WASTEWATER TREATMENT AND WATER SYSTEMS

MEADE COUNTY ORDINANCE 33

Revised: May 2022

AN ORDINANCE OF MEADE COUNTY, SOUTH DAKOTA TO PROVIDE MINIMUM STANDARDS AND CRITERIA FOR THE DESIGN, LOCATION, INSTALLATION, USE, AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS ALONG WITH THE SOUTH DAKOTA DEPARTMENT OF NATURAL RESOURCES ARTICLE 74

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WASTEWATER TREATMENT AND WATER SYSTEMS ORDINANCE 33 FOR MEADE COUNTY

AN ORDINANCE OF MEADE COUNTY, SOUTH DAKOTA TO PROVIDE MINIMUM STANDARDS AND CRITERIA FOR THE DESIGN, LOCATION, INSTALLATION, USE, AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS ALONG WITH THE SOUTH DAKOTA DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES ARTICLE 74. THE GOVERNING BODY OF MEADE COUNTY DOES ORDAIN AS FOLLOWS:

ARTICLE 1. AUTHORITY, PURPOSE, AND INTENT

1.1 AUTHORITY

The authority for this ordinance is promulgated by the South Dakota Centennial Environmental Protection Act of 1989 as codified in SDCL 7-18-20; and, through the authority given to counties by SDCL 7-8-33 and all existing health and safety statutes granting powers to regulate, investigate, and enforce provisions necessary to protect the welfare of county residents.

1.2 PURPOSE AND INTENT

The improper design, location, installation, use, and maintenance of on-site wastewater treatment systems adversely affect the public health, safety, and welfare. In order to promote the public health and welfare and to protect the waters of the state for public water supplies, propagation of fish, aquatic life, wildlife, recreational purpose, and agricultural, commercial, and other legitimate uses, Meade County provides these minimum standards and criteria for the design, location, installation, use and maintenance of on-site wastewater treatment systems along with the South Dakota Department of Agriculture and Natural Resources Article No. 74. It is the intent of these combined standards to ensure that wastewater entering on-site systems receives adequate treatment. These standards are not intended to cover systems treating industrial waste or other wastewater that may contain hazardous materials. Meade County, SD per this ordinance, adopts SDDANR Administrative Rules 74:53:01 and Federal EPA Septic Systems Guidance, Policy, and Regulations.

1.3 DISCLAIMER OF LIABILITY

The degree of public and environmental protection offered by this ordinance is considered reasonable for regulatory purposes and is based on the best available scientific and engineering considerations. The application of this ordinance shall not create liability on the part of Meade County, or any officer or employee thereof.

ARTICLE 2. DEFINITIONS

AWWA STANDARDS: Standards developed by the American Water Works Association governing the use of materials, construction, and testing of sewer lines.

ABSORPTION BED: A subsurface absorption system which consists of excavations wider than 3', each containing a bed of clean aggregate and a system of absorption lines through which effluent may seep into the surrounding soils.

ABSORPTION FIELD: The soils through which wastewater from an absorption system percolate and is treated by soil bacteria.

ABSORPTION LINE: A perforated or open-jointed pipe that is installed in a covered trench or bed for the purpose of distributing wastewater to the surrounding soils.

ABSORPTION SYSTEM: A system which utilizes absorption lines in trenches or beds to distribute wastewater to adjacent soils in an absorption field.

ADEQUATE WASTEWATER TREATMENT: The treatment of wastewater in a manner which does not cause the pollution of any ground or surface waters nor create a public health or an odor problem.

ADVANCED TREATMENT WASTEWATER SYSTEM: The installation of an Advanced or Aerobic Treatment Uni, (ATU), such as AdvanTex, Aqua Safe, Jet, Noreco, (SludgeHammer or Presby Systems in some cases), or an approved technology, along with a tank(s) and absorption bed adequate to meet the design flows and approved by the SDDANR and Meade County Equalization and Planning Office. Lifetime maintenance agreement must accompany the installation of all Advanced Treatment Wastewater Systems.

AEROBIC WASTEWATER TREATMENT SYSTEM: A method of wastewater treatment utilizing the principle of oxidation in the biological decomposition of wastewater by either introducing air into the wastewater or allowing surface absorption of air into the wastewater. To be used for properties with soil mottling problems and commercial industrial uses.

ALTERNATIVE WASTEWATER SYSTEMS: These systems must be installed following an engineer designed approval by SDDANR and the Meade County Planning Official. The engineered plans and percolation results must be submitted to the Meade County Equalization and Planning Office prior to any issuance of a building permit.

ARTICLE NO. 74: South Dakota Administrative Rule 74 is administered by the South Dakota Department of Agriculture and Natural Resources (SDDANR) and is the minimum statewide standard for on-site wastewater systems (septic systems).

BEDROCK: Rock that is solid, fractured, or unconsolidated, and considered to be a portion of a naturally occurring geologic rock formation that underlies the soil or other superficial unconsolidated material.

BUILDING SEWER: That part of a wastewater system extending from a building which carries the wastewater to a public or individual wastewater treatment system.

CAPILLARY FRINGE: The subsurface layer in which groundwater seeps up from a water table by capillary action to fill pores.

CESSPOOL: A covered underground receptacle which receives untreated domestic wastewater and permits the wastewater to seep into the surrounding soils.

CENTRAL SANITARY SEWER: A public wastewater disposal and treatment system, including treatment plant, pipes, storage tanks, and all other infrastructure necessary for the collection and treatment of wastewater.

