DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION

GROUNDWATER QUALITY CONTROL

Filed with the secretary of state on May 26, 2023

These rules become effective immediately after filing with the secretary of state unless adopted under section 33, 44, or 45a(9) of the administrative procedures act of 1969, 1969 PA 306, MCL 24.233, 24.244, or 24.245a. Rules adopted under these sections become effective 7 days after filing with the secretary of state.

(By authority conferred on the director of the department of environment, Great Lakes, and energy by section 12714 of the public health code, 1978 PA 368, MCL 333.12714, and Executive Reorganization Order Nos. 1996-1, 2011-1, and 2019-1, MCL 330.3101, 324.99921, and 324.99923)

R 325.1603a, R 325.1610, R 325.1633a, and R 325.1640 of the Michigan Administrative Code are amended, as follows:

PART 1. WELL CONSTRUCTION CODE

R 325.1603a Definitions; N, O.

Rule 103a. (1) "Neat cement" means a mixture of 1 bag of Portland or Portland Limestone cement, 94 pounds, and not more than 6 gallons of fresh water. Drilling fluid bentonite that is not more than 5% by weight of cement and additional water that is not more than 0.6 gallons for each 1% of bentonite may be added to neat cement. Other additives and admixtures must be approved by the department before use.

(2) "Overburden" means unconsolidated geologic material, such as gravel, sand, silt, and clay, that overlies bedrock.

R 325.1610 Adoption of standards and specifications.

Rule 110. (1) These rules refer to the following standards and specifications of nationally recognized organizations or associations that are in effect and adopted by reference in these rules:

(a) The following ASTM International standards, which are available for purchase from ASTM International, 100 Bar Harbor Drive, PO Box C700, West Conshohocken, Pennsylvania 19428-2959:

(i) ASTM specification A 53-90b, “Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless."

(ii) ASTM specification A 106-91, "Standard Specification For Seamless Carbon Steel Pipe for High Temperature Service."

(iii) ASTM specification A 589-89a, "Standard Specification for Seamless and Welded Carbon Steel Water-Well Pipe."

(iv) ASTM specification F 480-90, “Standard Specification for Thermoplastic Water Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR)."

(v) ASTM specification D 1785-91, "Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Schedules 40, 80, and 120."

(vi) ASTM specification D 2239-89, “Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter."

(vii) ASTM specification D 2241-89, “Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)."

(viii) ASTM specification D 2662-89, “Standard Specification for Polybutylene (PB) Plastic Pipe Based on Controlled Inside Diameter."

(ix) ASTM specification D 2666-89, "Standard Specification for Polybutylene (PB) Plastic Tubing."

(x) ASTM specification D 2737-89, "Standard Specification for Polyethylene (PE) Plastic Tubing."

(xi) ASTM specification C 150-89, "Standard Specification for Portland Cement."

(xii) ASTM specification C 595/C 595M-21, “Standard Specification for Blended Hydraulic Cements.”

(b) American petroleum institute (API) specification 5L, 1990, "Specification for Line Pipe," and the API “Specification for Materials and Testing for Well Cements," API specification 10, 1990, which are available for purchase from the American Petroleum Institute, 1220 L Street, Northwest, Washington, DC 20005.

(c) American national standards institute (ANSI)/NSF "Standard Number 60 for Drinking Water Treatment Chemicals - Health Effects," 1988, and ANSI/NSF "Standard Number 61 for Drinking Water System Components - Health Effects," 1990, and ANSI/NSF "Standard Number 14 for Plastic Piping Components and Related Materials," 1989, which are available for purchase from the NSF, 3475 Plymouth Road, P. O. Box 1468, Ann Arbor, Michigan 48106.

(2) The standards and specifications adopted by reference in subrule (1) of this rule are available for inspection at the office of the Michigan Department of Environment, Great Lakes, and Energy, Drinking Water and Environmental Health Division, 525 West Allegan, PO Box 30817, Lansing, Michigan 48909-8311.

R 325.1633a Construction of wells; grouting.

Rule 133a. (1) Shale traps, cementing baskets, packers, or other devices must not be used to suspend grout above an open annular space. Excessive development, washing, shoveling of cuttings, or other similar activities must not be used to induce collapse of the borehole wall or to reduce the amount of open annular space surrounding a permanent casing.

(2) Neat cement or bentonite grout must be placed through the permanent casing or a grout pipe from the bottom of the annular space upward to the ground surface in a continuous operation without interruption. The density of grout flowing from the annular space at the ground surface must be the density of the grout being pumped in.

(3) A permanent casing must be installed in a borehole that has a diameter of not less than 2 inches larger than the nominal size of the permanent casing, except as provided in subrule (4) of this rule and R 325.1635.

(4) When grout is placed through a grout pipe outside the permanent casing, the borehole diameter must be not less than 2-7/8 inches larger than the nominal casing size.

(5) An annular space between a permanent casing and temporary casing must be grouted during temporary casing removal by pumping neat cement or bentonite grout, or by pouring bentonite chips, bentonite pellets, or granular bentonite, into the annular space. Granular bentonite must not be poured into an annular space that contains drilling fluid or water.

(6) Neat cement must be allowed to set a minimum of 24 hours when standard type I, type IL, type Ia, type ILA, high-early type III, or type ILHE cement is used. If bentonite is added to neat cement, the grout must be allowed to set a minimum of 48 hours before drilling operations are resumed.

R 325.1640 Certification of water well components.

Rule 140. (1) Water supply system components that are in contact with groundwater must be free of materials that may adversely affect the aquifer or water pumped from the well and must not support microbiological growth.

(2) After the effective date of this rule, an individual shall not use the following water well components unless they are in compliance with or surpass ANSI/NSF standard 14, 60, or 61, ASTM specification C 150, ASTM Specification C 595, or section 10 of API specification 10, as adopted by reference in R 325.1610:

(a) Drilling fluids, grouts, and casing sealing materials.

(b) Additives to drilling fluids, grouts, and casing sealing materials.

(c) Pipe joint compounds, thread cutting oils, gasket sealants, or coatings on steel pipe.

(d) Solvent cements, primers, cleaners, or other compounds that are used with PVC pipe.

(e) Bladders, diaphragms, coatings, or lining materials that are in contact with water in a pressure or storage tank.

(f) Chemicals that are used for the development, maintenance, treatment, disinfection, or rehabilitation of a water well, except for sodium hypochlorite or calcium hypochlorite.

(3) Acceptable water well components under ASTM specification C 595 are limited to the classification of product commonly known as Type IL-Portland-limestone cement.