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CHAPTER 10

SAFE DRINKING WATER ACT

Authority

N.J.S.A. 13:1D-1 et seq., 58:10A-1 et seq., 58:11-9.1 et seq., 58:11-23 et seq., 58:11-64 et seq., and 58:12A-1 et seq.

Source and Effective Date

R.2000 d.354, effective July 31, 2000.
See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

Executive Order No. 66(1978) Expiration Date

Chapter 10, Safe Drinking Water Act, expires on July 31, 2005.

Chapter Historical Note

Chapter 10, Bureau of Potable Water, was adopted and became effective prior to September 1, 1969.

Chapter 10, Bureau of Potable Water, was repealed and Chapter 10, Safe Drinking Water Act, was adopted as new rules by R.1979 d.271, effective July 13, 1979. See: 11 N.J.R. 170(a), 11 N.J.R. 374(b).

Pursuant to Executive Order No. 66(1978), Chapter 10, Safe Drinking Water Act, was readopted as R.1983 d.244, effective June 3, 1983. See: 15 N.J.R. 592(a), 15 N.J.R. 1019(c).

Pursuant to Executive Order No. 66(1978), Chapter 10, Safe Drinking Water Act, was readopted as R.1989 d.514, effective September 1, 1989. See: 21 N.J.R. 1945(a), 21 N.J.R. 3098(a).

Pursuant to Executive Order No. 66(1978), Chapter 10, Safe Drinking Water Act, was readopted as R.1994 d.482, effective August 25, 1994. See: 26 N.J.R. 2720(a), 26 N.J.R. 3833(a).

Pursuant to Executive Order No. 66(1978), Chapter 10, Safe Drinking Water Act, was readopted as R.1996 d.50, effective December 26, 1995. See: 27 N.J.R. 4060(a), 28 N.J.R. 850(a).

Chapter 10, Safe Drinking Water Act, except Subchapter 13, was repealed and Chapter 10, Safe Drinking Water Act, was adopted as new rules by R.1996 d.536, effective November 18, 1996. See: 27 N.J.R. 4064(a), 28 N.J.R. 4900(a).

Subchapter 13, Water Supply and Wastewater Collection and Treatment Systems: Examining and Licensing of Operators, was recodified as N.J.A.C. 7:10A-1 by R.1997 d.48, effective February 3, 1997. See: 28 N.J.R. 4300(a), 29 N.J.R. 480(c).

Pursuant to Executive Order No. 66(1978), Chapter 10, Safe Drinking Water Act, was readopted as R.2000 d.354, effective July 31, 2000, and Subchapter 13, Standards for Technical, Managerial, and Financial Capacity of Public Community and Noncommunity Water Systems, was adopted as new rules by R.2000 d.354, effective August 21, 2000. See: Source and Effective Date. See, also, section annotations.

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4. Priming systems for pumps shall prevent the contamination of adequately protected water.

5. Sump pumps for underground pump stations shall not discharge into sanitary sewers.

(f) Regulations for treatment and disposal of water treatment plant process wastes are as follows:

1. Water treatment plant process waste, such as sludge from coagulation and sedimentation tanks and filter backwash water, shall ordinarily be treated before being discharged into any waters of this State. The degree of treatment shall be contingent upon the character of the waste and its effect upon the receiving waters. The discharge of process waste is prohibited except in accordance with the requirements of a New Jersey Pollution Discharge Elimination System (NJPDES) permit issued pursuant to N.J.A.C. 7:14A.

2. When the water treatment plant process waste is required to be treated on site, the minimum treatment of water treatment plant process waste shall be by plain sedimentation in a minimum of two lagoons, and shall be provided with a minimum total combined capacity equivalent to 24 hours of wastewater flow.

3. Water treatment plant process waste shall not be discharged to a sanitary sewer system except in accordance with the New Jersey Pollutant Discharge Elimination System rules, N.J.A.C. 7:14A, and with written approval from the appropriate sewerage authority.

(g) Regulations for building construction, safety, and security are as follows:

1. Each water treatment plant and pump station shall be housed in a building constructed of durable and fire-resistant materials.

2. Buildings shall be constructed so that surface water will not enter or lie against the building. Normally, the ground floor shall be at least six inches above the surrounding ground. Buildings shall be protected against flooding by locating them above the 100 year flood plain or providing waterproof doors or covers for all openings below that level.

3. All floors, dry wells, meter pits, interconnection chambers, piping galleries and similar structures not intended to contain water shall be self-draining without possibility of backflow. If necessary, sufficient sump pumping capacity shall be provided for the removal of water.

4. Adequate heating, lighting, ventilation and, if required, dehumidification shall be provided.

5. Buildings shall be protected against unauthorized entry and vandalism.

6. Treatment facilities in pits are prohibited.

7. Office space, a workshop, a laboratory, and storage shall be provided, as needed.

8. All surface water treatment plants shall contain drinking water and lavatory facilities for personnel.

9. A safety shower is required in locations where hazardous chemicals are handled pursuant to N.J.A.C. 7:10-11.12(e) and is recommended for all facilities where chemicals are stored or handled.

10. All facilities shall be equipped with necessary safety features, including access ladders, railings at the tanks and walkways, guards around belts and other moving parts, handrails at stairs or steps, adequate ventilation of enclosures, and such special provisions for handling of chemicals as are required pursuant to N.J.A.C. 7:10-11.12. Nonslip treads on stairs shall be provided, and the slope of the stairs shall meet New Jersey Department of Labor requirements. Warning signs shall be posted in hazardous locations. A first aid kit shall be provided.

(h) All water treatment plants, which have a capacity of 1 MGD or more and include filtration treatment, shall have readily available a complete outfit of necessary tools and accessories for the proper operation and maintenance of the facility.

(i) Auxiliary power requirements are as follows:

1. Auxiliary power shall be provided for a water supply source and/or treatment facility when such facility is a primary component of a water system and is indispensable to the effective operation of the water system.

2. Auxiliary power shall be provided for a distribution system pump station when a pump station has to pump continuously into a pressure zone without storage facilities. If needed, pump stations shall be provided with one electrical source, and one standby source either for emergency power generation or direct drive to the pumping equipment.

3. Auxiliary power equipment, when provided or required, shall be designed and have sufficient capacity so as to effectively operate all pumping and water treatment processes in the event of failure of the primary power source for the water system.

(j) Materials and equipment used to construct a public community water system shall meet the following requirements:

1. Material and/or equipment shall not contribute contaminants to the drinking water nor impart any taste and odor to the drinking water.

2. Coating materials that are in contact with adequately protected water shall comply with ANSI/NSF Standard 61, as amended and supplemented, incorporated herein by reference. ANSI/NSF standard 61 may be obtained as provided at N.J.A.C. 7:10-8.2(a).

3. The use of lead in any component of a water system shall meet the following standards:

- i. The lead content of solder and flux shall not exceed 0.2 percent by weight;
- ii. The lead content of pipes, fittings and any other metallic component shall not exceed eight percent by weight;
- iii. Lead packers shall not be used for well construction; and
- iv. Lead packers may be used in the repair of cast iron pipe joints.

7:10-11.7 Standards for the construction and development of ground water sources

(a) Any public community water system that uses only ground water sources of supply shall have the firm capacity to meet the applicable peak daily demand as required pursuant to N.J.A.C. 7:10-11.6(a), except as provided (a)1 below.

1. The Department shall approve an interconnection with another public community water system in lieu of a backup well if a contract or other written binding agreement to obtain sufficient water is executed between the owners of the water systems to be interconnected and if it can be shown to the satisfaction of the Department that such an interconnection will enable the public community water system seeking the interconnection to comply with this subsection.

(b) Ground water sources of supply shall be protected as follows:

1. A public community water system shall acquire and control all land within at least a 50 foot radius of any ground water source used for its water supply. Major and minor pollutant sources and non-water system related activities shall be prohibited within the specified area. The public community water system may control the land by lease or easement only with prior written approval of the Department.

i. The Department recommends that a public community water system control and/or obtain a conservation easement to land surrounding a ground water source beyond that required pursuant to (b)1 above for watershed protection and future water supply development. If ground water sources are located in unconfined or bedrock aquifers, the Department recommends the minimum land acquisition, dependent upon well capacity, shown in the table below:

Source Capacity (MGD)	Land Requirement (Acres)
0-1	1
> 1-2	2
> 2-3	3
> 3-5	5
> 5	5 + $\frac{1}{2}$ acre for each MGD or portion hereof in excess of 5 MGD

ii. The Department recommends that land acquired for the purpose of watershed protection be in up-gradient areas and equivalent to Tier I as defined in the Well Head Protection Plan (WHPP) adopted by the Department pursuant to the Federal Act.

2. Storm and/or sanitary sewer lines, industrial waste lines, septic tanks, distribution boxes and dry wells are prohibited within 50 feet of a well. Any such line within 100 feet of a well shall be of completely watertight construction (that is, steel, reinforced concrete, cast iron, PVC or other suitable material). Sewage disposal fields and seepage pits are prohibited within 200 feet of a well. Cesspools are prohibited within 200 feet of a well.

i. The Department may reduce the distance restrictions under (b)2 above if a well is constructed in a confined aquifer.

3. Manholes and/or connections to a sanitary sewer system are prohibited within 100 feet of a well, unless the well is constructed in a confined aquifer.

(c) The public community water system shall submit as part of the permit application under this subchapter an inventory of all major and minor pollutant sources and an evaluation of their possible impact on the quality of the ground water source as follows:

1. If a well is proposed to be constructed to withdraw water from a confined aquifer, an inventory and evaluation of major and minor pollutant sources within 500 feet of the well and a detailed description of how the well will be protected from the pollutant sources.

2. If a well is proposed to be constructed to withdraw water from an unconfined or consolidated aquifer, a delineation of the well head protection area (WHPA) in accordance with the New Jersey Well Head Protection Plan (WHPP) adopted by the Department pursuant to the Federal Act and an evaluation of major and minor pollutant sources as follows:

i. All major pollutant sources within a distance not greater than either the well's zone of contribution (ZOC) of 12 years time of travel (TOT) or 10,000 feet; and

ii. All minor pollutant sources within the greater distance of either 200 days TOT or 500 feet of the well.

3. Major pollutant sources identified pursuant to (c)2 above that are within either 200 days TOT or 500 feet of the well, whichever is greater, are prohibited unless an appropriate treatment barrier is provided.

4. The supplier of water shall provide an appropriate treatment barrier, or establish a sampling program in order to detect the presence of contamination from any major pollutant source identified pursuant to (c)2 above, if any such source exists in an area bounded by the greater distance of either 200 days TOT or 500 feet from the well and bounded by the lesser distance of either five years TOT or 10,000 feet from the well.

(d) Subject to the provisions of this section, well construction shall meet applicable requirements of the American Water Works Association Standard for Deep Wells, ANSI/AWWA-A100-90 as amended and supplemented, incorporated herein by reference, and N.J.A.C. 7:10-12.14 through 12.21. ANSI/AWWA-A100-90 may be obtained as provided at N.J.A.C. 7:10-11.6(d).

(e) The general requirements for the construction of wells are as follows:

1. Every well intended as a source of water supply for a public community water system shall have a minimum casing length of 50 feet.

2. The on-site work of drilling, constructing, deepening, or increasing the capacity of a well, or any other alteration of a well, shall be conducted under the supervision of a person in possession of a valid master well driller's license issued by the New Jersey Well Drillers Examining and Advisory Board pursuant to N.J.S.A. 58:4A-4.1 et seq.

3. No portion of a public community water supply system well shall be constructed unless a permit is obtained pursuant to this subchapter.

4. During construction, the area surrounding the well shall be maintained in an orderly and refuse-free condition, and surface water shall be diverted away from the well.

5. Water used for the drilling or driving of a well shall be obtained only from a source of known potable quality, or shall have been disinfected to meet the chlorine contact period and chlorine residual requirements pursuant to N.J.A.C. 7:10-11.16(e).

6. Where the threat of salt water intrusion exists, the well shall be constructed with an outer casing, in which the annular space outside the casing is grouted, and an inner casing, with the space between the outer and inner casing grouted for the full length.

7. A well drilled in a rock formation shall have a minimum casing length of 50 feet. The casing shall extend through the overburden and into competent rock for a minimum of 20 feet. The annular space between the well borehole and casing shall be grouted for its full length.

8. The drill and drive method of construction is acceptable if the well is driven into an undersized hole in an unconfined aquifer in an unconsolidated geological formation. All other well drilling methods must provide for well construction with an annular space four inches greater than the inside diameter of the casing to be installed and grouting for the full length of the annular space.

(f) Well casings shall conform to the American Water Works Association Standard ANSI/AWWA-A100-90, as amended and supplemented, incorporated herein by refer-

ence. ANSI/AWWA-A100-90 may be obtained as provided at N.J.A.C. 7:10-11.6(d).

(g) Regulations for well screens are as follows:

1. A well screen shall be installed where necessary to ensure delivery of water that is visibly free of sand. The well screen shall permit maximum water transmission without clogging.

2. Each well screen shall comply with American Water Works Association Standard ANSI/AWWA-A100-90 as amended and supplemented, incorporated herein by reference, and available as provided at N.J.A.C. 7:10-11.6(d).