CENTRAL WASTEWATER SYSTEMS: (Central Sewer) A wastewater disposal and treatment system, including treatment plant, storage tanks, and other infrastructure necessary for the collection and treatment of wastewater. Such systems shall meet the same testing requirements as surface water discharge system as outlined by SDDANR.

COMMUNITY WATER SYSTEM: A public water system for providing potable water to the community/public for human consumption through pipes or other constructed conveyances. Such system must be designed for at least 15 service connections or regularly serve an average of at least 25 individuals and must meet the current SDDANR Standards and the EPA Safe Drinking Water Act.

CONVENTIONAL ON-SITE WASTEWATER TREATMENT SYSTEM: A treatment system composed of a septic tank followed by an absorption system.

DISTRIBUTION BOX: A watertight chamber constructed of plastic or polymer (concrete boxes may be allowed with prior approval), from which wastewater is evenly distributed to the various portions of an absorption system.

DOMESTIC WASTEWATER OR SEWAGE: Waste other than industrial wastes derived from premises such as houses, trailer courts, commercial buildings, recreation areas and institutions.

DOSING CHAMBER: A tank that stores pretreated wastewater for periodic pressurized discharges to absorption systems.

EFFLUENT: The partially or completely treated liquid waste discharge from a wastewater treatment system.

ENGINEER: The duly designated South Dakota Licensed Engineer acting on behalf of the governing body.

GRAY WATER: The wastewater generated by water-using fixtures and appliances which do not discharge garbage or urinary or fecal wastes.

GRAY WATER SYSTEM: A residential type wastewater system designed to recycle or treat wastes from sinks, lavatories, tubs, showers, washers, or other devices which discharge gray water.

GREASE INTERCEPTOR: An outdoor unit similar to a septic tank which is used to remove excessive amounts of grease and oils that may interfere with subsequent treatment of wastewater.

HOLDING TANK: A watertight tank with no outlet for disposal of effluent designed to receive human domestic waste and shall be equipped with a high-water alarm positioned to allow at least three (3) days of storage after the alarm is activated. The minimum liquid holding capacity shall be 1,500 gallons, or the wastewater flow generated for a period of seven (7) days, whichever is greater. All other requirements for septic tanks shall be the same. A holding tank is a method "of last resort" for handling domestic waste, to be used mainly when a building site is not suitable for other means of wastewater treatment or permitted when there is temporary use of the property, (i.e., summer cabin, temporary campground etc.). Holding tanks may be used for grey water for residential dwellings.

INDIVIDUAL ON-SITE WASTEWATER SYSTEM: A system or facility for treating, neutralizing, stabilizing, or dispersing waste from one source. **Minimum requirements of no less than 600 sf of trench bottom area installed on all wastewater drainfield or absorption fields and a septic tank size of at least 1,500 gallons.** Under no circumstances shall metal tanks be used. A certified wastewater installer, a Geotechnical Engineering Firm, or a SD Licensed Professional Engineer, as defined by SDDANR, may perform the percolation testing, and shall install wastewater systems. All material used must meet or exceed SDDANR standards. A trace wire to aid in the ease of system location shall be installed on all onsite wastewater systems. Such trace wire must commence from the exit point of the building structure and run concurrently with the length of the system and end at the point where the lateral is capped or otherwise looped.

INSTALLER: Any SDDANR certified person who is directly responsible for the supervision of the alteration, repair, construction, and installation of an individual or small on-site wastewater system that has a contractor's license in Meade County. (SDDANR Certified homeowner that installs or works on their own wastewater system is not required to obtain a Meade County Contractors License).

LIMITING SOIL CHARACTERISTICS: Those soil attributes such as seasonal high-water table, bedrock, or percolation rates faster than 1 minute per inch or slower than 120 minutes per inch which do not allow for proper soil treatment of effluent.

LIFETIME MAINTENANCE AGREEMENT: An agreement for an Advanced Treatment Wastewater System that is signed by a qualified individual or company to maintain the system as long as it is in operation and is transferable upon the sale of the property which it is located.

MOTTLING: The spots or blotches of contrasting color or shades of color, usually red, brown, orange or gray, interspersed with the dominant background color of the soil. Mottles indicate a zone of alternating chemical activity caused by a seasonally fluctuating water table or saturated soil condition.

MOUND SYSTEM: A system where the soil absorption area is built within a mound raised above the ground line to overcome limits imposed by proximity to seasonal high-water table or bedrock, or by rapid or slow permeable soils.

ON-SITE WASTEWATER TREATMENT SYSTEM: A system used to contain or treat wastewater on or near the location where the wastewater is generated, including sewers, septic tanks, absorption fields, mound systems, seepage pits, vault privies, holding tanks, subsurface sand filters, gray water systems, dosing chambers and related equipment.

PACKAGE TREATMENT PLANTS: Small or scaled-down versions of municipal wastewater treatment works which are generally assembled and shipped as complete mechanical units by the manufacturer.

PERCOLATION TEST: A soil test at the depth of a proposed absorption system to determine the water absorption capability of the soil, the results of which are normally expressed as a rate at which 1" of water is absorbed over an interval of time. There must be a minimum of 3 borings per soil absorption site. Percolation tests be completed by a State Certified Installer, a Professional Engineer, or a Geotechnical Engineering Firm.

