

Chapter NR 112

WELL CONSTRUCTION AND PUMP INSTALLATION

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History: Chapter NR 112 as it existed on September 30, 1975 was repealed and a new chapter NR 112 was created effective October 1, 1975.

NR 112.01 Purpose. The purpose of this chapter is to establish uniform minimum standards and methods of procuring and protecting an adequate supply of ground water safe and fit for human consumption and for the preparation of food products through adequate construction or reconstruction of wells and reservoirs, installation of pumping equipment, or other methods approved by the department, in conformity with chs. 144 and 162, Stats. This chapter shall govern the location, construction or reconstruction and maintenance of wells and reservoirs, the installation and maintenance of pumping and treatment equipment, and the supervision of well drillers and pumping equipment installers.

History: Cr. Register, June, 1975, No. 234, eff. 10-1-75; am. Register, April, 1978, No. 268, eff. 5-1-78.

NR 112.02 Applicability. The provisions of this chapter shall apply to all new and existing private water supplies, high capacity water systems, school water systems, and public water systems, except those for community water systems serving 15 or more living units.

Note: An approval from the department is required for high capacity water systems, school water systems and sewage treatment plant water systems pursuant to chs. 144 and 162, Stats., respectively, prior to construction of any well and installation of any pump. See NR 112.26.

History: Cr. Register, June, 1975, No. 234, eff. 10-1-75; am. Register, April, 1978, No. 268, eff. 5-1-78; am. Register, September, 1978, No. 273, eff. 10-1-78.

NR 112.03 Definitions. For the purpose of this chapter the following terms are defined as follows:

Register, March, 1985, No. 351
Environmental Protection

(1) "Absorption pond" means an earth structure constructed for the purpose of slow disposal of treated sewage or other liquid wastes by soil seepage.

(2) "Adequate water supply" means a water supply which has a yield, where obtainable, and the pump capacity to provide the quantity of water which the user has stated is necessary for drinking, culinary, food processing and other purposes for which the water is intended to be used.

(3) "Animal enclosure" means a fenced yard or similar uncovered structure in which an area of 600 square feet or less is provided for each animal unit contained therein and in which animals are enclosed for any part of at least 30 separate days per year.

(4) "Animal lot" means a fenced yard or similar uncovered structure in which the concentration of livestock or poultry is such that a vegetative cover is not maintained.

(5) "Animal shelter" (paved) means a paved covered structure including but not limited to a house or barn in which animals are enclosed for at least any part of 30 separate days per year.

(6) "Animal shelter" (unpaved) means unpaved covered structures including but not limited to houses or barns in which animals are enclosed for at least any part of 30 separate days per year.

(7) "Animal unit" means an equivalent of 1,000 pounds of live animal weight.

(8) "Animal yard" means fenced in dirt or concrete area in which cattle or other livestock or poultry are enclosed and includes animal enclosures, animal lots, and animal shelters defined in subs. (3), (4) and (5) above.

(9) "Annular space" means the space between 2 concentric cylinders or circular objects, such as the space between an upper enlarged drillhole and initial protective casing pipe or between the initial protective casing pipe and an outer construction pipe or inner liner pipe or between an inner liner pipe and lower drillhole.

(10) "Approval" means the written approval of the department.

(11) "Cistern" means a covered tank in which rainwater from roof drains is stored.

(11m) "Clay" means an inorganic soil with characteristics of low permeability and plasticity index (PI) of more than 7.

(12) "Clay slurry" means a fluid mixture of native clay formation or commercial clay or clay mineral products and water prepared with only the amount of water necessary to produce fluidity.

(12m) "Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(13) "Contaminant" means any matter which may render water bacteriologically or chemically impure or turbid so as to make it unfit for human consumption.

NR 112.035 Department review times. Unless another time period is specified by law, the department shall complete its review and make a determination on all of the following applications for permits and approvals within 65 business days after receipt of the application:

- (1) Well drilling and pump installing permits under s. 162.04, Stats;
- (2) Approvals of comparable construction specifications under s. NR 112.04;
- (3) Approvals of granite wells with less than 40 feet of casing under s. NR 112.08, Table 1, line 1;
- (4) Approvals of well casing pipe testing procedures under s. NR 112.085;
- (5) Approvals of water supply equipment and supplies under ss. NR 112.13, 112.14, 112.15, and 112.17;
- (6) Permits for pits for pumps, pressure tanks and wells under s. NR 112.14;
- (7) Blasting permits under s. NR 112.15;
- (8) Chemical and non-chemical conditioning permits under s. NR 112.15;
- (9) Approvals of drilling aids under s. NR 112.15;
- (10) Approvals of pressure vessels and pressure vessel paints under s. NR 112.17;
- (11) Approvals of grout additives under s. NR 112.19
- (12) Approvals of high capacity wells under s. 144.025(2)(e), Stats., and s. NR 112.26;
- (13) Approvals of school water supplies under s. NR 112.26; and
- (14) Approvals of sewage treatment plant water supplies under s. NR 112.26.

History: Cr. Register, March, 1985, No. 351, eff. 4-1-85.

NR 112.04 Approved comparable construction. When strict compliance with this chapter appears to be impracticable, the reasons therefor shall be communicated in writing to the department for advice and approval of comparable specifications.