3. Well screens shall not be installed in a manner which permits simultaneous drawing of water from multiple aquifers.

4. Well screens and blanks shall be made of stainless steel or equivalent strengthened corrosion-resistant material.

(h) Regulations for pumping equipment are as follows:

1. The pumping equipment for each well shall be designed and installed to prevent contamination and, where necessary, prevent freezing of the water supply.

2. The pump setting shall be such that the pumping level will not fall below the lowest pump bowl when the well is operated at maximum pump capacity.

3. The pump suction inlet shall be set above the screen and in no case shall it be set in the screened area.

4. The pump setting level shall be such as to ensure that the water level does not fall below the top of the screen.

5. The pumping level of wells drilled in rock shall not fall below the water bearing formation.

(i) Regulations for annular space grouting are as follows:

1. During the grouting operation, the permanent well casing shall be maintained in a centered position within the drill hole.

2. Any temporary outer casing, if used, shall be withdrawn during the grouting operation. If withdrawal is not possible, the temporary outer casing shall be sealed in place by a method approved by the Department.

3. Materials and method of grouting shall be those required pursuant to N.J.A.C. 7:10-12.19.

(j) Regulations for auxiliary well piping and equipment are as follows:

1. The discharge pipe from each well shall be provided with a check valve located between the pump and any blowoff, bypass or other connection to the discharge pipe.

2. A well blowoff shall be located after the check valve. The blowoff shall terminate above ground, and shall be protected against contamination.

3. A shutoff valve shall be located on the discharge pipe, after the blowoff, to allow water to be discharged to waste without entering the distribution system.

4. An air relief valve shall be located between the check valve and the well pump.

5. Each well shall be equipped with a water level indicator, discharge pressure gauge, raw water sampling tap, totalizing flow meter, well casing vent, and protected access to the well to permit the direct measurement of the water level.

6. Each well shall be equipped with instrumentation pursuant to N.J.A.C. 7:10-11.6(b).

7. If the well casing vent is utilized as the access for direct measurement of water level, the inside vent diameter shall not be less than $\frac{3}{4}$ of an inch and the well vent shall not be bent at an angle greater than 45 degrees to the well casing.

(k) Regulations for pump testing, sampling and record-keeping are as follows:

1. Each well shall be tested to determine the water yield. Except as provided in (k)3 below, such testing shall be run at 120 percent of design pump capacity and until either the drawdown or the rate of drawdown is stabilized (0.2 ft/hour or less) for a minimum period of six hours. Minimum pumping durations are as follows:

i. Continuous pumping for at least 72 hours in consolidated formations.

ii. Continuous pumping for at least 24 hours in unconsolidated formations or longer when required by the Department under a water supply allocation permit issued pursuant to N.J.A.C. 7:19.

2. Records of flow rate and drawdown shall be made at least at one hour intervals (or more frequent for tests pursuant to N.J.A.C. 7:19-2.2) during the test, and the water levels during the recovery period shall be recorded in accordance with the New Jersey Geological Survey Report GSR 29, Guidelines for Preparing Hydrogeological Reports for Water-Allocation Permit Applications. These guidelines can be obtained from the Department, Maps and Publications Office, PO Box 438, Trenton, New Jersey 08625-0438.

3. A pump test may be run at 100 percent of design pump capacity for a minimum period of 72 hours if stabilized drawdown is achieved and the well is designed so that the pump intake level is not dewatered if the well were to pump continuously for 30 days.

4. For wells in unconfined or rock aquifers, the discharge during a pump test shall be released at a distance where there is no interference or recharge during the test.

5. Water samples shall be taken during the pump test period and examined for bacteriological and chemical quality in accordance with State primary and secondary drinking water regulations at N.J.A.C. 7:10-5 and 7.

(l) Regulations for protection of well heads are as follows:

1. The well head shall be constructed so as to ensure the protection of the well from contamination.

2. The casing pipe and protective curbing of all wells shall extend at least 12 inches above the pump house floor or the grade near the well.

3. The pump house floor shall be sloped away from the well head and the floor shall be above the 100 year flood elevation.

4. Well pits are prohibited.

5. The space between the pump column and the inner casing of the well shall have a vent protected with a downfacing elbow or a mushroom type head located above the flood level. All vents shall be screened against the entry of insects.

6. A well under construction shall be capped to prevent contamination until permanent pumping equipment is installed.

(m) Any well with unsuitable water quality that cannot be treated to meet the standards of the chapter, any nonproductive well or any abandoned well shall be sealed in accordance with N.J.S.A. 58:4A-4.1 et seq. and N.J.A.C. 7:9.

(n) Upon completion of well construction and the installation of permanent pumping equipment and before the well is placed in service, the well suction piping, pumping equipment and discharge piping shall be disinfected in accordance N.J.A.C. 7:10-11.6(d).

(o) Additional requirements for ground water sources other than wells are as follows:

1. Where an application for a permit under this subchapter is made for the derivation of water from ground sources, such as a radial collector, infiltration gallery or spring, the provisions of (a) through (n) above shall apply.

2. Such application shall sufficiently detail the proposed construction method so that the Department can fully evaluate the sanitary features of the proposed ground water source. A preapplication conference is recommended.

(p) Any well or other ground water source of supply constructed in accordance with a permit issued under this subchapter shall not be placed in operation until the Department approves the well or source, as follows:

1. Following disinfection of the well or ground water source pursuant to (n) above, the well or source shall be pumped to waste until the water is free of chlorine residual.

2. The Department shall inspect the well or source and test the well or source water to determine compliance with the State primary and secondary drinking water regulations at N.J.A.C. 7:10-5 and 7. The well shall stand idle for at least 24 hours prior to such testing and the raw water shall not contain any chlorine residual.

Amended by R.2000 d.354, effective August 21, 2000.

See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

In (c)3 and (c)4, inserted internal references; in (d), amended N.J.A.C. references; and in (k)2, rewrote the last sentence.

7:10-11.8 Standards for the construction and development of surface water sources and ground water sources under the direct influence of surface water

(a) A supplier of water seeking a permit under this subchapter for a public community water system using a surface water source of supply shall submit for approval and implement a watershed monitoring plan and inventory that includes the following:

1. A record of raw water quality at the point of intake over a one year period. Required water quality data shall include, at a minimum, monthly sampling for physical, chemical, and primary contaminants regulated pursuant to this chapter; quarterly sampling for radiological contaminants, *Giardia lamblia*, and *Cryptosporidium*; and weekly sampling for turbidity, temperature and bacteria (total and fecal coliform). Sampling shall be conducted at least once during or immediately after a storm event;

2. An inventory of all major pollutant sources as defined pursuant to N.J.A.C. 7:10-11.4(a)4 located within the watershed and minor pollutant sources as defined pursuant to N.J.A.C. 7:10-11.4(a)5 located within one mile upstream of the water system intake, with an evaluation of their potential impact on water quality.

3. A watershed monitoring and an emergency response plan that includes a regular inspection schedule for the watershed, an inventory of all major pollutant sources within five miles upstream of the water system intake and 500 feet back from the stream banks, and a detailed emergency response plan for a contamination event.

4. A preapplication conference to discuss the requirements of this subsection is recommended.

(b) Each supplier of water with a surface water source of supply shall notify the Department, the New Jersey Department of Transportation, the county planning board, and municipal police and fire departments of the location of each intake and the road drainage areas which may affect water quality. The supplier of water shall identify areas where storm drains bring water from another area or water-

shed into the watershed area where the intake is located. The supplier of water shall request the Department to notify the supplier of water of applications for discharge permits received and discharge permits issued for locations upstream of the intake on a periodic basis. The supplier of water shall make similar requests of local planning and zoning boards of counties and municipalities upstream of the intake. Also, the county emergency network shall be advised of the drainage area and fire departments shall be provided a map indicating the storm drainage system that flows toward the intake.

(c) Regulations for surface water intake are as follows:

1. All surface water intakes shall be equipped with multiple surface water intake units in order to provide firm capacity (excluding the raw water intake line).

2. Intake structures shall be located and arranged to minimize the impact of surface drainage on water quality.

3. The maximum surface water intake velocity shall not exceed one-half foot per second.

4. Where practical, intake structures shall be constructed to permit the selective withdrawal of water from multiple levels of reservoirs.

5. Each intake structure shall be protected by removable or cleanable coarse screens or racks to prevent debris from entering the water system. Fine screens may be used for the purpose of excluding smaller fish and debris from the system.

6. Intake structures are prohibited within 100 feet of a septic system or sanitary sewer line.

7. All mechanical equipment shall be protected against the 100 year flood.

(d) Regulations for surface water and ground water under the direct influence of surface water treatment plants are as follows:

1. Pilot test data shall be submitted for the proposed treatment process.

2. Treatment shall, at a minimum, include coagulation, flocculation, filtration and disinfection.

3. Gravity filtration shall be provided.

4. The treatment plant shall be designed to accommodate powdered activated carbon (PAC) or granular activated carbon (GAC) treatment units.

5. The treatment plant shall have firm capacity to meet peak demand (excluding coagulation, flocculation and sedimentation).

6. Surface water shall be filtered and disinfected in accordance with N.J.A.C. 7:10-9.

7. Auxiliary power for surface water treatment plants shall be provided in accordance with N.J.A.C. 7:10-11.6(I).

(e) All filtration treatment plants, treating either surface water or ground water under the direct influence of surface water, shall be equipped as follows:

1. For the continuous monitoring and recording of the disinfectant residual entering the distribution system;
2. For the continuous monitoring and recording of effluent turbidity from each individual filter; and
3. Each filter must have the capability to filter to waste at the normal production rate.

7:10-11.9 Standards for the construction of pumping stations

(a) All pumping stations shall be located above-ground for ease of inspection and maintenance. Where an above-ground location is not feasible, the station shall meet the requirements for underground pumping stations at (g) below.

(b) Regulations for pumping station location and protection are as follows:

1. Pumping stations shall not be located within the 100 year flood hazard area. Where a location outside the 100 year flood hazard area is not feasible, the pumping station shall be protected against flooding. All treated water pumping stations shall have a floor elevation at least one foot above the highest recorded flood elevation.

2. Pumping stations shall be constructed in compliance with N.J.A.C. 7:10-11.6(g).

(c) Wet wells shall be watertight and protected against seepage and contamination. Wet wells shall be covered and provided with downfaced or mushroom type screened vents protected against entry of foreign matter.

(d) Regulations for pumping equipment are as follows:

1. Pumping equipment shall be designed to meet the demand requirements pursuant to N.J.A.C. 7:10-11.6(a).
2. Sufficient pumping units shall be supplied so as to have a firm capacity to achieve the maximum design output of the station.
3. Where low pressure may adversely affect customers, a booster pump station shall be designed and controlled to maintain a minimum pressure of 20 pounds per square inch (20 p.s.i.) in the water main from which it draws suction. If chronic low pressure problems exist, the Department shall require an automatic switch to deactivate pumps in low pressure situations.

4. Priming systems shall be constructed to prevent contamination of the water supply.

(e) Each pumping station shall be equipped with check valves, flow meters, isolation valves located before and after the pumping station, pressure gauges, and manual shutoff valves within the station.

(f) Each pumping station with a design capacity greater than or equal to 100,000 gallons per day shall be equipped with a flow totalizing meter.

(g) Each underground pumping station shall have sump and sump pump capacity adequate to handle leakage or a break within the station as follows:

1. A minimum of two sump pumps designed to be activated at different flood levels;
2. An alarm activated 24 hours a day that is triggered when water is six inches above the floor level or when the secondary sump pump activates. In addition, an automatic above-ground power shutoff shall be activated when the water reaches the base of the pumps; and
3. Isolation valves which automatically close either when there is a power failure or when the secondary sump pump is activated.

Amended by R.2000 d.354, effective August 21, 2000.
See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).
Rewrote (d)2.

7:10-11.10 Permit requirements and standard for the construction of distribution systems

(a) A supplier of water may apply for a master permit, including all proposed routine water main extensions and/or replacements, transmission mains and interconnections, covering a set maximum number of service connections for a period not exceeding three years. At the time of application for such master permit, the supplier of water shall submit specifications and an engineer's report demonstrating that the water system can meet the requirements of this subchapter, as well as a system distribution map that differentiates between existing and proposed water mains.

1. Each master permit shall be renewed annually.
2. A master permit is available only to suppliers of water in those municipalities that have approved utility development plans in conformance with municipal master plans and zoning ordinances.

(b) For any distribution system improvement such as water main extension and/or replacement, transmission main or interconnection not covered by a master permit issued pursuant to (a) above, the supplier of water shall:

1. Pretreatment by sedimentation is required for all surface waters, unless pilot test data submitted pursuant to N.J.A.C. 7:10-11.8(d)1 demonstrate that sedimentation pretreatment is not necessary.

2. The minimum depth of the sedimentation basin shall be 10 feet, with ample allowance for sludge accumulation or sludge removal equipment and a depth of water flow of at least six feet.

3. Inlet and outlet facilities shall be designed so as to minimize short-circuiting. Submerged inlet ports shall be located so as to avoid creating a disturbance of the settled floc.

4. The maximum surface loading rates (gallons per minute per square foot) are as follows:

	Flocculation or Iron or Manganese <u>Removal</u>	Lime <u>Softening</u>
Ground Water	0.5	1.0
Surface Water	0.375	0.75

5. For around-end baffling in a horizontal plane, the maximum surface loading rate pursuant to (d)4 above shall be reduced by 50 percent.