PRIVATE WATER SYSTEM: A system serving potable water for 2 to 15 separately platted lots and less than 25 individuals, with no potential for increasing the number of lots or 25 individuals or more served. The system shall be constructed by licensed and/or certified contractors and shall meet or exceed this Ordinance. If at any time the water system exceeds service to 15 or more lots or 25 people or more, the water system must meet SDDANR Standards.

SDDANR: South Dakota Department of Agriculture and Natural Resources

SEPTIC TANK: A watertight, accessible, covered receptacle which receives domestic wastewater from a building or facility sewer, allows solids to settle from the liquid, provides digestion for organic solids, stores digested solids through a period of retention, and allows clarified liquid to discharge to additional treatment works for final treatment and dispersal.

SERVICE CONNECTION: The water connection made from the watermain to the lot, serving one structure.

SEWAGE LAGOON: A man-made (anthropogenic) body of water in which waste is consumed by bacteria, used most frequently with other waste-treatment processes for residential or commercial applications. Properties with agricultural related activities are exempt.

SHOP: Per this ordinance, would include a garage or pole barn with a bathroom with no more than 1 toilet, 1 sink and 1 shower used for personnel use only with its own septic system.

SHOP ON-SITE WASTEWATER SYSTEM: For a separate shop on-site wastewater system only, as described in this ordinance, that has a private bathroom containing 1 toilet, 1 sink and 1 shower used for personal use, the SDDANR minimum requirements may be applied including a minimum septic tank size of 1,000 gallons with at least a minimum sized absorption bed sized according to SDDANR Article No. 74 rules.

SOIL DESCRIPTION: Soil profile descriptions shall be written for all borings. The thickness in inches of the different soil horizons observed shall be indicated. Horizons shall be differentiated based on color, texture, soil mottles or bedrock. Depths shall be measured from the ground surface.

TIME OF SALE INSPECTION: All sellers of properties with on-site wastewater systems (septic systems) must have their on-site wastewater system inspected by a SDDANR Certified Wastewater Installer licensed with Meade County and the tank must be pumped at or within 6 months prior to the time of sale. Properties classified for property tax purposes as agricultural land, and which are intended for primarily agricultural use, are exempt from this requirement.

WASTEWATER PERMIT: The instrument to be issued by a Planning Official to permit the construction, fabrication, alteration, or improvement of any wastewater system to ensure compliance with adopted codes, procedures and restrictions pertaining to this Subdivision Ordinance and those of SDDANR or other applicable state laws.

WASTEWATER SYSTEM: Systems designed and built for the purpose of treating and disposing of wastewater.

ARTICLE 3. GENERAL PROVISIONS

3.1 PERMIT REQUIRED

3.1.1 No on-site wastewater treatment system or any other system for the treatment or disposal of human excreta shall be installed, constructed, or changed within the unincorporated area of Meade County without a permit issued by Meade County Planning Official in conformance with this ordinance.

3.1.2 State Approval - Where approval is also required by the SDDANR or all commercial and industrial applications and for all mound and any experimental wastewater treatment systems in accordance with SDDANR Article No. 74 Administrative Rule.

3.1.3 All on-site wastewater systems installed within Meade County's jurisdiction shall follow SDDANR Article No. 74 Administrative Rule at minimum, plus additional requirements of this ordinance.

3.2 INSPECTIONS REQUIRED AND RIGHT OF ENTRY

3.2.1 The South Dakota State Certified Installer of an on-site wastewater treatment system shall ensure that all below ground components are inspected by the Equalization and Planning Office Inspector prior to backfilling. Inspection of the installation, equipment, and operation of an on-site wastewater treatment system may be made at any time by the inspector.

3.2.1.1 Whenever necessary for the purposes of inspection or to enforce any of the provisions of this ordinance, or whenever a Planning Official has reasonable cause to believe that there exists upon any premises a violation of this ordinance or any other county ordinance dealing with the protection of state waters, the abatement of nuisances or the regulation of solid waste, the Planning Official may enter such premises at all reasonable times to inspect

the same. If such premise is occupied, the Official shall first present proper credentials at a reasonable time, then the Planning Official is empowered to issue the permit conditional upon state approval.

3.3 PERMIT APPLICATIONS

3.3.1 The South Dakota State Certified installer of a wastewater system or their representative shall complete an application for the Equalization and Planning Office to determine compliance of the proposed system with the provisions of this ordinance. All appropriate plans and specifications shall be submitted with the application and shall become a part of the permit. The signature of the installer or the property owner shall be required on the application to verify the accuracy of the information and that the system will be installed in accordance with the permit. The Planning Official shall have the authority to require that a staff inspector review the soil boring hole and the percolation test holes prior to the issuance of a permit if deemed necessary.

3.3.2 The application shall be approved upon the signature of the Planning Official and the payment by the applicant of a fee payable to the Meade County as shown by Meade County Commission resolution:

3.3.2.1 Installation of a holding tank only

3.3.2.2 Extension of existing drainfield

3.3.2.3 New or replacement system

3.3.2.4 Engineered system

3.3.3 The fee for any permit obtained after construction or repair of a system has commenced shall be double the normal fee unless previous arrangements have been made with the Equalization and Planning Office.