History: Cr. Register, June, 1975, No. 234, eff. 10-1-75.

NR 112.05 Existing installations. Existing well, pump, pressure tank, pit, subsurface pumphoom and reservoir installations that conform to s. NR 112.23 are acceptable. Noncomplying existing well, pump, pressure tank, pit, subsurface pumphoom and reservoir installations shall be corrected to comply with s. NR 112.23 or the specifications in this chapter for new construction.

History: Cr. Register, June, 1975, No. 234, eff. 10-1-75.

NR 112.06 Contracts for nonconforming installations. Well drillers and pump installers shall ensure that the construction and reconstruction of

wells or appurtenances thereto or the installation of pumping equipment adheres to all the applicable provisions of this chapter or to approved comparable requirements. Well drillers and pump installers shall not enter into any agreement, written or oral, for such construction, reconstruction or installation which does not require compliance with all applicable provisions of this chapter or with approved comparable requirement.

History: Cr. Register, June, 1975, No. 234, eff. 10-1-75.

NR 112.07 Well location. (1) **GENERAL.** Where a well is constructed to supply ground water for human consumption and preparation of food products, such well shall be located:

(a) In such manner that the well and its surroundings can be kept in a sanitary condition.

(b) At the highest point on the premises consistent with the general layout and surroundings, but in any case protected against surface water flow and flooding.

(c) As far removed from any known or probable source of contamination as the general layout of the premises and the surroundings permit.

(2) **RELATION TO CONTAMINATION SOURCES.** Unless modified by written department approval under NR 112.04, minimum separating distances between wells or reservoirs and sources of contamination shall be maintained as follows:

(a) Eight feet between well or reservoir and cast iron or equivalent sanitary or storm building sewer or sanitary or storm building drain or a basement floor drain connected to a cast iron or equivalent sanitary building sewer or sanitary building drain; cast iron or equivalent sub-drain; cast iron or equivalent sewage sump; cast iron or equivalent milkhouse floor drain; cast iron or equivalent drain from a conventional silo or glass lined storage facility; cast iron or equivalent sewer conducting manure juices to point of disposal.

(b) Ten feet between well and independent clear water waste drain, rainwater downspout outlet, cistern, hydrant drain, or similar unit; building foundation-drain connected to independent clear water waste drain or other subsoil drain; nonconforming existing or unapproved new well pit, pump pit, pressure-tank pit, pressure-tank access pit or subsurface pumphouse; nonconforming reservoir except that for school water systems, high capacity water systems and sewage treatment plant water systems there shall be a minimum separating distance of 20 feet between a well or reservoir and a well pit, pump pit, pressure-tank pit, pressure-tank access pit, or subsurface pumphouse.

(c) Fifteen feet between well and sewer-connected foundation drain.

(d) Twenty-five feet between well or reservoir and watertight grease basin, septic tank, holding tank, subdrain other than cast iron or equivalent pipe; sewage sump other than cast iron or equivalent material; sanitary building or storm building sewer other than cast iron or equivalent material; sanitary building or storm building drain other than cast iron or equivalent material; floor drain connected to sanitary building sewer or drain of other than cast iron or equivalent pipe material;

lake or stream shoreline; below-ground swimming pool except that for school water systems and high capacity water systems the minimum separating distance between a well and a lake or stream shoreline shall be 60 feet.

(e) Twenty-five feet between well or reservoir and watertight barn gutter; animal barn pen with concrete floor; glass-lined storage facility without pit; conventional silo without pit but with concrete floor and proper drain; watertight, milkhouse floor drain other than cast iron or equivalent material; watertight, conventional silo drain or glass-lined storage facility drain other than cast iron or equivalent material; watertight nonpressurized sewer other than cast iron or equivalent material conveying manure juices; pressure pipe used to convey manure, providing the pipe is PVC pipe meeting ASTM specification D-2241, with standard dimension ratio of 21 or less; or pressure pipe meeting the requirements of s. NR 110.13 (6) (f) or 111.71.

(f) Twenty-five feet between well or reservoir and a pressurized sewer, other than a street sanitary or storm sewer or similar sanitary or storm sewer piping comprising part of the drainage system on public or private property, for which the required minimum separating distance between a well or reservoir and such sewers is specified in par. (h).

(g) Fifty feet between well or reservoir and seepage pit, seepage bed, seepage trench or other similar sewage or waste water disposal unit; privy; pet-waste pit disposal unit; animal yard, animal shelter, animal enclosure or animal lot; conventional silo with pit; glass-lined storage facility with pit; outlet of watertight milkhouse drain; seepage pit for drain of conventional silo or glass-lined storage facility; pressure pipe used to convey manure if the pipe does not meet the specifications listed in par. (e); loose-jointed field-drain pipe lines except that for school water supply systems, there shall be a minimum separating distance of 200 feet between a well or reservoir and seepage pit, seepage bed, seepage trench or similar sewage or waste water disposal unit.

(h) Fifty feet between well or reservoir and street sanitary or storm sewer; similar sanitary or storm sewer piping comprising part of the drainage system on public or private property except that for sewage treatment plant wells, there shall be a minimum separating distance of 150 feet between a well or reservoir and a gravity or pressurized collector, branch or trunk sewer.