6. For horizontal units, the minimum detention time shall be four hours for surface water and two hours for lime softening treatment plants.

7. The water velocity through settling basins shall not exceed 0.5 feet per second.

8. The Department may approve the use of tube or plate settlers if justification is provided for reduced detention times. In such cases, a pilot plant study shall be implemented to demonstrate satisfactory operation.

i. Sufficient freeboard shall be provided above the top of the settlers to prevent freezing of the units in outdoor installations. The construction of outdoor units is discouraged.

ii. The maximum surface loading rate shall not exceed two gallons per minute per square foot of horizontal tube settler area.

9. Outlet weir loadings shall not exceed 20 gallons per minute per foot of length of settled water. When orifices are used rather than weirs, their size, number and arrangement shall be such as to produce loadings equivalent to the requirements for weirs. Weirs or orifices shall be arranged to produce uniform flow rates over the area of the sedimentation tank.

(e) Regulations for solids-contact units are as follows:

1. Solids-contact units for flocculation, lime softening, iron or manganese removal, and for settling.

2. Solids-contact units shall be installed and initially operated under the supervision of the manufacturer's representative.

3. Each solids-contact unit shall facilitate satisfactory flocculation of the water before it enters the settling area.

4. Surface loading rates for solids-contact units shall be calculated on the basis of the input flow and the horizontal area of flow in the clarification zone at a level five feet below the level of the discharge weirs or orifices. The maximum surface loading rates (gallons per minute per square foot) are as follows:

	Flocculation or Iron or Manganese <u>Removal</u>	Lime <u>Softening</u>
Ground Water	1.0	2.0
Surface Water	0.75	1.5

5. Each solids-contact unit shall be equipped with sampling taps to facilitate collection of water samples from various locations within the unit to ensure its efficiency.

6. Outlet weir loadings shall not exceed 20 gallons per minute per foot of length of softened water, or 10 gallons per minute per foot of length of flocculated water. Where orifices are used rather than weirs, their size, number and arrangement shall be such as to produce loadings equivalent to the requirements for weirs. Weirs or orifices shall be arranged to produce uniform vertical flow rates over the area of the solids-contact unit.

7. Each solids-contact unit shall be equipped for effective concentration of sludge and to facilitate sludge draw-off and disposal.

8. Sludge piping shall be arranged so as to facilitate operation and cleaning. Piping shall not be less than three inches in diameter and shall allow for flushing with clear water.

9. Sludge valves shall be located outside of the solids-contact tank.

10. Each solids-contact unit shall be equipped to allow manual override of any pre-set automatic intermittent withdrawal of sludge.

7:10-11.14 Filtration

(a) General requirements for filtration are as follows:

1. Each filter unit shall be provided with equipment which facilitates cleaning, and placing or replacing the filter medium.

2. Each filter unit shall be provided with equipment for backwash (except for slow sand filtration).

3. Surface water treatment facilities shall be equipped with a continuous or sequencing turbidity monitoring device for each filter unit and a continuous turbidity monitoring device for the plant effluent. The sequencing

devices shall automatically analyze and record each filter unit effluent turbidity at least once every hour.

(b) Total filtration capacity shall be such that, with one unit out of service, the maximum filtration rate of any of the remaining units will not exceed the requirements established at N.J.A.C. 7:10- 11.14(c)2.

(c) Filter unit design requirements are as follows:

1. Filter units shall not contain any contamination hazards, single walls between treated and untreated water, or plumbing cross connections.

2. Pressure filtration rates shall not exceed a loading rate of three gallons per minute per square foot unless approved by the Department.

3. Pressure filter units shall not be used for surface water treatment.

4. The filtration rate for rapid sand and mixed media shall not exceed five gallons per minute per square foot.

5. Size requirements for filter media are as follows:

i. For rounded particles, maximum effective size shall be 0.55 mm.

ii. For angular particles, maximum effective size shall be 0.45 mm.

iii. The maximum uniformity coefficient shall be 1.6.

iv. The minimum thickness of filter media shall be 24 inches.

v. The maximum head loss through filter medium shall be eight feet of water.

6. Regulating valves shall be provided for the control of filtration rates.

7. When dual media filters with sand and anthracite beds are used, the anthracite particles may be twice the effective size required under (c)5 above. The sand bed shall be a minimum of 12 inches thick.

8. At least 12 inches of graded gravel shall be placed over the underdrains or another filter media support method specifically designed by the filter media manufacturer shall be used.

9. Slow sand filter units may be used if approved by the Department. The Department shall approve the use of slow sand filters if the applicant demonstrates the adequacy of such water treatment technology through pilot plant tests on the source of water to be treated.

(d) Granular activated carbon (GAC) may be used as a filter medium provided the filter unit meets the filter design requirements of (c) above, and adequately controls bacterial growth in the filtered water, incorporates backwash equipment, and facilitates replacement of medium when necessary.

(e) Regulations for backwash water are as follows:

1. Backwash water shall be filtered water.

2. The available wash rate shall be a minimum of 15 gallons per minute per square foot and shall provide for a minimum of 30 percent expansion of the filter medium. Supplemental washing facilities such as surface wash or air scour units shall be provided.

3. Reduced pressure zone backflow preventers shall be installed to prevent back siphonage of filter surface wash water.

4. Backwash water shall not be discharged to a sanitary sewer system except in accordance with the New Jersey Pollutant Discharge Elimination System rules, N.J.A.C. 7:10-14A, and with written approval from the appropriate sewerage authority. Direct connections between backwash water lines and sanitary or storm sewer lines are prohibited. Discharges shall be made through an above-ground air gap.

Amended by R.2000 d.354, effective August 21, 2000.

See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

Amended internal reference.

7:10-11.15 Miscellaneous treatment processes

(a) Regulations for aeration are as follows:

1. The supplier of water shall evaluate each aeration treatment unit for its effectiveness in water treatment and adequate protection of the water.

2. Because of the large variation in aeration treatment unit's effective air to water ratios, the Department does not set minimum standards for the air to water ratio. The Department shall review and approve the design of each such treatment unit during its review of a permit application under this subchapter.

3. Any aeration process not subject to filtration for particulate removal must meet the following minimum requirements for protection against dust, insects, and bacteriological contamination:

i. All air entering an induced or forced air aeration unit shall be passed through a corrosion-resistant screen of not less than 24 mesh.

ii. All aerators, except those followed by flocculation, sedimentation and filtration units, shall be constructed so as to prevent contamination by birds, insects, wind-borne debris, rainfall and water draining off the exterior of the aerator.

1. The chlorine dioxide maximum feed rate shall be 1.5 mg/l.

2. Each chlorine dioxide generator shall be at least 95 percent efficient in producing chlorine dioxide and the production of by-products (for example, chlorates, chlorites) shall not exceed five percent.

3. A comparator, suitable for determining chlorine dioxide residuals by the D.P.D. method in accordance with Part 4500-C1O2D of the Standard Methods for the Examination of Water and Wastewater, 17th Edition, as amended and supplemented, incorporated herein by reference, shall be used. Supplies of the necessary reagents shall be adequate and available. A copy of the standards may be obtained as provided at (h)1 above.

4. A test kit, using amperometric titration or an approved equivalent, shall be used to monitor chlorine dioxide from the generator product stream.

(k) Disinfection equipment, contact tanks and conduits shall be designed to provide for the minimum disinfectant contact periods established under the National Regulations, 40 CFR 141.70.

7:10-11.17 Requests for adjudicatory hearings

(a) An applicant for a permit under this subchapter or any person, subject to the limitation on third party appeal rights set forth in P.L. 1993, c.359 (N.J.S.A. 52:4B-3.1 through 3.3), who believes himself or herself to be aggrieved with respect to any decision made by the Department regarding such permit application submitted pursuant to this subchapter, may contest the decision and request an adjudicatory hearing pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1, if the Department:

1. Denies a permit application, or any part thereof;
2. Revokes, withdraws or modifies a previously issued permit approval; or
3. Issues a permit with conditions that the applicant considers unreasonable.

(b) Requests for an adjudicatory hearing shall be in writing and submitted to:

Office of Legal Affairs
Attention: Adjudicatory Hearing Requests
Department of Environmental Protection
PO Box 402
Trenton, New Jersey 08625-0402

(c) A request for an adjudicatory hearing must be received by the Department within 20 calendar days after the date upon which the notice of decision on the permit application was received by the applicant.

(d) A request for an adjudicatory hearing shall be submitted in writing to the Department and shall contain:

1. The name, address and telephone number of the person making the request;
2. A statement of the legal authority and jurisdiction under which the request for a hearing is made;
3. A brief and clear statement of specific facts describing the Department decision for which a hearing is requested; and
4. A statement of all facts alleged to be at issue and their relevance to the Department decision for which a hearing is requested. Any legal issues associated with the alleged facts at issue must also be included.

(e) If the Department does not receive the hearing request within 20 days after receipt by the applicant of the notice of decision on the permit application, the Department shall deny the hearing request.

(f) If the applicant or any person requesting a hearing pursuant to (a) above fails to include all the information required by (d) above, the Department may deny the hearing request.

(g) The Department shall determine whether a request for an adjudicatory hearing should be granted. In making such determination, the Department shall evaluate the request to determine whether a contested case exists and whether there are issues of fact which, if assumed to be true, might change the Department's decision. Where only issues of law are raised by the request for a hearing, the request will be denied. Denial by the Department of a request for an adjudicatory hearing shall constitute the final decision of the Department for the purposes of judicial appeal.

(h) The adjudicatory hearing, if granted, shall be held before an administrative law judge and in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and the rules and regulations promulgated thereto.

Amended by R.2000 d.354, effective August 21, 2000.
See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

SUBCHAPTER 12. STANDARDS FOR THE CONSTRUCTION OF PUBLIC NONCOMMUNITY WATER SYSTEMS AND NONPUBLIC WATER SYSTEMS

7:10-12.1 Authority and scope

This subchapter establishes the certification requirements and standards for the construction of new, altered, or replacement nonpublic water systems and public noncommunity water systems pursuant to the State Act; N.J.S.A.

58:11-23 et seq., the Realty Improvement Sewerage and Facilities Act; and 58:4A-4.1 et seq., commonly known as the Subsurface and Percolating Waters Act.

7:10-12.2 Penalties

Violation of any provision of this subchapter may subject the owner of a public noncommunity water system or non-public water system to an enforcement action and penalty in accordance with the State Act and N.J.A.C. 7:10-3.

7:10-12.3 Additional definitions

In addition to the words and terms defined at N.J.A.C. 7:10-1.3, the following words and terms are defined for the purposes of this subchapter:

“Adequate protection” means construction methods which ensure that the water that reaches consumers complies continuously with the physical, chemical, and bacteriological requirements of the State Primary Drinking Water Regulations at N.J.A.C. 7:10-5. The term “adequately protected” shall be construed accordingly.

“Alter” means to replace any portion of an existing water system. The terms “alteration” and “altered” shall be construed accordingly.

“Annular space” means the space between the well casing and/or well screen and the wall of the borehole or, in the case of a multiple cased well, all of the spaces between casings and all of the space between the outer casing and the wall of the borehole.

“Approval” means written authorization from the Department or the administrative authority to an applicant for the construction of a proposed new, altered, or replacement water system pursuant to the requirements of this subchapter.

“Artesian well” means a well in which water is derived from below a confining layer and in which the static water level rises above the aquifer.

“Aquifer” means any subsurface water-saturated zone which is significantly permeable so that it may yield sufficient quantities of water from wells or springs in order to serve as a practical source of potable water supply.

“Borehole” means the hole made by driving, jetting, coring drilling, augering or other means into the ground for the purpose of constructing a well.

“Building sewer line” means the pipe extending from the outer wall of a building to a septic tank or approved place of disposal including a public sewer, and the lines to all parts of the subsurface sewage disposal system, except those classified as distribution lines.

“Casing” means a pipe or tubing installed into a borehole during or after drilling to support the sides of the hole and prevent caving or the entrance of water, gas or other fluid into the hole.

“Certification” means the written statement issued by the administrative authority or the Department pursuant to N.J.A.C. 7:10-12.39 through 12.42 that a new, altered, or replacement water system complies with the requirements of the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23 et seq.), the State Act and this subchapter.

“Cesspool” means a covered pit with open-jointed lining into which untreated sewage is discharged, the liquid portion of which is disposed of by leaching into the surrounding soil, the solids or sludge being retained within the pit.

“Cistern” means a tank for the collection of rain water draining from a roof or roofs, which water is intended to be used for potable purposes.

“Confining layer” means a geologic formation which separates aquifers and which consists of material, such as clay or unfractured rock, that does not permit perceptible vertical transmission of water to other aquifers.

“Consolidated formation” means a geologic formation in which the sands, gravels, clays or other similar materials have been lithified. Such a formation will commonly remain stable around an open borehole without caving.

“Construct” means to build, assemble or install a new or replacement water system or to enlarge or alter an existing water system. The term “construction” shall be construed accordingly.

“Contamination” means sewage, industrial wastes, organisms of the coliform group, water-borne pathogens, or harmful or objectionable material in potable water. The term “contaminated” shall be construed accordingly.

“Decommissioning” means the permanent closure or sealing of a well in accordance with the procedures set forth in N.J.A.C. 7:9.