3.3.4 Septic System Plan required - before a permit will be issued: the Septic System Plan, designed by the South Dakota State Certified Installer or a SD Licensed Professional Engineer, shall contain the following information, which is to be submitted to the County Planning Official:

3.3.4.1 Location and capacity of all septic tanks proposed.

3.3.4.1.1 Minimum of a 1,500-gallon septic tank.

3.3.4.2 Soil types for each percolation test hole.

3.3.4.3 Completion of an 8' soil boring describing the soil continuously throughout the soil boring.

3.3.4.4 Location of percolation test holes and results of percolation tests.

3.3.4.5 Location of absorption field and minimum length of absorption trenches, seepage bed or mound system (if applicable).

3.3.4.5.1 Minimum of a 600 sf drainfield to be installed with no reductions.

3.3.4.6 Direction of ground slope.

3.3.5 Every on-site wastewater treatment system permit issued under the provisions of this ordinance shall expire by limitation and become null and void if the construction

authorized by such permit is not completed within 12 months from the date of the permit. After that time, a new permit will be required before the construction of any wastewater treatment system can commence.

3.4 ON-SITE INSPECTIONS

3.4.1 On-site Inspections will be required after the wastewater system is installed and prior to any backfilling of the septic tank, holding tank, vaulted privy, or the absorption system. Additional inspections may be required as deemed necessary by any Meade County Planning Official at an additional cost equal to the septic permit fee.

3.5 DISTRIBUTION BOXES

3.5.1 Required for all standard absorption trench systems, (drainfields), to provide an even distribution throughout the drainfield. The distribution box will be installed per SDDANR Article No. 74:53.

3.6 TANK LIDS

3.6.1 All septic, holding and pump chamber tanks must have a waterproof manufactured secure lid i.e., Polylock, Tuf-Tite, Ocenco or similar.

3.7 DROP BOXES

3.7.1 Drop boxes must be used on sloping terrains with a serial distribution system where the elevation difference of the ground surface exceeds 28" in any direction within the absorption field.

3.8 Time of Sale Inspections

3.8.1 All sellers of properties with on-site wastewater systems (septic systems), must have their on-site wastewater system inspected and pumped, within 6 months of the property being sold or there is a change in the use of a facility. Inspections must be made by a South Dakota Certified Wastewater Installer licensed with Meade County. A written inspection report must be completed by the inspector and a copy must be filed with the Equalization & Planning Office. Deficiencies found with the on-site wastewater systems must be repaired by the seller. Properties classified for property tax purposes as agricultural land which are intended for primarily agricultural use are exempt from this requirement.

3.8.1.1 Deficiencies which require repairs or replacement by the seller:

3.8.1.1.1 Absorption systems which seep or flow to the surface of the ground or into waters of the state.

3.8.1.1.2 Systems which have surface overflow from the absorption system.

3.8.1.1.3 Systems which, due to failure to operate in accordance with their designed operation, cause backflow into any portion of a building plumbing system.

3.8.1.1.4 Septic tanks or holding tanks which leak.

3.8.1.1.5 Absorption systems installed in bedrock or in the groundwater table.

3.8.1.1.6 Steel septic tanks or steel holding tanks.

3.8.1.1.7 Any other on-site wastewater treatment system not defined as a conventional or alternative system. (i.e.: cesspools, seepage pits, and pit privies).

3.8.1.1.8 Broken tank baffles.

3.8.1.1.9 Exposed septic tank lids need to be secured/locked or new Poly Secured Lid installed.

3.8.1.1.10 No current lifetime maintenance agreement in place for an ATU.

3.8.2 Standard Absorption Trenches and Absorption Beds must be covered with Geotextile or landscape fabric; untreated building paper will not be accepted.

3.8.3 All spliced or repaired wire connections. The tracer wire system shall be made using a Wing Nut Wire Connector. Two to four number fourteen wires shall be made waterproof by using an approved buried service wire closure, gel closure or equal.

3.9 ON-SITE SYSTEMS PROHIBITED WHEN PUBLIC SYSTEMS AVAILABLE

3.9.1 No person may construct, install, or operate an on-site wastewater treatment system where a public wastewater system is available. A public system is considered available to premises under the following circumstances:

3.9.1.1 The structure or wastewater system is located within the jurisdictional boundaries of a sanitary district.

3.9.1.2 When a public wastewater system is available within 400' of a home, trailer court, commercial or business establishment, park or institution etc.

3.9.1.3 The sanitary district or municipality requests to provide service to the premises.

3.9.1.4 Section 6.1 also applies.

3.10 TYPES OF WASTEWATER TREATMENT

3.10.1 An individual or on-site wastewater treatment system may use any of the following types of treatment:

3.10.1.1 A conventional system of a septic tank and an absorption system.

3.10.1.2 An advanced treatment unit utilizing an aeration and sedimentation process along with an absorption system or similar advanced treatment system.

3.10.1.3 A septic tank with a mound-type absorption/transpiration system.

3.10.1.4 A holding tank, only to be used when no other wastewater system will work, to be determined by a Meade County Planning Official. May be permitted for recreational vehicle (RV) pads that meet Ordinance 34 requirements.

3.10.2 All wastewater must pass through a primary treatment such as a septic tank, sedimentation tank, or aeration/aerobic system prior to discharge to an absorption

system.

3.10.3 ADVANCED TREATMENT WASTEWATER SYSTEM

3.10.3.1 The installation of an Advanced or Aerobic Treatment System or Unit, ATU's, such as AdvanTex, Jet, Aqua Safe, Noreco, (Sludge Hammer, Piranha or Presby System in some cases) or an approved technology, along with a tank(s) and an absorption system must be adequate to meet the design flows and shall be approved by the SDDANR and Meade County Equalization and Planning Office. Lifetime maintenance agreement must accompany the installation of all Advanced Treatment Wastewater Systems and must be submitted to Meade County Equalization and Planning Office before the system is finally approved by Meade County.

