>Uniform Color</u>
Water Systems	W	Safety Precaution Blue
Slurry Systems	SP	Safety Precaution Blue
Sewer Lines	S	Safety Green
Telephone and Telecommunications	T	Safety Alert Orange
Fiber Optic Cable	FOC	Safety Alert Orange
Cable Television	TV	Safety Alert Orange
Police and Fire Communications	FA	Safety Alert Orange
Electric Power Distribution and Transmission	E	Safety Red
Traffic Control (communications)	TC	Safety Alert Orange
Traffic Control (power)	TC	Safety Red

<u>Facility or Product</u>	<u>Letter Designation Code</u>	<u>Uniform Color</u>
Gas Distribution and Transmission	G	High Visibility Safety Yellow
Petroleum products, Oil Distribution and Transmission	PP	High Visibility Safety Yellow
Steam	ST	High Visibility Safety Yellow
Hazardous liquids/Chemicals	CH	High Visibility Safety Yellow
Excavation boundaries	—	White
Proposed excavation	—	Pink
Temporary surveys <sup>†</sup>	—	Pink

<sup>†</sup> Survey markings are not within the jurisdiction of the Board under the Act; however, the Board recommends that the accepted, industry standard pink color be used for survey markings.

(b) These colors must conform to the Uniform Color Code of the Utility Location and Coordination Council (106 West 11th St., Suite 1800, Kansas City, Missouri 64105) using Standard Z53.1 of the American National Standards Institute, Inc. (1430 Broadway, New York, New York 10018), incorporated herein by reference.

**14:2-5.4 Markouts made on paved, concrete, brick or other firm surfaces**

Markouts made on paved, concrete, brick, or other firm surfaces where the use of temporary stakes or flags is not possible, shall be made with paint or other suitable marking material that makes an equivalent mark, in accordance with the color code provided in N.J.A.C. 14:2-5.3. Reference in this subchapter to paint shall be construed to include other suitable marking material that makes an equivalent mark. The paint shall have sufficient lasting properties so as to withstand vehicular traffic during the course of the excavation, but shall be sufficiently degradable with time as to not be permanent.

**14:2-5.5 Centerline markouts**

(a) Painted markouts of underground facilities of 12 inches or less nominal outside dimension shall consist of the following:

1. Three paint marks, each approximately eight inches to 10 inches in length, and approximately one inch to two inches in width, with the eight inch to 10 inch side of each paint mark over the center line of the underground facility, but no more than 18 inches horizontally from either outside wall of the underground facility. A minimum of three separate paint marks shall be made for each underground facility;
2. The appropriate uniform color; and

3. The appropriate letter designation code and the nominal outside dimension of the underground facility in inches, centered between the paint strokes. All letters and numbers shall be six to eight inches in height. Whenever more than one facility is located within a rigid envelope, the markout shall state the dimension of the envelope, not of the individual facilities.

(b) Illustrations of a centerline markout are set forth in Appendix A, figures 2 and 6.

#### 14:2-5.6 Outside dimension markouts

(a) Painted markouts of underground facilities greater than 12 inches nominal outside dimension shall consist of the following:

1. Three pairs of parallel marks, with three marks over each outside wall of the underground facility, but no more than 18 inches horizontally from either outside wall of underground facility. A minimum of three separate pairs of paint marks shall be made for each underground facility;

2. The appropriate uniform color; and

3. The appropriate letter designation code and the nominal outside dimension of the underground facility in inches, centered between the parallel marks. All letters and numbers shall be six to eight inches in height. Whenever more than one facility is located within a rigid envelope, the markout shall state the dimension of the envelope, not of the individual facilities.

(b) Illustrations of an outside dimension markout are set forth in Appendix A, figures 3 and 6.

#### 14:2-5.7 Offset markouts

(a) An offset markout shall be made with paint on a firm surface.