“Disposal bed” means an individual subsurface sewage disposal system component consisting of a closed excavation made within soil or fill material to contain filter material in which two or more distribution laterals have been placed for the disposal of septic tank effluent.

“Disposal field” means a disposal bed or a group of one or more disposal trenches. The perimeter of the disposal field corresponds to the perimeter of the disposal bed, or a line circumscribing the outermost edges of the outermost disposal trenches and including the area between the disposal trenches.

“Disposal trench” means an individual subsurface sewage disposal system component of a covered excavation made within soil or fill material to contain filter material in which a single distribution lateral has been placed for the disposal of septic tank effluent.

“Distribution box” means a watertight structure which receives sanitary sewage effluent from a septic tank and distributes such sewage effluent in equal portions to two or more pipelines leading to the disposal field.

“Distribution lateral” means a perforated pipe or one of several perforated pipes used to carry and distribute septic tank effluent throughout the disposal field. A distribution lateral is also known as a distribution line.

“Distribution main” means a pipe for the transmission or conveyance of potable water to more than one realty improvement.

“Driving” means the pounding of the well casing into an undersized hole.

“Dry well” means a covered pit with open-jointed lining through which drainage from roofs, basement floors or areas may seep or leach into the surrounding soil.

“Dug well” means a water table well that is excavated by means of picks, shovels, or similar hand-tools.

“Finished water” means potable water which does not require treatment in order to meet the requirements of the State primary and secondary drinking water regulations at N.J.A.C. 7:10-5 and 7.

“Grout” means a material approved by the Department for use in sealing the annular space of a well during construction, or for sealing a well during decommissioning.

“Immediate on-site supervision” means the presence of a person possessing a New Jersey well driller’s license of the proper class to provide direct and constant oversight of the work and performance of any person(s) engaging in or assisting with the operation of a well drilling machine during the construction of a well.

“Individual subsurface sewage disposal system” means a system for the disposal of sanitary sewage into the ground which is designed and constructed to treat sanitary sewage in a manner that will retain most of the settleable solids in a septic tank and discharge the liquid effluent to a disposal field.

“Industrial waste” means solid or liquid wastes resulting from processes employed in industrial establishments or in any commercial establishment engaged in processes which use or generate any of the pollutants or any substance containing any of the pollutants regulated under section 307(a), (b), or (c) of the Federal Clean Water Act of 1977, 33 U.S.C. §§ 1251 et seq., and any amendments thereto, and the regulations promulgated pursuant thereto.

“Journeyman well driller” means a well driller possessing a New Jersey journeyman well driller’s license who has at least three years of experience under the supervision of a New Jersey licensed master or journeyman well driller in the

trade, business, or calling of well drilling, with concentration in the practical construction of wells and in the installation and repair of well pumping equipment and appurtenances thereto, or who satisfies equivalent experience and other requirements as prescribed by the Department pursuant to N.J.S.A. 58:4A-4.1 et seq.

“License of the proper class” or “license” means the document issued to a person pursuant to N.J.S.A. 58:4A-4.1 et seq. authorizing such person to engage and perform work in the trade, business, or calling of well drilling, or the installation of well pumping equipment and appurtenances thereto, or the decommissioning of wells.

“Locate” means to designate the site or place of the sources or other appurtenances of a water supply system. The term “location” shall be construed accordingly.

“Maintenance casing” means an inner casing in a well with a screen attached to it which can be removed in order to replace the screen.

“Major pollutant source” means any wastewater treatment plant discharge, any documented ground water contamination, any chemical or fuel storage facility with capacity greater than 2000 gallons, any military facility, any industrial treatment lagoon, any automotive service station, any landfill (open, closed, or inactive), any industrial facility (including dry cleaning facilities), any septic system, any cemetery, any salt storage facility, any highway maintenance yard, any truck and/or bus maintenance yard, any underground fuel and chemical storage tank with a capacity of 2000 gallons or more, any livestock operation, any body of surface water containing salt or brackish water, any quarrying and/or mining facility, any asphalt and concrete manufacturing facility, and any open dump or junkyard.

“Master well driller” means a well driller possessing a New Jersey master well driller’s license who has at least five years experience in the trade, business, or calling of well drilling, including at least two years of experience as a licensed journeyman well driller in New Jersey, skilled in the planning, superintending, and practical construction of wells, and the installation and repair of well pumping equipment and appurtenances thereto, or who satisfies equivalent experience and other requirements as prescribed by the Department pursuant to N.J.S.A. 58:4A-4.1 et seq.

“Minor pollutant source” means any liquid chemical or fuel storage tank with capacity less than 2000 gallons, any stormwater detention or retention basin, any sanitary sewer line, any sanitary sewer manhole, any sanitary sewer pump station, any septic tank or leaching field, any sewage treatment facility, any active farm, and any facility to which the Department has issued a discharge permit pursuant to N.J.A.C. 7:14A.

“Oversized borehole” means a borehole with a diameter at least four inches greater than the inside diameter of the well casing to be installed for the emplacement of a well.

“Pitless well adapter” means a manufactured device designed for attachment to one or more openings through a well casing, and constructed so as to prevent the entry of contamination into the well or potable water, to conduct water from the well, to protect the water from freezing or extremes of temperature, and to provide access to water system components within the well.

“Pitless well unit” means a preassembled device which extends the upper end of a well casing to above grade, provided with a pitless well cap, and constructed so as to prevent the entry of contamination into the well or potable water, to conduct water from the well, to protect the water from freezing or extremes of temperature, and to provide access to the well and to the water system components within the well.

“Pitless well cap” means a gasketed, watertight, sanitary device that covers and encloses the upper termination of a pitless well unit or the well casing, and is provided with watertight connections for electrical power lines and well vent.

“Point of entry treatment device” means a device by which drinking water is treated at the point of entry into a building for the purpose of reducing contaminants in the drinking water prior to its entering the distribution system throughout the building.

“Primary contaminant” means any drinking water contaminant regulated pursuant to the State primary drinking water regulations, N.J.A.C. 7:10-5.

“Pump installer” means a person possessing a New Jersey license as a pump installer who has at least one year of experience under the supervision of a New Jersey licensed master or journeyman well driller or a New Jersey licensed pump installer, and is qualified to engage in the installation, removal, alteration, and repair of well pumping equipment and appurtenances thereto in connection with any well, including connecting lines between a well and a storage tank or appurtenances thereto, or who satisfies equivalent experience and other requirements as prescribed by the Department pursuant to N.J.S.A. 58:4A-4.1 et seq.

“Realty improvement” means any proposed new residence, commercial or other building (including, but not limited to, condominiums, garden apartments, town houses, mobile homes, stores, office buildings, restaurants, hotels, and so forth), the useful occupancy of which requires the installation or construction of a water system. Each family unit in a proposed multiple family dwelling or each commercial unit in a commercial building shall be construed to be a separate realty improvement.

"Sanitary sewage" means any liquid waste containing animal or vegetable matter in suspension or solution, or the water-carried wastes resulting from the discharge of water closets, laundry tubs, washing machines, sinks, dishwashers or any other source of water-carried waste of human origin or containing putrescible material. This term specifically excludes industrial, hazardous or toxic wastes and materials.

"Sanitary sewer" means a pipe which carries sewage and to which storm, surface and ground water are not intentionally admitted.

"Sanitary well seal" means a manufactured device or approved arrangement which is used to cap a well or to establish or maintain a watertight junction between the well casing and the piping or equipment installed therein.

"Secondary contaminant" means any drinking water contaminant regulated pursuant to the State secondary drinking water rules, N.J.A.C. 7:10-7.

"Seepage pit" means a covered pit with open-jointed lining material through which septic tank effluent may seep or leach into the surrounding soil.

"Septic tank" means a watertight receptacle which receives the discharge of sanitary sewage from a building sewer or part thereof, and is designed and constructed so as to permit settling of settleable solids from the liquid, partial digestion of the organic matter, and discharge of the liquid portion into a disposal field or seepage pit.

"Service line" means a pipe for the transmission or conveyance of potable water under pressure either from an individual well or from a distribution main to a single realty improvement.

"Single dwelling nonpublic water system" means any non-public water system which provides piped potable water to a single or multifamily residential building of four or fewer dwelling units.

"Spring" means a natural surface feature where ground water issues from the rock or soil onto the land or into a body of water.

"Stable water pumping level," when used in this subchapter in reference to a well, means the water level in a well under pumping conditions such that the rate of change in the water level is less than 0.5 feet per hour.

"Subsurface sewage disposal system" means that part of an individual sewage disposal system comprising the disposal field.

"Suction line" means a pipe which conveys water at less than atmospheric pressure from a well to a pump.

"Unconfined or semi-confined aquifer" means an aquifer that is either exposed to atmospheric pressure or bounded

by layers of material which do not serve as an effective barrier to water migration.

"Unconsolidated formation" means a geologic formation in which the sands, gravels, clays or other similar materials are loosely arranged. Such a formation will not remain stable around an open borehole.

"Undersized borehole" means a borehole with a diameter no larger than the inside diameter of the well casing to be installed for the emplacement of a well.

"Water bearing formation" means an aquifer as defined in this section.

"Water supply allocation permit" means the document issued by the Department, pursuant to N.J.S.A. 58:1A-1 et seq. and N.J.A.C. 7:19, for the diversion of 100,000 or more gallons per day of ground or surface water for more than 30 days in a consecutive 365 day period for any purpose other than agricultural or horticultural purposes.

"Water table well" means a well in which water is derived from an unconfined or semi-confined aquifer.

"Well" means a hole or excavation deeper than it is wide, that is drilled, bored, core driven, jetted, dug, driven, or otherwise constructed for the purpose of removal of water from the subsurface.

"Well development" means the removal of sands and drilling materials from the water bearing zones of any well to produce water which is free of visible sand and/or silt and to verify well pumping capacity.

"Well driller" means a person possessing a New Jersey well driller's license of the proper class who engages in drilling, digging, driving, boring, coring, jetting, or other construction or repair of any well, and in the installation, removal, alteration, and repair of well pumping equipment and appurtenances thereto in connection with any well, including connecting lines between a well and a storage tank or appurtenances thereto.

"Well pit" means a below ground chamber or vault for the purpose of enclosing and providing access to a wellhead which terminates below grade.

"Well stimulation" means the stimulation of a well to increase its productivity by techniques including, but not limited to, blasting, hydro-fracturing, chemical treatment, surging and dry-icing.

"Yield," when used in this subchapter in reference to a well, means the capacity of a well to produce water at a constant pumping rate at which a stable water pumping level is maintained.

7:10-12.4 General provisions and prohibitions

(a) No person shall construct, alter, or replace a public noncommunity water system or nonpublic water system except in accordance with the standards set forth in this subchapter and any regulations adopted pursuant to the State Act and with the approval of the administrative authority as required pursuant to this subchapter.

(b) When two or more adjacent water systems are owned by the same person and, in combination, serve 15 or more realty improvements, the water systems shall be constructed in accordance with the rules and standards applicable to public community water systems at N.J.A.C. 7:10-11.

(c) A person seeking to build a realty improvement or seeking to alter or replace an existing water system shall determine whether to construct a public noncommunity water system or a nonpublic water system based on the following considerations:

1. If an adequate public community water system is available, if such public community water system's water lines are within 200 feet of the property line of the realty improvement or the existing water system, if connection can legally be made thereto, and if such connection is practical, then the realty improvement or the existing water system shall be supplied with water from that source except as provided in (c)1i below. Such connection shall be considered practical unless the connection to the public community water system involves major construction such as the crossing of a highway, stream or body of water, or major utility easement; and/or distance from the water line or any other field condition renders such connection cost-prohibitive:

- i. An existing well in an existing water system may be replaced in lieu of such connection to a public community water system with the approval of the administrative authority.

2. The feasibility of establishing a new public community water system;

3. The dependability of the source of water supply;

4. Geology;

5. Major or minor pollutant sources as defined at N.J.A.C. 7:10-11.4(a)4 and 5; and

6. The components necessary to construct a balanced system of supply, pumping, treatment, distribution and finished water storage facilities to meet the peak demand.

(d) A person shall not drill, construct, install, repair, replace, modify, stimulate or decommission any well or engage in such business unless such person possesses a valid New Jersey well driller's license of the proper class or unless

such drilling is performed under the immediate on-site supervision of a person who possesses a valid New Jersey well driller's license of the proper class issued by the Department pursuant to N.J.S.A. 58:4A-4.1 et seq.

(e) A person shall not undertake or arrange for any well drilling activity that is not under the immediate on-site supervision of a person who possesses a valid New Jersey well driller's license of the proper class issued by the Department pursuant to N.J.S.A. 58:4A-4.1 et seq.

(f) A person shall not drill, construct, install or replace a well unless such person has obtained a well permit from the Department pursuant to N.J.S.A. 58:4A-4.1 et seq.

(g) A person shall not install, repair or replace a well pump or well pumping equipment or engage in such business unless such person possesses a valid New Jersey pump installer's license or a valid New Jersey well driller's license of the proper class.

(h) A person shall not undertake any operation involving the drilling, coring, boring, driving, jetting, digging or other construction or repair of any well unless such operation is performed under the immediate on-site supervision of a person who possesses a valid New Jersey well driller's license of the proper class. The name of the well drilling company shall be prominently displayed on the equipment used by such person.