3.10.3.2 All new commercial and industrial facilities must have an Advanced Treatment Wastewater System installed, to include apartment buildings, condos, townhouses with 2 units, restaurants, convenience-store gas stations, mechanics shops or any other commercial or industrial facility. Restaurants or food distribution facilities and mechanic shops are also required to have an oil and grease trap. Residential lots with less than 1 acre must have an Advanced Treatment Wastewater System unless connected to an approved centralized wastewater treatment system.

3.10.4 ABSORPTION BEDS

3.10.4.1 Absorption (Seepage) beds will only be permitted where there are known property constraints. For example, when there is limited space for the installation of an on-site wastewater system and the Perc Test is less than 30 minutes per inch (MPI). If applicable, the absorption bed must meet SDDANR Article 74:53:01:36.

3.11 DRAINAGE NOT TO ENTER WASTEWATER SYSTEMS

3.11.1 Drainage and runoff from footings, roofs, and ground-water sump pumps shall not be allowed to enter an on-site wastewater treatment system. Absorption systems shall be located and designed so that surface runoff from drainage ways will not flow into or over the system.

3.11.2 Drainage from a Garage Floor Drain shall not enter a wastewater absorption area: Any drainage from a floor drain in a garage or an accessory building shall not discharge into any wastewater treatment system that leads to an absorption field or seepage pit. All such floor drains must either be approved and connected to a central sewer system or drained into a holding tank and the contents pumped for proper disposal at a wastewater treatment plant.

3.11.3 Any floor drains that discharge into a central sanitary sewer system or a holding tank shall also be connected to a plumbing vent. The vent stack pipe shall be a minimum diameter of 1.25" and shall extend through the roof flashing and terminate vertically not less than 6" above the roof nor less than 1' from any vertical surface. Further, each vent pipe shall terminate not less than 10' from, or at least 3' above, any openable window, door, opening, air intake, or vent shaft. All must meet the current South Dakota State Plumbing Code.

3.12 GRAY WATER SYSTEMS

3.12.1 A grey water system shall be designed in accordance with the following criteria:

3.12.1.1 Systems for individual residences shall be based on a minimum greywater flow of 25 gallons per person per day. Three days retention time shall be provided in each greywater tank. For other facilities, the design flow shall be specified on a case-by-case basis by a Planning Official. An electronic Alarm System must also be installed in accordance with SDDANR rules and regulations.

3.12.1.2 Greywater tanks shall conform to the requirements or the SDDANR for septic tanks.

3.12.1.3 Effluent from greywater systems may be recycled for toilet use, conveyed to absorption fields, mounds, seepage pits, or for irrigation of lawns and areas not intended for food production. Percolation tests and site evaluations shall be conducted, and the minimum size of the absorption area shall be in accordance with Section 3.06.

3.12.1.4 Residential dwelling may separate greywater to a holding tank. Greywater may be used to irrigate lawns during non-winter months (no frost).

3.12.1.5 All greywater and holding tanks must have an electronic alarm system.

3.13 PLUMBING AND WELL CONSTRUCTION CODES

3.13.1 The design and location of, and the materials for use in building sewers and on-site systems, shall comply with all applicable portions of both the South Dakota State Plumbing Code (ARSD 20:54) and the Well Construction Standard (ARSD 74:02:04).

3.14 ILLEGAL WASTEWATER DISCHARGES AND SURFACING WASTEWATER

3.14.1 There shall be no pumping of wastewater from the septic tank to the ground surface including discharging wastewater across property, into ditches or any water feature etc.

3.14.2 Wastewater that surfaces from a drainfield or absorption bed requires the wastewater system to be immediately repaired or replaced. Repeated wastewater surfacing is not permitted.

ARTICLE 4. SITE EVALUATION AND REQUIREMENTS

4.1 EVALUATION FACTORS

4.1.1 All proposed sites for on-site sewage treatment systems shall be evaluated as to:

4.1.1.1 Depth to the seasonal high-water table, bedrock, or other limiting soil characteristics.

4.1.1.2 Soil description, texture, color, and percolation rate.

4.1.1.3 Ground slope standards shall follow SDDANR requirements.

4.1.1.4 Existence of lowlands, streams, lakes, or rock outcrops.

4.1.1.5 All legal setbacks from buildings, property lines, water supply wells and lines, or utility lines.

4.1.1.6 Property constraints based on available space for the installation of an on-site wastewater system.

4.2 SEPARATION FROM LIMITING SOIL CHARACTERISTICS

4.2.1 There shall be at least 4' of soil between the bottom of an absorption bed or trench, seepage pit bottom, the lowest construction joint on a septic tank or any other component of a subsurface absorption system, and a limiting soil characteristic such as a seasonal high-water table, ground water, bedrock formation, or soil layer with a percolation rate faster than or equal to 5 or slower than 60 minutes per inch. The presence of a seasonal high-water table shall be determined by either the presence of saturated conditions, the presence of 10 percent or more of mottling in the soil profile, or soil colors with a chroma of 2 or less, whichever is higher in the profile. When this separation cannot be maintained with a conventional system, an alternative system such as an unconventional system or a mound system is required.

