

REGULATORY GUIDANCE: PHYSICAL CONNECTION PERMIT FOR APPROVED PHYSICAL CONNECTION INSTALLATION

The information below does not replace or supersede the requirements of the Act to Protect the Purity of the Public Supplies of Potable Waters in the State at N.J.S.A. 58:11-9.1 et seq., the Safe Drinking Water Act at N.J.S.A. 58: 12A-1 et seq., nor the New Jersey Administrative Code at N.J.A.C. 7:10-10.1 et seq.

No person, corporation or municipality shall maintain, own, or operate a physical connection between approved public potable water supply and unapproved water supply, unless the person, corporation, or municipality first obtains a permit from the Department. N.J.S.A. 58:11-9.2.

A physical connection means any cross-connection, by-pass, valve, pipeline, auxiliary intake, or any device which permits or may permit any flow of water into an approved public potable water supply from an unapproved water supply. N.J.S.A. 58:11-9.1. Simplified, a physical connection means a connection between a public community water system and any unapproved water supply. N.J.A.C. 7:10-1.3.

The Department's rule at N.J.A.C. 7:10-10.1 requires the permit, design, and testing of a backflow prevention device at facilities with physical connections between public community water systems and facilities which have sources of water which may be contaminated or of questionable or unknown quality over which the supplier of water has little or no control for the purpose of protecting the public community water system from backflow from such waters. N.J.A.C. 7:10-10.1 (a). Contaminant means any physical, chemical, biological or radiological substance in water. N.J.A.C. 7:10-1.3.

These requirements apply in conjunction with the requirements of the Plumbing Subcode of the New Jersey State Uniform Construction Code, N.J.A.C. 5:23-3.15, for the prevention of illegal plumbing cross-connections, and with any other state or local requirements for the practice or procedure known as "cross-connection control by containment" whereby a backflow prevention device may be required to protect a public community water system from contamination as a result of plumbing cross-connections, or any other cross-connections. N.J.A.C. 7:10-10.1 (b).

As per N.J.A.C. 7:10-10.2, each owner of a facility who seeks to install a physical connection between the public water system and an unapproved water supply, shall obtain a physical connection permit pursuant to N.J.A.C. 7:10-10.5 for an approved physical connection installation:

1. At each connection between a public water system and any unapproved water supply; and/or
2. Where dual but physically separate water lines from a public water system and from an unapproved water supply are located within the same building, including service lines.

An unapproved water supply is defined at N.J.A.C. 7:10-1.3 as “any source of water which is not part of a public community water system.” A public community water system is defined as “a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.” *Ibid.* A public water system is a system of water conveyance for human consumption through pipes or other constructed conveyances, and includes any collection, treatment, storage and distribution facilities under control of the operator of such system and used primarily in connection with such system, and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. *Ibid.*

An approved physical connection installation requires either a double check valve assembly or a reduced pressure zone assembly backflow prevention device, which is designed, installed and tested in accordance with N.J.A.C. 7:10-10. N.J.A.C. 7:10-1.3.

Facilities with Cross Connection Hazards

The Department’s rules also address “facility(ies) with cross-connection hazards. These are defined at N.J.A.C. 7:10-1.3 as:

“a facility that is served by a public community water system and that contains a chemical substance or solution, uses a chemical, physical or biological process, or uses water in a manner that might contaminate the public community water system by way of a cross-connection.”

A cross-connection is defined at N.J.A.C. 7:10-1.3 as “any actual or potential connection between a public water system and a source of contamination, such as industrial process water or an irrigation system.” The Department has specifically identified facilities considered a “facility with cross-connection hazards” in Appendix A of the rules at N.J.A.C. 7:10-1 et seq. Examples include medical facilities such as laboratories and medical clinics, treatment facilities for sewage and industrial waste, and commercial manufacturing facilities such as breweries, paper processing plants, and automotive plants. A cross-connection control by containment may be employed, whereby a backflow prevention device protects a public community water system from contamination as a result of plumbing cross-connections, or any other cross-connections. N.J.A.C. 7:10-10.9.

The owner of a public community water system may require any of its customers to install backflow prevention devices on the public community water service line(s) when:

1. The customer is a facility with cross-connection hazards as defined in N.J.A.C. 10-1.3 and listed in Appendix A of the rule, if the supplier of the water determines that the facility presents a threat to the public community water system's quality; or
2. The customer is not a facility with cross-connection hazards but such facility contains a substance, uses a process, or utilizes water in a manner which may contaminate a public water system. N.J.A.C. 7:10-10.9 (a)(1)(2).

Additionally, any owner of a public community water system who requires the installation of a backflow prevention device shall have a cross-connection control plan in effect that has been developed in accordance with the United States Environmental Protection Agency's "Cross-connection Control Manual," June 1989, EPA 470/9-89 007. N.J.A.C. 7:10-10.9 (b).

The requirements for approved physical connection installation and permitting, as per N.J.A.C. 7:10-10.3 do not apply to physical connection installations in private residences. N.J.A.C. 7:10.1 (e).

Backflow Prevention and the Division of Consumer Affairs

Facilities owners should be aware that both the Department and the Division of Consumer Affairs, via the Plumbing Subcode of the New Jersey State Uniform Construction Code, N.J.A.C. 5:23-3.15, regulate cross-connections and the installation of backflow prevention devices.