1. Wells, pumps, and related appurtenances serving a single dwelling or other nonpublic water systems may be configured by a master or journeyman well driller.

(i) A well driller shall not perform any well drilling operation without maintaining the area surrounding the operation in a sanitary condition and providing proper containment of all materials and surface drainage away from the well.

(j) No material that will cause the delivered water to be toxic shall be used in the installation of a well.

(k) Any component and/or construction material containing lead alloys used in a public noncommunity water system or nonpublic water system shall meet the following:

1. The lead content of solder and flux shall not exceed 0.2 percent.

2. The lead content of pipes, fittings, and any metallic components in contact with the drinking water shall not exceed 8 percent.

3. The use of lead packers on potable water wells is prohibited.

7:10-12.5 Deviations from construction standards

(a) The administrative authority shall issue an approval to construct a public noncommunity water system or nonpublic water system that deviates from the standards and requirements of this subchapter, except as provided in (c) below, if the applicant for such approval can establish that the proposed public noncommunity water system or nonpublic water system provides adequate protection of the water system's water supply, as defined at N.J.A.C. 7:10-12.3. The administrative authority shall review such an application for approval using a conservative evaluation of data submitted by the applicant pursuant to (b) below.

(b) An applicant for an approval to construct a public noncommunity water system or nonpublic water system that deviates from the standards and requirements of this subchapter shall submit analytical and survey determinations which demonstrate either of the following:

1. That the source of water supply is adequately protected by natural means; or
2. That a comparable water system or pilot plant has operated for a period sufficient to demonstrate adequate protection of the water supply.

(c) Deviations from the well construction standards at N.J.A.C. 7:10-12.14 through 12.21 shall be approved by the Department.

(d) When a well driller believes unusual circumstances at a well drilling site are such that compliance with the general well construction standards for wells set forth at N.J.A.C. 7:10-12.16 will not adequately protect the water supply derived from the well, the well driller shall submit a written request to the Department for approval to construct the well to special standards. The request for approval shall include:

1. The purpose of the well;
2. The location of the well, including a site plan;
3. The name, address, and telephone number of the well owner;
4. The name, address, and telephone number of the well driller;
5. A description of the unusual circumstances warranting the request for approval to construct the well to special standards;
6. An explanation of the reasons that compliance with the general well construction standards is not practicable or sufficient under the circumstances;
7. The proposed special standards for construction that the well driller believes are practicable or sufficient under the circumstances; and
8. A diagram showing the pertinent features of the proposed well design and construction.

(e) The Department shall approve or deny in writing the request for approval to construct a well to special standards submitted pursuant to (d) above. An approval shall specify the special construction standards. A denial shall specify the reasons therefor.

7:10-12.6 Water volume requirements

(a) The pumping capacity from all available water sources for a public noncommunity or nonpublic water system shall meet the following minimum requirements:

1. For water systems that supply residential consumers, the system shall deliver a minimum of 2.0 gallons per minute per bedroom served for 30 minutes.
2. For water systems that supply all persons other than residential consumers and use hydropneumatic storage, the pumping capacity shall be 10 times the average daily demand as determined using Table 1 below. If gravity storage is used, the minimum pumping capacity may be lowered, but not to less than the minimum required yield as set forth in (b) below.

(b) The total yield from all available water sources for a public noncommunity or nonpublic water system shall meet the following minimum requirements:

1. For water systems that supply residential realty improvements, the yield shall be at least 0.25 gallons per minute per bedroom served.
2. For water systems that supply all persons other than residential consumers, the yield shall be at least three times the average daily demand as determined using Table 1 below.

TABLE 1
AVERAGE DAILY WATER DEMAND

Type of establishment	Gallons per person
1. Cottage	100
2. Single family dwelling	100
3. Multiple family dwelling (apartment)	75
4. Rooming house	50
5. Boarding house**	75
a. For each nonresident boarder	15
6. Hotel**	50-75
7. Motel or tourist cabin	50-75
8. Mobile home park	100
9. Restaurant	
a. Sanitary demand, per patron	5
b. Kitchen demand, per patron	5
c. Kitchen and sanitary demand	10
10. Camp*	
a. Barracks type	50
b. Cottage type	40
c. Day camp (no meals served)	15
11. Day school	
a. No cafeteria or showers	10
b. With cafeteria and no showers	15
c. With cafeteria and showers	20
d. With cafeteria, showers and laboratories	25
12. Boarding school**	100
13. Health care institution other than hospital	75-125
14. Hospital (depending on type)	150-250
15. Industrial facility (8 hour shift)	25
16. Picnic grounds or comfort station	

Type of establishment	Gallons per person
a. With toilet only	10
b. With toilet and showers	15
17. Swimming pool or bathhouse	10
18. Club house**	
a. For each resident member	60
b. For each nonresident member	25
19. Nursing home	150
20. Campground	
a. Without individual sewer hook-up	75 per site
b. With individual sewer hook-up	100 per site
c. With laundry facility and individual sewer hook-up	150 per site
21. Store, office building	0.125 gal/sq. ft
22. Self-service laundry	50 gal/wash

* When the establishment will serve more than one use, the multiple use shall be considered in determining water demand.

** Includes kitchen demand at 10 gallons per person per day. If laundry demand is anticipated, the estimated water demand shall be increased by 50 percent.

7:10-12.7 Sources of water

(a) The source of water for a public noncommunity or nonpublic water system shall be a well or wells, except that the administrative authority shall approve the use of spring or springs in accordance with N.J.A.C. 7:10-12.23 if construction of a well is not possible due to the local terrain and/or geology, provided the water derived from the spring or springs is disinfected pursuant to N.J.A.C. 7:10-12.32. Dug wells, Kelly concrete-cased wells and/or their equivalents, and cisterns shall not be used as a source of water for such systems unless approved by the Department in accordance with N.J.A.C. 7:10-12.25.

(b) Duplicate wells and pumping equipment, or interconnection with another water system, shall be installed and ready to be used for a water system for which the average water demand exceeds 30,000 gallons per day.

(c) A single nonpublic water system shall not serve multiple realty improvements unless one person owns and directly controls all such realty improvements.

7:10-12.8 Frost protection

All parts of a public noncommunity or nonpublic water system shall be designed, located and constructed to protect the water against freezing.

7:10-12.9 Physical connection

No physical connection shall be established between a public noncommunity or nonpublic water system constructed in accordance with this subchapter and a public community water system unless the physical connection is approved in accordance with N.J.A.C. 7:10-10.

7:10-12.10 Priming systems

All water used to prime pumps for a public noncommunity or nonpublic water system shall be potable water, to prevent the contamination of the water system.

7:10-12.11 Disinfection of water system components

(a) After completion of construction, alteration or repair of a public noncommunity or nonpublic water system, all surfaces with which adequately protected water may come into contact shall be disinfected before being placed into service.

(b) Methods of disinfection include, but are not limited to, the following:

1. Contact with a chlorine solution of concentration not less than 50 parts per million for a minimum period of 12 hours;
2. Contact with a chlorine solution of concentration not less than 20 ppm for a minimum period of 24 hours;
3. Thorough wetting of the surfaces to be disinfected by means of brush or spray application of a chlorine solution of concentration not less than 500 ppm for a minimum contact period of one hour.

(c) The method or methods for the disinfection of water system components shall be included in the materials submitted with the application for certification of a new, repaired or altered public noncommunity or nonpublic water system pursuant to N.J.A.C. 7:10-12.39 to 12.42.

7:10-12.12 Minimum distance requirements

(a) The minimum distances at which certain components of a public noncommunity or nonpublic water system shall be located away from sanitary sewer and septic systems, fuel storage tanks and other structures are set forth in Table 2, below.

TABLE 2
MINIMUM DISTANCE IN FEET

Component	Building sewer	Septic tank	Distribution box	Disposal field	Seepage pit	Dry well	Cess-pool	Fuel storage tank
Well	25	50	50	100	150/100 ¹	50	150	25
Suction line	25	50	50	100	100	50	150	—
Water service line	5	10	10	10	10	—	25	—

¹ The 150 foot minimum distance between a well and a seepage pit system shall apply only when a new well is being installed in conjunction with a new seepage pit system pursuant to N.J.A.C. 7:9A-4.3.

1. An administrative authority may require a greater distance than that listed in Table 2 between a well and a sewage system component where gravel, limestone, or fractured, creviced or fissured rock formations are expected to be encountered during drilling.

2. An administrative authority shall approve a reduction in the distance required between a well and a disposal field or a seepage pit to a minimum of 50 feet if the well is provided with a casing to a depth of 50 feet or more and such casing extends to, and is sealed into, a confining layer separating the aquifer into which the well is drilled from the stratum of soil in which the disposal field is located.

3. The reference to cesspools contained in Table 2 of this subsection is intended only to specify the minimum distance from an existing cesspool that water systems must be located. Cesspools are regulated by the Department pursuant to N.J.A.C. 7:9A, Standards for Individual Sub-surface Sewage Disposal Systems.

4. The minimum distance and location requirements for distribution mains are set forth at N.J.A.C. 7:10-12.36.

5. The administrative authority shall approve a reduction in the distance from a well to a building sewer to a minimum of 15 feet if it can be demonstrated that the building sewer is watertight and there are no other practicable alternatives.

(b) A well shall not be drilled within 20 feet of a wood frame building. The Department recommends a minimum distance of 50 feet between a well and a wood frame building.

(c) A well shall be located at least five feet horizontally from a structure or any portion thereof, other than a pumphouse that serves the water system.

(d) The Department shall increase the minimum distance requirements for an individual well if the natural geologic conditions do not provide adequate protection of the water supply (for example, cavernous limestone).

(e) The Department shall reduce the minimum distance requirements for an individual well if the well driller demonstrates that such distances are not feasible and adequate protection is provided through alternative well construction methods pursuant to N.J.A.C. 7:10-12.5(d).

7:10-12.13 Well room

(a) A well shall not be constructed within the cellar or basement of any realty improvement.

(b) Well pits are prohibited unless the administrative authority approves their use in circumstances where the use of a pitless well adapter or an above-grade wellhouse is not feasible.

7:10-12.14 Specific requirements for wells constructed in unconsolidated formations

(a) In addition to the requirements set forth at N.J.A.C. 7:10-12.16 through 12.21, each well constructed in an unconsolidated formation shall meet the following:

1. The well casing shall be no less than four inches in inside diameter and no less than 50 feet in depth.

2. The diameter of each well screen shall not be less than three inches.

3. Each well screen mesh shall be properly sized so that the water produced at the well head is visibly free of sand and/or silt.

7:10-12.15 Specific requirements for wells constructed in consolidated formations

(a) In addition to the requirements set forth at N.J.A.C. 7:10-12.16 through 12.21, each well constructed in a consolidated formation shall meet the following:

1. The well casing shall be steel and shall conform to the minimum thickness specifications set forth in Table 3 below.

TABLE 3

Steel Casing Pipe Weights and Dimensions
Weight (pound per foot)*

Nominal size (inches)	Plain end	Threads & couplings	Threads reamed/ recessed & drifted couplings	Thickness (inches)	Diameter(inches)	
					Outside	Inside
4	10.79	10.89	11.00	.237	4.500	4.026
5	14.62	14.81	15.00	.258	5.563	5.047
6	18.97	19.18	19.45	.280	6.625	6.065
8	24.70	25.55		.277	8.625	8.071
10	40.48	41.85		.365	10.750	10.020
12	43.77	45.45		.330	12.750	12.090
14	54.57	57.00		.375	14.000	13.250
16	62.58	65.30		.375	16.000	15.250
18	70.59	73.00		.375	18.000	17.250
20	78.60	81.00		.375	20.000	19.250

*Nominal weight based on length of 20 feet including coupling.

2. A well casing shall not be less than six inches in inside diameter.

3. Each well shall have a minimum of 50 feet of casing and be constructed with a minimum of 20 feet of casing set into unweathered rock.

Amended by R.2000 d.354, effective August 21, 2000.

See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

In (a)1, rewrote Table 3.

7:10-12.16 General construction requirements for wells

(a) The drilling, constructing, altering, and repairing of each well (that is, for each well drilling rig on-site) shall be performed under the immediate on-site supervision of a person who possesses of a valid New Jersey well driller's license of the proper class.

(b) The area surrounding a well during construction shall be maintained in a clean condition and surface drainage shall be diverted away from the well.

(c) All water used in the construction, alteration, repair, or decommissioning of any well shall be potable water.

(d) The Department shall require a well constructed in an area of known contamination, as reported by the Department, or salt water intrusion to be double-cased if construction of a single-cased well will compromise the integrity of the well or cause contamination of the water supply.

1. The outermost well casing shall be constructed into the first confining layer which separates the water source from any such contamination. This casing shall extend at least 20 feet into the confining layer or to the base of the confining layer.

2. The annular space between the casing and borehole shall be sealed in accordance with N.J.A.C. 7:10-12.19. The annular space between all subsequently installed well casings shall also be permanently sealed to protect all underlying aquifers as well as the water source from contamination.

3. A well with a casing that extends through salt water into fresh water shall be double-cased.

(e) After a well is drilled, but prior to completion, the casing shall be capped and any open annular space covered until the well is completed.

(f) A completed well shall be developed to produce the best practical yield and quality of water. The water produced shall be visibly free of sand and/or silt.