4.2.2 The soil textures and profile shall be evaluated by making at least one boring or excavation to a depth at least 4' deeper than the bottom of the planned system or until bedrock or the seasonal high-water table is encountered, whichever is less. The soil profile characteristics (colors and textures) and the test hole location must be noted on the permit application forms. Absorption systems shall not be constructed in soils rated as having severe or very severe limitations for septic systems by the Soil Conservation Service or U.S. Department of Agriculture unless that limitation is not present as shown and is confirmed by the field investigation.

4.3 SOIL TEXTURES

4.3.1 Soil texture refers to the relative proportions of the various soil grain size groups in a mass of soil. Specifically, it refers to the proportions of sand, clay, and silt. These sized groups of particles are referred to as soil separates and are described in Table 1.

Table 1

Size Range (in mm)
Very Coarse Sand 2.00 - 1.00
Coarse Sand 1.00 - 0.50
Medium Sand 0.50 - 0.25
Fine Sand 0.25 - 0.10
Very Fine Sand 0.10 - 0.05
Silts 0.05 - 0.002
Clays < 0.002

4.4 PERCOLATION TEST REQUIRED

4.4.1 The South Dakota State Certified Installer or a SD Licensed Professional Engineer shall conduct the percolation test in accordance with SDDANR Article No. 74 Administrative Rule. Percolation tests shall be recorded on Meade County's percolation test form.

4.4.2 Percolation rate of water in soil in minutes per inch, estimated based on soil type.
1 - 5.9 Sand or Gravel
6 - 15.9 Sandy Loam
16 - 30.9 Loam
31 - 45.9 Silt Loam
46 - 55.9 Clay Loam
56 - 60+ Clay

4.4.3 The average percentage and direction of ground slope on the site shall be recorded on the Meade County Percolation Test Forms.

4.4.3.1 Clean sand can easily be determined by using the fruit jar test. Place exactly 2" of sand in the bottom of a quart jar and fill the jar 3/4 full of water. Place the cover on the jar and shake the contents vigorously. Allow the jar to stand for about an hour and observe if there is a layer of silt or clay on the top of the sand layers. If the layer of silt or clay particles is wider than 1/8" thick, the sand is likely not suitable for use in mound construction.

4.5 HIGH GROUND WATER REQUIREMENTS

4.5.1 In areas of impacted or known high groundwater, there must be a 4' separation between the top of capillary fringe or the shallow aquifer (high groundwater level in a normal or wet year), and the bottom of an absorption trench or bed and the bottom of the septic tank, holding tank or pump chamber tank. (See Article 74.53.01.15).

4.5.2 The septic, holding or pump chamber tank in areas where groundwater is present must have a 4' separation. Low-profile tanks must be used when groundwater is 6' to 10' below the surface and if the tank is near the 4' separation requirement to groundwater, the bottom of the wastewater tank must be waterproofed.

4.5.3 Septic, holding and pump chamber tanks that cannot meet the 4' separation requirement must have approval from the SDDANR.

4.6 RESTRICT TRAFFIC ON ABSORPTION AREA

4.6.1 All traffic shall be kept at a minimum on or over any absorption area before, during and after construction to avoid soil compaction and damage to the pipes of a wastewater system. Absorption beds or absorption trenches must never be installed under any impermeable surface.

4.7 INSTALLATION DURING ADVERSE WEATHER CONDITIONS

4.7.1 On-Site Wastewater Systems shall not be installed during any rain event to prevent unwanted compaction in the absorption trench without the approval of a Meade County Planning Official.

4.8 ABSORPTION TRENCH SMEARING

4.8.1 Where trench smear exists during the excavation of any absorption trench, the sides of the absorption trench shall be scarified or raked with a garden rake prior to the installation of any stone or pipe, including the bottom of the absorption trench.

4.9 TRACER WIRE SYSTEM REQUIRED

4.9.1 To aid in the location of below ground wastewater system components, all new or replacement septic systems shall have a tracer wire system installed. All tracer wire shall be No. 12 solid single strand type TW or THHN, or approved equivalent. The

tracer wire shall be accessible at the tank clean out and shall extend along the sewer line from the house to the tank, around the septic tank access hole, and from the tank through all system trenches or around the perimeter of any infiltration bed. The tracer wire in all trenches shall be placed above the landscape fabric which is installed above the pipe(s). in paragraph 4.10.1

4.9.2 To prevent corrosion, all buried ends of tracer wires and all wire splices shall be sealed with an approved direct bury splice kit or gel type connector.

4.9.3 All tracer wire installation, including all splices, shall be inspected by Meade County prior to backfilling. The contractor is responsible for ensuring that the tracer wire system has conductivity.

4.10 LANDSCAPE FABRIC REQUIRED

4.10.1 On all absorption trenches, landscape fabric must be placed above the pipe(s) (and if applicable, installed stone) before the trench can be backfilled (Note: The tracer wire must be installed above the landscape fabric).

4.11 ADDITIONAL REQUIREMENTS

4.11.1 90-degree elbows will not be allowed on any On-Site Wastewater Systems within the unincorporated boundaries of Meade County. Only sweeping 90-degree bends, or 45-degree bends will be permitted if a 90-degree bend is required.