(b) An offset markout symbol shall consist of the following:

1. Two perpendicular paint marks one inch to two inches in width and eight inches to 10 inches in length with an arrow head in the direction of the offset;

2. The facility letter code designation pursuant to N.J.A.C. 14:2-5.3;

3. The nominal outside dimension of the facility; and

4. The offset distance in inches and the letters "OFF".

(c) An offset markout for an underground facility of 12 inches or less nominal outside dimension shall consist of a pair of offset markout symbols as defined in (b) above. The base of each symbol shall be over the offset center line of the underground facility but no more than 18 inches horizontally, plus the offset distance, from either wall of the

underground facility. A minimum of three separate offset paint markouts shall be made for each underground facility.

(d) Illustrations of an offset centerline markout are set forth in Appendix A, figures 4 and 6.

(e) An offset markout for an underground facility of greater than 12 inches nominal outside dimension shall consist of a pair of parallel offset markout symbols as defined in (b) above. The base of each symbol shall be over one offset outside wall of the underground facility, but no more than 18 inches horizontally, plus the offset distance, from either wall of the underground facility. A minimum of three separate offset paint markouts shall be made for each underground facility.

(f) Illustrations of an offset outside dimension markout are set forth in Appendix A, figures 5 and 6.

#### 14:2-5.8 Markouts made on non-firm surfaces

(a) Markouts made on grass, dirt, sand, or other non-firm surfaces shall be made with paint, to the maximum extent feasible, in accordance with N.J.A.C. 14:2-5.4 through 5.6 and, in addition, shall be marked with wooden or equivalent stakes and/or plastic flags.

(b) Stakes shall be two inches by two inches by 24 inches (nominal). Not less than 18 inches of the stake shall be exposed above the surface of the ground. The top six inches of the stake shall be colored in conformance with the color coding requirements of N.J.A.C. 14:2-5.3. The type of facility shall be identified on the side of the stake by one inch minimum size letter designations conforming to N.J.A.C. 14:2-5.3. The name of the operator of the underground facility shall be identified by either the operator's initials or logo in one inch minimum black lettering on the stake.

(c) Plastic flags shall be four inches by five inches (nominal) rectangular shape, attached to a staff that is a minimum of 24 inches in length. The top of the flag shall be not less than 18 inches above the surface of the ground. Flags shall be colored in conformance with the color coding requirements of N.J.A.C. 14:2-5.3. Flags shall indicate the type of underground facility by appropriate letter code, and shall also identify the name of the operator of the underground facility by either the operator's initials or logo. The facility operator's telephone number or the telephone number of the New Jersey One-Call Damage Prevention Center (1-800-272-1000) shall be shown on the flag.

(d) Illustrations of a stake markout and a plastic flag markout are set forth in Appendix A, figures 1 and 6.

(e) Markouts done in accordance with (a) above of facilities 12 inches or less in nominal outside dimension shall be flagged and/or staked over the center line of the underground facility, but no more than 18 inches horizontally from either outside wall of the underground facility. A

minimum of three separate flags or stakes shall be utilized for each underground facility.

(f) Markouts done in accordance with (a) above of facilities greater than 12 inches nominal outside dimension shall consist of a pair of parallel stakes, one over each outside wall of the facility, but no more than 18 inches horizontally from either outside wall of the underground facility, with a flag conforming to the requirements of subsection (c) of this section centered between the parallel stakes. A minimum of three separate sets of stakes and center flags shall be utilized for each facility.

#### 14:2-5.9 Records of markouts

(a) An operator shall make and maintain for seven years a record of each markout of its underground facilities. These records shall conform to the following minimum requirements:

1. A written record of the markout that identifies:

i. The location of the markout by street addresses and, where appropriate, lot and block number;

ii. The name(s) of the person(s) performing the markout including the names of any contractors who performed the markout for the operator;

iii. The time and date the markout was performed; and

iv. The markout method(s) employed, such as paint, stakes and/or flags, centerline markout, outside dimension markout and/or offset markout.

(b) In addition to a written record made pursuant to (a) above, an operator may make and maintain a record of the markout using photography or other equivalent electronic documentation, which shall:

1. Be made with color print film, if photography;

2. Depict the entire markout performed;

3. Adequately show landmarks in the vicinity of the markout in sufficient detail to establish the location of the markout; and

4. Be emblazoned with an automatic date or time stamp at the time the photographic or equivalent record is made.

(c) Operators shall make the records made pursuant to (a) and (b) above available to the Board or its staff upon request.