(g) Any poor water quality or non-productive well that cannot be used for its intended use or purpose shall be decommissioned in accordance with N.J.A.C. 7:9.

(h) A well shall not be screened or gravel packed in more than one aquifer or screened across a confining layer.

(i) All well drilling rigs, tools, pipe and other drilling equipment shall be maintained in a clean and operational state to prevent contamination of the well and/or work site.

(j) The Department shall prohibit the use of any material or equipment in the construction and/or maintenance of any well if such use will cause the water supply to exceed maximum contaminant levels set forth in N.J.A.C. 7:10-5 and 7.

(k) Any waste materials, including unusable casing, cuttings, sediment, displaced water, or free products, generated during drilling, shall be handled in accordance with N.J.A.C. 7:26.

(l) An existing well shall not be built over by any realty improvement that would inhibit access to the well for repair, replacement or decommissioning.

(m) When permanent casing is to be driven into an undersized borehole, the diameter of the borehole shall be less than the inside diameter of the casing.

(n) A drive shoe shall be placed on each casing that is to be driven.

(o) When a well casing is to be installed into an oversized borehole, the diameter of the borehole shall be a minimum of four inches greater than the inside diameter of the well casing.

(p) A temporary outer casing of the same diameter as the oversized borehole may be installed to prevent cave-in provided each temporary outer casing is removed during the sealing of the annular space.

(q) Sanitary safeguards shall be installed to the top of the borehole and/or the top of the well casing to prevent surface water and any other contamination from entering the well during construction and/or during the periods when the well driller is not at the drilling site.

(r) When the drilling of a pilot hole for any well is suspended and the drilling rig is moved away from the drilling site, the pilot hole shall be considered abandoned and subject to the decommissioning requirements of N.J.A.C. 7:9 unless drilling is resumed within three business days from the initial date of suspension.

(s) Each flowing well shall be equipped with a watertight cap which is threaded, slip-on or welded, and a control valve or appurtenances necessary to protect the integrity of the well and/or wellhead. Any overflow of water from the well shall not become a public nuisance or violate any New Jersey law or regulation.

(t) If the Department or administrative authority determines that any well, or any appurtenances thereto, is not properly maintained, or has deteriorated to such an extent that contamination might enter the well and/or ground water or that the well constitutes a physical hazard, the Department or administrative authority may order the repair and/or maintenance of the well or appurtenances thereto as necessary to prevent contamination of the well and/or ground water or to mitigate the physical hazard.

7:10–12.17 Well casings

(a) All well casing material shall be approved for its intended use by the National Sanitation Foundation (NSF) and either the American Water Works Association (AWWA) or the American Society for Testing and Materials (ASTM).

(b) Plastic well casing shall be Schedule 40 or better as specified in ASTM F480–91 or ASTM D1527, as revised and/or supplemented.

(c) The installed depth of any plastic well casing shall be in accordance with the well casing manufacturer's specifications.

(d) The driving of plastic well casings is prohibited.

(e) Plastic well casing shall be used only in wells constructed in unconsolidated formations.

(f) Standard steel well casing shall conform to ASTM standard A–53 or A–120, or American Petroleum Institute (API) standard specifications 5A or 5L, as revised and/or supplemented, incorporated herein by reference. Steel well casing shall conform to American National Standards Institute (ANSI) dimensions and shall conform to the specifications and requirements listed in Table 3 at N.J.A.C. 7:10–12.15(a).

(g) Each outer well casing and liner shall be of the same weight and thickness as the permanent well casing.

(h) Each well casing and liner pipe joint shall be watertight.

(i) Plastic well casings shall be joined to each other by solvent welding or joined mechanically by threaded connections, depending on the type of plastic and its fabrication. Solvent cement used for solvent welding shall meet the specifications for the type of plastic well casing used. Solvent cement shall be applied in accordance with the instructions of the solvent and casing manufacturers.

7:10–12.18 Well screens and gravel packing

(a) A well screen shall be installed in a well if necessary to ensure that the water produced from the well is visibly free from sand and/or silt.

(b) The openings in the well screen shall afford maximum open surface area consistent with the strength of screen material and the sediment grain size of the water bearing formation in which the well is constructed and/or any sand or gravel pack adjacent to the screen. The screen shall permit maximum water transmission without clogging.

(c) Well screens, unless commercially manufactured, which are constructed by creating openings or slots in the well casing and/or liner by mechanical means are prohibited.

(d) Each well screen shall be provided with such fittings as are necessary to seal it to the casing and to close the bottom of the screen. The use of lead packers is prohibited (see N.J.A.C. 7:10–12.4(k)3).

(e) Gravel or filter packs installed in wells shall conform with the following:

1. Gravel or filter pack placed between the borehole and the well screen shall be clean, washed, and disinfected prior to emplacement. Gravel or filter pack may be disinfected in place by the introduction of granular chlorine or chlorine tablets during the gravel pack operation.

2. The grain size and gradation of the filter material shall be sufficient to stabilize the aquifer material during well development.

3. The gravel or filter pack shall not extend into the confining layer above the screen, and shall comply with the following:

i. For well screens less than or equal to 20 feet in length, the gravel or filter pack shall not extend more than 10 feet above the top of the well screen;

ii. For well screens greater than 20 feet in length, the gravel or filter pack shall not extend more than 50 percent of the length of the well screen itself above the top of the well screen. In no case shall the filter pack extend more than 50 feet above the top of the well screen.

4. Gravel refill pipes may be installed only in wells with a casing diameter of eight inches or greater and only if they terminate above the ground surface, are sealed in place, and are provided with watertight caps.

5. Gravel or filter pack shall be placed around each screen in accordance with either (e)5i or ii below.

i. For gravity placement, the filter material shall be poured into the annular space around the screen at a measured and uniform rate.

ii. For tremie pipe placement, the filter material shall be placed through a tremie pipe that has been lowered to the bottom of the well.

7:10-12.19 Requirements for sealing the annular space of wells

(a) Except as provided pursuant to (l) below, the annular space between an oversized borehole and the well casing in a well and/or between the casing(s) in a multiple-cased well shall be sealed with one of the materials specified in (b) through (d) below and in accordance with the requirements of (e) through (k) below.

(b) Portland Neat Cement shall be used in accordance with the following specifications:

Type of cement	Pounds of cement	Gallons of water	Target density (lbs/gal)	Acceptable density/range (lbs/gal)	Water/cement ratio
I & II	94	5.2	15.6	15.0 to 16.3	0.46
III	94	6.3	14.8	14.2 to 15.5	0.56

(c) A mix of Portland Cement and High-grade Bentonite shall be used in accordance with the following specifications:

Percent bentonite	Pounds of bentonite	Pounds of cement*	Gallons of water	Density (lbs/gal)	Target Acceptable Density (lbs/gal)	Water/cement ratio
5.3	5.0	94	8.3	13.9	13.4 to 14.5	0.74

* Portland Cement Type I and II only.

(d) High-grade Bentonite shall be used in accordance with the following specifications:

Pounds of bentonite	Target gallons of water	Acceptable range for water content (gallons)	Target density (lbs/gal)	Acceptable density/range (lbs/gal)
50	18	14-34	9.8	9.2 to 10.2

(e) All materials shall be accurately measured prior to mixing.

(f) Bentonite products and additives shall be mixed in accordance with the manufacturer's specifications.

(g) Bentonite shall not be used to seal any annular space in consolidated formations or in those instances where it will come in contact with ground water with a pH of less than 5.0 and/or a total dissolved solids content in excess of 1,000 ppm.

(h) Salt-water resistant grout shall be used if the grout material will come in contact with salt water.

(i) All annular space between well casing(s) shall be sealed, excluding the annular space between a maintenance casing and the permanent casing.

(j) The annular space shall be sealed in accordance with one of the methods specified in (j)1 and 2 below, and following the procedures set forth at (k) below.

1. For the pressure method, the grout shall be pumped through a tremie pipe as specified at (j)1i and ii below or

shall be forced under pressure from the inside of the well casing in one continuous operation, from the bottom to the top of the annular space, unless the depth, resulting pressures, or subsurface conditions necessitate that grout be installed in lifts.

i. The tremie grout pipe shall be slowly raised as the grout is being placed, keeping the discharge end of the pipe submerged in the grout at all times until sealing of the annular space is completed.

ii. When pressure sealing the annular space directly above a filter or gravel pack, the grout shall be discharged from the tremie pipe so as not to disturb the top of the filter or gravel pack.

2. The displacement method shall be used only for wells in consolidated formations. A sufficient quantity of grout shall be pumped under pressure through a tremie pipe into the oversized borehole to ensure that the annular space will be completely filled with grout after the emplacement of a plugged casing into the borehole.

(k) The following procedures shall be used during the sealing of the annular space by the methods set forth at (j) above.

1. All water used for the mixing of grout shall be of potable quality.

2. All grout mixtures shall be weighed with a mud balance or otherwise verified by the well driller as conforming with the materials specifications of this section.

3. The grout mixture shall be brought up to ground level so as to displace all water and materials in the annular space. The finished level of the grout seal shall be at the level of the pitless well adapter or other connection;

4. The grout being discharged from all annular spaces shall be weighed with a mud balance or otherwise verified by the well driller as conforming with the materials specifications of this section.

5. During the sealing of the annular space, the casing shall be maintained in a centered position within the oversized borehole.

6. The annular space in any well shall be sealed no later than 24 hours after the setting of the well casing.

(l) When a casing is driven into an undersized hole, the requirements in this section for sealing the annular space shall not apply. This exemption is limited to wells constructed in unconsolidated formations.

Amended by R.2000 d.354, effective August 21, 2000.

See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

Rewrote (g).

7:10-12.20 Well head requirements

(a) Each well head shall be constructed so as to ensure adequate protection of the water supply and to prevent entry of any contaminant.

(b) The well casing shall extend a minimum of 12 inches above grade and shall be equipped with a pitless well adapter, except for wells located in a well pit or pump house that ensures adequate protection of the well and wells located in driveways as flush mount installations provided with water tight lids.

1. When an existing buried well with an inside diameter of four inches or greater is exposed for any purpose other than decommissioning, the well head shall be retrofitted with appurtenances (that is, pitless well adapter, down-facing casing vent) in accordance with requirements of this section.

(c) Whenever possible, the well pump shall be designed and located so as to make the use of a well pit unnecessary. An administrative authority shall approve the use of a well pit only if the use of a pitless well adapter or an above-grade well room is not practicable and if adequate drainage is provided by a sump pump or other means. The direct connection of the drainage line or the sump pump discharge line to a sanitary sewer or storm drain is prohibited.

(d) The well head shall be sealed with either a pitless well cap or a sanitary well seal.

(e) Each well shall be provided with a down-facing casing vent located at least 12 inches above the flood level. All vents shall be screened against the entry of insects.

(f) Upon completion of well construction, the well casing shall be securely capped until the well pump is installed and/or the well is placed in service or until the well is decommissioned. The cap shall be threaded onto the casing or locked onto the outside of the casing by friction, or be a blank sanitary well seal or any other type of cap approved by the Department.

7:10-12.21 Pitless well installation

(a) Regulations for the installation of pitless wells are as follows:

1. A pitless well installation shall consist of either a pitless well unit or pitless well adapter, and a pitless well cap or a sanitary well seal.

2. Pitless well units, pitless well adapters and pitless well caps shall be constructed in accordance with the Recommended Standards (PAS-1) of the Water Systems Council as amended and supplemented, incorporated herein by reference. The standard may be obtained from the Water Systems Council, 800 Roosevelt Road, Building C, Suite 20, Glen Ellyn, IL 60137.

3. The lateral discharge line from the well shall be covered with a minimum of 3.0 feet of earth. In northern portions of the State (that is, Passaic, Sussex and Warren counties) additional earth cover to prevent freezing may be necessary.

(b) Pitless well adapters shall be installed as follows:

1. The hole used to install the lateral discharge line into the well casing shall be made in such a manner as to provide a watertight connection.

2. The exterior connection between the adapter and the well casing shall be welded, threaded, or of a clamp-on gasket type. Extreme care shall be exercised when the connection is welded to ensure a complete, watertight seal. A clamp-on gasketed adapter shall be installed only on a well casing with a smooth, clean surface.

(c) Pitless well units shall be installed as follows:

1. At the point of attachment to the well casing, a pitless well unit shall be field-welded, threaded, or of the slip-on type with "O-ring" gasket, and shall be of watertight construction.

i. If the connection is by means of a field-weld, the pitless well unit shall be of a type specifically designed for a welded connection.

ii. If the connection is of the slip-on type with "O-ring" gasket, the surface of the well casing shall be smooth and clean.

2. The field connection between the pitless well unit and the lateral discharge line shall be either threaded, flanged or a mechanical joint, and shall be constructed and installed so as to be watertight.

7:10-12.22 Test for yield and submission of well report

The well driller shall test each completed well for yield and shall complete and submit a well report, on a well record form provided by the Department with the issued well permit, to the Bureau of Water Allocation in the Department at PO Box 426, Trenton, New Jersey 08625-0426, in accordance with N.J.S.A. 58:4A-14 et seq. The well record form includes the following information: well permit number, well owner, name and address, well location address, well use, date constructed, well construction details (that is, depth, borehole diameter, casing(s), grouting, screen(s), and gravel pack), pumping test records, permanent pumping equipment, geologic log, and certification by the well driller.