ARTICLE 5. SYSTEM MAINTENANCE

5.1 PUMPING SEPTIC TANKS

5.1.1 The owner of a septic tank, or the owner's agent, should regularly inspect and measure the accumulations of sludge and scum in the tank (Figure 8-1). This recommended inspection should be performed at least once every three years. The tank shall be pumped whenever the top of the sludge layer is less than 12" below the bottom of the outlet baffle or whenever the bottom of the scum layer is less than 3" above the bottom of the outlet baffle. When a garbage disposal is used, the septic tank may require pumping at least once per year.

5.2 PROHIBITED SUBSTANCES

5.2.1 Substances not commonly used for household cleaning, including but not limited to solvents, pesticides, flammables, or hazardous chemicals must not be discharged into the wastewater system.

ARTICLE 6. CENTRAL SANITARY SEWER OR ADVANCED TREATMENT WASTEWATER SYSTEMS

6.1 CENTRAL SANITARY SEWER

6.1.1 A subdivision may be required to connect to a central sanitary sewer if it is within 200' of a municipality. However, nothing in this section requires any municipality to provide any municipal services outside of its municipal boundaries. All central sanitary sewers must be designed by a SD Licensed Professional Engineer.

6.1.2 Subdivisions or developments in Meade County intended for multiple housing units, public buildings, commercial enterprises, or industrial construction shall have an approved plan for a central sanitary sewer or an advanced treatment wastewater

disposal system, with a recommendation for approval from a Planning Official and the Planning Board and approval of the Commission. All plans for central sanitary sewer or advanced treatment wastewater disposal systems are the responsibility of the developer and/or subdivider and will conform to the requirements of this ordinance and in general comply with all Federal, and State regulations.

6.1.2.1 All central sanitary sewer or advanced treatment wastewater discharge shall meet or exceed the requirements set forth by the SDDANR.

6.1.2.2 Central sewer systems must be bonded up to 1-½ times of its original cost for a period not to exceed 3 years. Such bond is held to ensure that system meets the minimum requirements and is of sufficient size to handle the demand. The bond or irrevocable letter of credit must be approved by a Meade County Planning Official, addressed to Meade County, and held by Meade County until 1 year after the project is completed and accepted by Meade County. Cost breakdowns are required to be submitted with the bond or irrevocable letter of credit.

6.1.2.3 Meade County Planning Official and/or the SDDANR will determine whether a proposed wastewater system conforms with this ordinance including, but not limited to, local topography and watershed issues.

ARTICLE 7. WATER SYSTEMS

7.1 DESIGN STANDARDS FOR COMMUNITY WATER SYSTEM

7.1.1 A public water system for providing potable water to a community for human consumption through pipes or other constructed conveyances. Such system must be designed for at least 15 service connections or regularly serve an average of at least 25 individuals. The Community Water System must meet the current SDDANR Drinking Water Standards and is regulated by the SDDANR. Subdivisions that contain homes with multiple bedrooms can exceed the 25 individuals requirement even though it has less than 15 service connections. At the time the subdivision reaches the 25 individuals or more, the developer/water system owner(s) must bring the water system in compliance with SDDANR Drinking Water Regulations of the State of South Dakota, and a Certificate of Approval is required.

7.2 DESIGN STANDARDS

7.2.1 Private water systems serving less than fifteen lots or less than 25 individuals with no potential for increasing the number of lots and/or 25 individuals or more shall meet the following design standards:

7.2.1.1 The well shall be capable of producing 5 gallons per minute (GPM) or more per service connection, as certified by SD licensed well driller.

7.2.1.2 Pump capacity shall be capable of producing no less than 5 GPM per residential or building unit. If the pump and well capacity is less than 5 GPM the developer shall provide a water storage system in accordance with this ordinance with a properly designed booster pump (if applicable) and pressure tank.

7.2.1.3 Pressure system - shall include a pressure tank switch operating at a minimum pressure of 30 pounds per square inch (PSI) up to a maximum pressure of 80 PSI. Pressure tank or tanks shall be sized to provide a cycle time of no less than one minute.

7.3 DISTRIBUTION PIPING FOR A PRIVATE AND COMMUNITY WATER SYSTEM

7.3.1 Four lots or less shall have a minimum watermain piping size of 2" diameter.

7.3.2 Five lots to twelve lots shall have a minimum piping size of 4" diameter.

7.3.3 Greater than 12 lots shall have a minimum watermain piping size of 6" diameter and greater depending on the design criteria for the water system piping.

7.3.4 Water service lines shall be 1" diameter or larger.

7.3.4.1 Service lines shall be 1" diameter shall be copper tube size (CTS) copper tube size poly SDR 9 pipe, 200 psi minimum and with stiffener inserts at each curb stop, fittings, and corporation stop or an approved equivalent. Tubing shall meet the requirements of (AWWA) American Water Works Association C901, (NSF) National Sanitation Foundation Standards 14 and 61 and shall have the material designation of PE3608 by the Plastic Pipe Institute. Stiffener inserts shall be Ford 50 series or an approved equivalent.

7.3.4.2 Insta-tights or compression type connections with inserts are required. (Red brass only). Insert shall be Ford 50 series Stainless Steel inserts or approved equivalent.

7.3.4.3 Service lines that will be installed to lots that are adjacent to the end of a dead-end watermain, must be a copper line or a poly heat line.

7.3.4.4 All service lines and water mains shall be entrenched to maintain a depth of a minimum of 6' buried

7.3.5 Brass Curb Stops with certified clamps or an approved equivalent that meets or exceeds the AWWA Standard C800, along with a cast iron curb box or HDPE Meter Pit, or an approved equivalent, attached to the water main in accordance with AWWA Standards.