7:10-12.23 Springs

(a) An administrative authority shall approve the use of a spring only when construction of a well is not practicable, and provided the water derived from the spring is disinfected in accordance with N.J.A.C. 7:10-12.32.

(b) Any spring approved by the administrative authority as a water source pursuant to this section shall meet the following requirements:

1. Each spring shall be provided with an encasement of concrete or other durable material to prevent contamination of the spring. Such encasement shall be installed so as not to restrict the flow of water into the encasement;
2. The walls of the encasement shall be extended above the elevation of the surrounding ground to prevent the entry of surface water, and the roof shall have a watertight access cover so that the interior of the encasement may be inspected, cleaned, and/or repaired as necessary;
3. The encasement shall be provided with an overflow constructed so as to prevent erosion of the fill surrounding the structure. The overflow shall be constructed so as to prevent the entry of rodents and insects, and shall be downfacing so as to prevent the entry of rain water; and
4. The joint between the encasement wall and any pipe passing through the wall shall be constructed and installed so as to prevent the entry of surface water.

7:10-12.24 Cisterns and dug wells

Cisterns and dug wells shall not be used as sources of water for public noncommunity or nonpublic water systems constructed after November 18, 1996.

7:10-12.25 Surface water sources

(a) Surface water shall not be used as a water source for a nonpublic water system.

(b) The Department shall approve the use of surface water for a public noncommunity water system only if use of a well water supply is impracticable and if the surface water is treated pursuant to N.J.A.C. 7:10-12.33

(c) Public noncommunity water systems using surface water sources shall be constructed in accordance with N.J.A.C. 7:10-11.8 and shall meet the water treatment requirements of N.J.A.C. 7:10-12.33.

7:10-12.26 Design requirements for well pumping equipment

(a) Well pumps and appurtenant equipment shall be designed and installed to ensure adequate protection of the water supply and protection against freezing of the water.

1. Well pumps and appurtenant equipment shall be installed by a well driller or pump installer.

(b) Each well pump shall have a foot-valve or a check valve.

(c) In a screened well, the well pump setting and suction inlet shall be located so that the pumping level of the water cannot be drawn below the top of the screen.

7:10-12.27 Well pump down control

(a) Any well with a yield of less than five gallons per minute (gpm) shall be equipped with a low water level cut-off device.

(b) Any well with a pump capacity greater than the yield of the well shall be equipped with a low water level cut-off device.

7:10-12.28 Location requirements for pumping equipment

(a) Whenever possible, pumping equipment shall be designed and located so as to avoid the need for a pump pit. A pump pit, if used, shall be of watertight construction and shall have a drainage system or sump pump installed to prevent flooding.

(b) The pumping equipment shall be located so as to permit convenient access for the removal and repair of the pump and related appurtenances.

(c) Each pump shall be mounted so as to prevent excessive vibration and noise and to prevent damage to the pump.

7:10-12.29 Pump controls

(a) A pressure switch and a thermal overload switch are required on all pump installations.

(b) A pressure relief valve is required on all positive displacement pumping systems.

(c) Pump controls and/or accessories shall either be housed in a secured building or be enclosed in a weather-proof, locked cabinet.

7:10-12.30 Water quality analysis and treatment

(a) Upon completion of construction of a water system, the owner of a public noncommunity or nonpublic water system shall sample and analyze the microbiological quality of the raw water from the system and submit a copy of the results of the analysis to the administrative authority.

1. If the water does not meet the microbiological requirements of the State primary drinking water regulations at N.J.A.C. 7:10-5, the owner shall disinfect the water in accordance with N.J.A.C. 7:10-12.32.

2. Regardless of the raw water microbiological quality, the owner of a nonpublic water system or public noncommunity water system that uses a spring or surface water source shall disinfect the water in accordance with N.J.A.C. 7:10-12.32.

(b) The owner of a public noncommunity water system shall sample and analyze the raw water from the system for inorganics, volatile organic compounds (VOCs), and radionuclides in accordance with N.J.A.C. 7:10-5 and for secondary contaminants in accordance with N.J.A.C. 7:10-7. If the system uses a surface water source, the administrative authority shall require the system owner to sample and analyze the water for disinfection by-products and pesticides regulated pursuant to N.J.A.C. 7:10-5.

i. Each device shall be equipped with sampling water taps before and after the point at which treatment is applied;

ii. The manufacturer's specifications and the owner's manual for operation and maintenance of each POET device shall be available on-site at all times;

iii. The owner of the water system shall conduct an efficiency test of the device upon its installation. The administrative authority shall require the owner of a public noncommunity water system to conduct periodic water quality testing once every three months if the POET device is installed to remove primary contaminants.

6. Wastewater resulting from the backwashing or regeneration of filter media and/or ion exchange resin shall not be discharged to a sanitary sewer system except in accordance with the New Jersey Pollutant Discharge Elimination System rules, N.J.A.C. 7:14A, and with written approval from the appropriate sewerage authority.

(b) Regulations for corrosion control are as follows:

1. pH adjustment for corrosion control is recommended when the pH of the raw water is less than 6.5. The pH adjustment system used for corrosion control shall be capable of raising the pH to a minimum of 7.5 units.

2. A neutralizing filter consisting of a bed of graded limestone may be used to adjust pH.

3. Injection of alkaline chemicals may be used to adjust pH only if the following conditions are met:

i. Only soda-ash, lime, or caustic soda shall be fed by means of a positive displacement pump. Due to safety considerations, the Department does not recommend using caustic soda in small water systems and single dwelling water supply systems.

ii. Operation of the feed pump shall be synchronized with the operation with the well pump.

iii. Safety equipment including respirator, gloves, apron, shower and eye wash facilities shall be provided.

(c) Regulations for removal of iron and manganese are as follows:

1. Iron and manganese removal units shall include an oxidizing process (natural precipitation or chemical precipitation) followed by a filtration process.

2. Iron and manganese removal units which include an open aeration process shall be designed and constructed so as to minimize dust pickup. All air which enters the oxidizing unit shall pass through a corrosion-resistant screen of not less than 24 mesh in order to prevent the entry of insects. Forced air which enters the oxidizing unit shall pass through air particulate filters.

3. Iron and manganese removal units which include an ion exchange process (for example, water softening) shall be designed and constructed such that the treated water will not contain a sodium concentration in excess of 50 mg/l pursuant to N.J.A.C. 7:10-7. The treated water shall not be softened to zero hardness. Potassium regenerant may be used as an alternative to sodium regenerant.

(d) Packed column aeration (PCA) units or equivalent air strippers shall be capable of removing volatile organic compounds (VOCs) from at least twice the maximum levels found in the water to below the applicable MCLs. If the PCA unit is followed by a granular activated carbon (GAC) unit(s), the removal of VOCs may be achieved through the combined use of both treatment units.

1. Each air intake on forced aeration or mechanically induced aeration systems must be equipped with an air particulate filter.

2. Taps by which water can be sampled shall be placed before and after the PCA unit.

(e) Granular activated carbon (GAC) units used for the removal of VOCs shall meet with the following requirements:

1. Each GAC unit shall have a minimum carbon life (prior to VOCs breakthrough) of three months;

2. Taps by which water can be sampled shall be placed before and after each GAC unit tank; and

3. Only virgin GAC shall be used, except regenerated GAC may be used if such GAC was used previously only in potable water treatment plants and regenerated in facilities used only for potable water treatment plant filter media.

(f) Any type of water treatment not described in (a) through (e) above shall meet the requirements of N.J.A.C. 7:10-11.15, as applicable.

7:10-12.34 General requirements for storage of finished water

(a) Storage for finished water shall be an integral component of each public noncommunity and nonpublic water system.

(b) The location, size and type of finished water storage facility shall be such as to provide a minimum pressure of 20 psi under all flow conditions.

(c) All finished water storage facilities shall be designed to permit dewatering for cleaning and maintenance.

(d) Each reservoir, standpipe, or elevated tank shall be equipped with a watertight roof or cover and an overflow.

(e) Each hydropneumatic tank shall be equipped with a pressure relief valve which shall have a rated working pressure in excess of the maximum system pressure.

(f) Each vent shall be equipped with a downfacing elbow or mushroom-type cap and be fitted with an insect screen.

(g) Any protective coating in contact with water shall comply with ANSI/NSF Standard 61, as amended and supplemented, incorporated herein by reference, and shall be inert and non-toxic and shall not impart any taste, odor or color to the water.

(h) All finished water storage reservoirs, tanks and appurtenances shall be disinfected in accordance with N.J.A.C. 7:10-12.11.

7:10-12.35 Required storage capacity

(a) Each single dwelling nonpublic water system shall be equipped with water storage capacity in accordance with a storage tank manufacturer's recommendations reflecting well yield, well pump capacity, and size of dwelling to be served.

(b) Each public noncommunity and nonpublic water system serving a nonresidential unit and/or multiple residential or nonresidential realty improvements equipped with hydropneumatic water storage facilities shall comply with the following requirements:

1. The capacity of the pumping equipment in a hydropneumatic storage system shall be at least 10 times the average daily water demand determined using Table 1 at N.J.A.C. 7:10-12.6.

2. The gross volume of the hydropneumatic tank, in gallons, shall be either at least ten times the capacity of the largest pump, rated in gallons per minute, or the gross volume recommended by the equipment manufacturer.

EXAMPLE: Assume a proposed water system has an average daily water demand, as determined using Table 1 at N.J.A.C. 7:10-12.6, of 10,000 gallons per day (gpd) or seven gallons per minute (gpm). The total capacity of the well and/or booster station pump(s) must be 70 gpm (10 times seven gpm) and the system must have a hydropneumatic tank capacity of 700 gallons (10 times 70 gpm).

(c) The administrative authority shall determine the minimum water storage capacity for nonpublic nonresidential water systems using gravity storage facilities.

7:10-12.36 General requirements for distribution systems

(a) All service lines and distribution mains intended for year-round water service shall be covered with sufficient earth to prevent freezing, with the minimum depth of cover being three feet.

(b) All newly constructed service lines and distribution mains shall be disinfected before being placed in service in accordance with N.J.A.C. 7:10-12.12.

(c) So far as is practicable, distribution mains shall be laid in a loop system to eliminate deadends. The distribution system shall be equipped with hydrants or other flushing devices to permit water main flushing. Each deadend, if unavoidable, shall be provided with a flushing device or a valved outlet to which a temporary pipe may be affixed to discharge flushed water above ground.

(d) Every water service line shall be separated with undisturbed or compacted earth to a horizontal distance of at least five feet from any sanitary sewer, at least 10 feet from any septic tank, distribution box, disposal field or seepage pit, and at least 25 feet from any cesspool.

(e) All water mains and sanitary or industrial sewer lines shall be separated by a horizontal distance of at least 10 feet. If such lateral separation is not possible, the water and sewer lines shall be in separate trenches (step trenches are prohibited) with the top of the sewer line at least 18 inches below the bottom of the water main. At sewer line and water main crossings, the top of the sewer line shall be at least 18 inches below the bottom of the water main. If such vertical separation is not possible, then the water line shall be sleeved a distance of five feet to both sides of the crossing. Sewer service laterals are not subject to this requirement.

7:10-12.37 Capacity and size of service lines

(a) The minimum inside diameter of any service line shall be three-quarter inches.

(b) The design capacity of every distribution main and every service line shall be such as to provide a minimum pressure of 20 psi at ground level under all flow conditions.

(c) A distribution main which serves a fire hydrant shall have a minimum inside diameter of six inches.

7:10-12.38 Water crossings

(a) Each distribution main which spans a stream or water course or which is fastened to a bridge shall be of cast iron, ductile iron or steel, and shall be properly supported to maintain stability.

(b) Each distribution main which crosses under a stream or water course shall be at least three feet below the bed of the stream or water course, and shall be constructed of cast iron, ductile iron or steel or other suitable material.

7:10-12.39 General requirements for the certification of new, altered or replacement nonpublic or public noncommunity water systems

(a) An application for certification of a new nonpublic water system or public noncommunity water system, alteration thereto, or replacement thereof, which includes a new or altered water source a new or altered water treatment method, or a significant distribution system expansion, shall be submitted by the owner of the water system in writing to the administrative authority on the application form, if any, provided by the administrative authority.

1. The application form for certification shall, at a minimum, contain the following information:

- i. The name of water system owner;
- ii. The address of water system owner;
- iii. The location of water system;
- iv. A description of the work to be performed; and
- v. Relevant specifications and diagrams for the work to be performed, sufficient to enable the administrative authority to determine conformance with the requirements of this subchapter.

(b) In the case of a water system using wells as a water source, the application shall include a copy or copies of the well drilling permit or permits obtained from the Bureau of Water Allocation in the Department.

(c) In the case of a water system for which water in excess of 100,000 gallons per day is to be diverted the application shall also include a copy of the water supply allocation permit issued by the Bureau of Water Allocation in the Department.

(d) In the case of a water system that will serve 50 or more realty improvements, prior to any final major subdivision plot approval and in addition to the application for certification to the administrative authority, an application for certification shall be submitted to the Department in accordance with N.J.A.C. 7:10-12.42.

(e) The administrative authority shall review the information contained in the application for certification and shall determine whether the proposed water system is in compliance with requirements of this subchapter.

(f) The administrative authority shall notify the applicant in writing of its approval or denial of the application.

(g) Any certification issued by an administrative authority shall be conditioned on the following:

1. Submission and approval of copies of reports and/or certifications from the well driller and/or verification by inspection during installation that all well(s) are constructed in accordance with the requirements of this subchapter and any special conditions of the well permit approvals from the Department; and
2. Submission and approval of the results of water quality analyses conducted pursuant to N.J.A.C. 7:10-12.30.

7:10-12.40 Additional requirements for the certification of single dwelling nonpublic water systems and other nonpublic water systems

(a) In addition to the requirements of N.J.A.C. 7:10-12.39, the application for certification of a single dwell-

ing nonpublic or other nonpublic water system shall include the following:

1. An explanation of the need and justification for construction of a single dwelling nonpublic water system or a nonpublic water system in lieu of connection to a public community water system;
2. In the case of a single dwelling realty improvement or any new or altered water source, a surveyor's plot plan or a sketch of the property;
3. In the case of a subdivision containing multiple realty improvements, a plot plan which contains sufficient detail to permit examination and comprehension of the proposed water system; and
4. The plot plan or sketch pursuant to (a)2 and 3 above shall show the locations of all wells and service lines, and sewage disposal systems and other potential sources of contamination within 150 feet of each proposed well. Plot plans shall show the locations of municipal boundaries, roads, streams, sanitary sewers, storm water sewers and drainage channels, test wells, well fields, all existing and proposed water supply and sewage disposal facilities, and service lines and potential sources of contamination within 150 feet of each proposed well. The topography of the property shall be shown by elevations, contours or other suitable method.

(b) The certification issued by the administrative authority for a single dwelling nonpublic or other nonpublic water system shall be conditioned on the submission and approval of a description of the as-built water system that includes the following:

1. If the water source is other than a well, the dependable yield, quality of the water in relation to its treatability, and the methods of construction employed to ensure adequate protection;
2. If the water source is a well or wells, data on the geological strata penetrated during construction, construction features of the well or wells, yield, and water quality;
3. Pumping equipment, including location, type, capacity and method of operational control;
4. Water storage facilities, including location, type, capacity, and operational pressure range;
5. Analytical results regarding the microbiological, physical and chemical quality of the water in accordance with N.J.A.C. 7:10-12.30;
6. Water treatment processes, if any, together with the type and application rate of chemicals to be applied;
7. Treatment and disposal of sludge and filter backwash, if applicable; and
8. Method for the disinfection of all surfaces, prior to the system being placed into operation, with which adequately protected water may come into contact.

7:10-12.41 Additional requirements for the certification of public noncommunity water systems

(a) In addition to the requirements of N.J.A.C. 7:10-12.39, the application for certification of a public noncommunity water system shall include the following:

1. An explanation of the need and justification for construction of a public noncommunity water system in lieu of connection to a public community water system;
2. Plans and specifications of the proposed water system prepared by a New Jersey-licensed professional engineer and bearing such engineer's seal and signature. Such plans shall be drawn to a suitable scale to facilitate photo-reduction and with sufficient detail to permit examination and comprehension of the proposed water system. The plans shall show the locations of municipal boundaries, roads, streams, sanitary sewers, storm water sewers and drainage channels, test wells, well fields, all existing and proposed water supply and sewage disposal facilities, all distribution mains, service lines, and potential sources of contamination within 200 feet of each proposed well. The topography of the property shall be shown by elevations, contours, or other suitable methods;
3. Information on the number and types of realty improvements to be served, including number of persons expected to use the water, and anticipated water demand; and
4. Information on the size, type of pipe, location, depth and sanitary protection of the distribution mains, and whether such mains are to be used for fire service.

(b) The certification issued by the administrative authority for a public noncommunity water system shall be conditioned on the submission and approval of a description of the as-built water system that includes the information specified at N.J.A.C. 7:10-12.40(b)1 through 8.

(c) All applications for certification to construct or operate a new public nontransient noncommunity water system shall comply with the requirements set forth at N.J.A.C. 7:10-13.5 and 13.6.

Amended by R.2000 d.354, effective August 21, 2000.

See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

Added (c).

7:10-12.42 Requirements for certification by the Department of water supply systems for 50 or more realty improvements

(a) Before any final major subdivision plot approval may be granted by any municipal planning board for 50 or more realty improvements, an application for certification of the water system shall be submitted to the Department. Such application shall be submitted in accordance with this section and shall include plans, specifications and an engineer's report, prepared pursuant to (c) through (e) below by a qualified New Jersey licensed professional engineer. The plans shall bear the engineer's seal as required by N.J.S.A. 45:8-45.

(b) A complete application for certification shall include all of the following:

1. A completed original Standard Application Form obtained from the Department;
 - i. The application form shall be signed by the owner, or the proper official (with title), as specified on the application form, of the company or corporation constructing the realty improvements. If the application is signed by an authorized agent, a certified copy of the authorization shall be attached.
 - ii. A copy of the resolution of preliminary subdivision approval from the municipal planning board and specific endorsement(s) of the type of water system(s) (individual wells or public community water system) being proposed;
2. The plans, specifications and engineer's report specified at (a) above;
3. A copy of a Pinelands Certificate of Filing, Notice of Filing, Certificate of Completeness, Preliminary Zoning Permit, resolution of the Pinelands Commission approving the project or a letter from the Pinelands Commission indicating that the project is exempt from the Pinelands Commission review; and
4. The applicable fee pursuant to N.J.A.C. 7:10-15.

(c) The engineer's report shall describe in concept the water system(s) for the proposed realty improvements and shall identify the eventual owner and operator of the water system. The report shall include a detailed evaluation of alternative water systems specifically addressing municipal planning board recommendations, costs, and water quality.

(d) The specifications shall describe the general construction, materials, and equipment to be used for the water system.

(e) If the proposed water system consists of individual wells, the engineering plans shall also include the following:

1. A plan of the proposed subdivision showing lots with their dimensions, contours or original grades, proposed elevation of the final grading shown at corner lots or any contemplated change of slope, drainage right of way and any contemplated diversion thereof affecting the proposed realty improvements, storm sewers, location and depth of all wells and existing water supplies within 500 feet of any realty improvement, and location and depth of proposed wells for the water system;
2. A description of the proposed water system including location of all test wells drilled to investigate water supply potential location of all natural streams and storm water drainage channels on or abutting the subdivision and of any contemplated relocation of same, location of coastal waters when less than one-half mile from the mean high water line and all salt water estuaries and elevation of maximum high water when available, type of well or source of water, estimated depth of wells, and pumping equipment, storage facilities, and purification facilities;

3. An inventory of potential major and minor pollutant sources within the subdivision and of major pollutant sources within 500 feet of the property line of the subdivision and 2,500 feet upgradient of ground water flow.

4. Tentative schedule for construction of the realty improvements and estimated date of availability of and connection to a public community water system if expected.

(f) Such additional information as the Department may request in order to fulfill the requirements of this section.

(g) Depending on the type of proposed water system, the Department will review the application for certification in accordance with the standards for construction set forth at:

1. For public community water systems, N.J.A.C. 7:10-11.
2. For individual wells, N.J.A.C. 7:10-12.

7:10-12.43 Requests for adjudicatory hearings

(a) An applicant for a certification or any person, subject to the limitation on third party appeal rights set forth in P.L. 1993, c.359 (N.J.S.A. 52:4B-3.1 through 3.3), who believes himself or herself to be aggrieved with respect to decisions made by the Department pursuant to this subchapter may contest the decision and request an adjudicatory hearing pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. and the New Jersey Uniform Administrative Procedure Rules, N.J.A.C. 1:1, in accordance with the appeal procedures set forth at N.J.A.C. 7:10-11.17.

(b) Any person who believes himself or herself to be aggrieved with respect to decisions made by the administrative authority may appeal pursuant to the local administrative authority appeal procedure as appropriate.

Amended by R.2000 d.354, effective August 21, 2000.
See: 31 N.J.R. 2717(a), 32 N.J.R. 3106(a).

In (a), amended N.J.A.C. reference.

SUBCHAPTER 13. STANDARDS FOR TECHNICAL, MANAGERIAL, AND FINANCIAL CAPACITY OF PUBLIC COMMUNITY AND NONCOMMUNITY WATER SYSTEMS

7:10-13.1 Purpose and scope

This subchapter establishes minimum technical, managerial, and financial capacity requirements for new public community and nontransient noncommunity water systems. These requirements are necessary to prevent approval for operation of a water system which the Department has determined to be non-viable. A non-viable water system is prone to failure or otherwise unable to comply with all

maximum contaminant level, treatment technique, and monitoring and reporting requirements established in the Federal and State primary and secondary drinking water regulations.

7:10-13.2 Additional definition

In addition to the words and terms defined at N.J.A.C. 7:10-1.3, the following term is defined for the purposes of this subchapter.

“Capacity” means the overall capability of a water system to reliably produce and deliver water meeting all national primary drinking water regulations and applicable State regulations. Capacity encompasses the technical, managerial, and financial (TMF) capabilities that enable the water system to plan for, achieve, and maintain compliance with applicable drinking water standards.

7:10-13.3 Demonstration of technical capacity for community water systems

(a) An applicant for a permit to construct and operate a new public community water system pursuant to N.J.A.C. 7:10-11.5(a) shall, in addition to requirements set forth in N.J.A.C. 7:10-11.5(d), provide a detailed description of source of supply, treatment, storage, and distribution of the new water system’s infrastructure, which shall include the following:

1. Identification and evaluation of all critical facilities and equipment whose failure would result in a water outage or water quality failure;
2. Evidence, including a description, of any deeds, leases or easements for land, water supply sources, or physical facilities used in the operation of the system; and
3. Evaluation of the feasibility of connecting to any adjacent water systems and justification why these connections should not be required.

(b) An applicant for a permit to construct and operate a new public community water system pursuant to N.J.A.C. 7:10-11.5(a) shall submit an Infrastructure Replacement Plan that includes:

1. A description of and estimate of life expectancy of all sources of water supply, treatment, and transmission/distribution facilities including pipes, pumping stations, storage facilities, and meters; and
2. An equipment replacement plan including expected replacement date, costs, and sources of funding.

(c) An applicant for a permit to construct and operate a new public community water system pursuant to N.J.A.C. 7:10-11.5(a) shall submit proof of compliance with State operator certification rules, N.J.A.C. 7:10A.

7:10-13.4 Demonstration of managerial and financial capacity for community water systems

(a) No person shall commence operation of a new public community water system prior to obtaining a permit to operate issued by the Department pursuant to N.J.A.C. 7:10-11.5(j).

(b) A written application for a permit to operate shall be submitted in accordance with this section and shall include a description of the as-built water system, and financial and managerial plans pursuant to (c) and (d) below.

(c) The managerial plan shall contain the following:

1. Information concerning the organizational structure of the system including:

i. A description of the organizational structure with a chart showing all aspects of water system management and operation;

ii. A description of the primary responsibilities and identification of all key personnel, including board of directors or councils, involved in the management or operation of the system or personnel;

iii. Identification, including the names and phone numbers, of those responsible for policy decisions ensuring compliance with State regulatory requirements, and the day-to-day operation of the system;

iv. If the person in charge of operation has other responsibilities unrelated to the water system, an explanation as to how the operator will reliably execute his or her responsibilities;

v. Copies of any contracts for management or operation of the water system by persons or agencies other than the system owner; and

vi. A description of how legal, engineering, and other professional services are provided;

2. A description of the qualifications of the owners and managers of the water system, including any training and experience relating to owning or managing a water system. Also, system owners shall include a list of public water systems previously or currently owned as well as any systems previously or currently operated under contract for another owner;

3. A description of a procedure for keeping management personnel informed concerning regulatory requirements for managing and operating a public water system;

4. An emergency management plan that includes:

i. Identification of known and potential natural and human-caused risks to the water system;

ii. Identification of personnel responsible for emergency management;

iii. A description of the notification procedures and means for implementation; and

iv. A description of the emergency response plan for each identified risk;

5. A description of system policies that define the conditions under which water service is provided. The system policies shall include a description of:

i. Water system responsibilities;

ii. Customer responsibilities;

iii. Design and construction standards for system modifications and additions;

iv. Cross-connection control;

v. Developer agreement and "late-comer" (future developers) policies;

vi. Customer information or public education;

vii. The process for investigating and responding to customer complaints;

viii. Budget development and rate structure that includes meter reading and billing schedule; and

ix. Response and notification if water quality violations occur.

(d) A financial plan shall include the following:

1. A five-year budget that includes revenues, operating expenses, reserves, and capital improvements including:

i. A revenue/expenditure analysis that compares all anticipated water system revenues with planned expenditures for the next five years;

ii. Identification of reserve accounts for emergency funding and equipment replacement; and

iii. A capital improvement plan for the next five years including identification of the project, estimated costs, and amount allocated for repayment of debt financing to meet new drinking water standards and accommodate growth;

2. A description of the budget and expenditure control procedures and reports that assure adequate budget control including:

i. Quarterly reports comparing actual expenditures to budgeted expenses; and

ii. Purchasing procedures or policy to prevent misuse of funds; and

3. For new community water systems built in phases, a statement of credit worthiness which shall include the following:

i. A certification that the system is not in arrears on existing debt; and