7.3.6 Easily accessed mechanical type water meters, or electronic reader water meters must be installed in subdivisions with 5 or more lots, or when the water system service connections exceed 5.

7.3.7 All lots must have a potable water service lines per this ordinance.

7.3.7.1 Water provided to the lots must be suitable for drinking in accordance with drinking water standards of the SDDANR.

7.3.8 Tapping into a water main for service lines, tapping saddles and corporation stops are required. Tapping and all materials are the responsibility of the Contractor.

7.3.8.1 Tapping saddles for a water service connecting to PVC/PVCO water main, water service saddle is to be wide strap all brass tapping saddle with Buna-N (Nitrile) or EPDM rubber gaskets and AWWA tapered threads or an approved equivalent.

7.3.8.2 Corporation stop shall be AWWA/CC taper thread inlet by Quick joint for copper or plastic tubing (CTS) outlet. (Ford FB1000 or and approved equivalent) All corporation stops shall meet the "No Lead" requirements and

shall be marked NL or No Lead.

7.3.9 All equivalents must be approved in writing by a South Dakota Licensed Professional Engineer.

7.4 WATER SAMPLING

7.4.1 A water sample must be collected and tested by a third-party certified laboratory for subdivisions of 3 or more lots to determine if the water meets the drinking water standards referenced within this ordinance. The initial test results must be sent to the Equalization and Planning Office before the County considers the water system is completed and approved. The following is required.

7.4.1.1 Initial water sample at startup of the system

7.4.1.2 Water sample collected and tested at 6 months after the system is on-line.

7.4.1.3 Failure to submit water sample results to the county as stated above will be a violation of this ordinance.

7.5 WATER STORAGE

7.5.1 In instances where the well is not capable of producing the required GPM as outlined, water storage shall be required:

7.5.1.1 Storage requirements shall be calculated at 300 gallons per household per day with a minimum of 3-day storage. (300 gal. X 3 days).

7.5.1.2 If the water storage is elevated as a gravity fed system, the elevations meet the minimum and maximum PSI as outlined above. However, in no circumstances shall the water pressure be less than 20 PSI under normal operating conditions. All distribution piping shall be 6" or larger. Service lines shall be 1" or larger. Excess pressure shall be handled with pressure reducing valves, and minimum pressure shall be compensated by use of booster pumps.

7.5.1.3 Community Water Systems that utilize underground water storage systems with a booster pump(s), with 30 lots and greater, must have a backup booster or supply pump and an on-site backup self-starting generator with all necessary auxiliary equipment designed to power the booster/supply pump(s) in case of a power failure. The self-starting backup generator must provide power until normal power is restored. (An Individual household booster pump is excluded).

7.5.1.4 If booster pumps are used in conjunction with a storage facility, it will not negate other provisions outlined above.

7.5.1.5 Water storage capacities will comply with the National Board of Fire Underwriters or the American Insurance Association, and water sources will comply with all requirements or the SDDANR.

7.6 STORAGE FOR FIRE PREVENTION WITHOUT A PUBLIC WATER SUPPLY SYSTEM

7.6.1 Modified or Medium Density, and Commercial Subdivisions (as described in Meade County Ordinance 20) that have a community well that pumps less than 100 gallons per minute (gpm) must provide a cistern(s) or storage tank with float control

switches to turn the well pump on at the low water level which must be placed 2' above the bottom of the cistern or storage tank, and to turn off the pump at 1.0' below the top of the cistern or storage tank. A dry hydrant then must be placed to supply water to local fire department fire fighting vehicles for fires within the subdivision with a cistern or storage tank sized in accordance with this section of this ordinance. See Section 6.01-6g. (All types of High Density and Modified High Density Subdivisions, described in Meade County Ordinance 20, must have a water system and fire hydrants with the pressure and flow capacity to meet firefighting demands per NFPA, National Fire Protection Association).

7.6.2 Firefighting cisterns and dry hydrants must be placed next to or near the community well for quicker recovery of the supply water.

7.6.3 Backflow Preventer must be installed to prevent water being stored in the cistern from flowing back into the drinking water supply system.

7.6.4 Dry Hydrants will have a vertical lift no greater than 14'. The hose connection must be positioned 2' above the ground surface, so it is accessible year-round by firefighting equipment, even in snow conditions. The size of the hose connection will be a 4 -1/2-inch male connection, 6 threads per inch, right hand thread, or per the local fire department. The dry hydrant must be aluminum with an aluminum cap. The vertical length of pipe must extend down to a depth below frost line but no deeper than 12' below the ground surface. The intake line for the dry hydrant must be secured 2' up off the bottom of the cistern or tank, to avoid clogging with mud and constructed in a manner not to create a vortex. The intake must be covered with a screen to keep debris out of the pipe.

7.6.5 Access to the dry hydrant must have a minimum width of 12' and a maximum grade of 4% One sign of a minimum of 4 sf will be placed next to the dry hydrant stating, "Use for Fire Protection Only", "This is not a potable water source".

7.6.6 An impact barrier constructed of partially buried 6" steel posts filled with concrete must be placed 24" to 30" in front of the dry hydrant to prevent a vehicle from damaging the dry hydrant in a traveled area. One steel post painted red that will extend 3' above the dry hydrant must be placed so the dry hydrant can be spotted in snow covered conditions.

7.6.7 Subdivision firefighting cistern and dry hydrant system requirements are as follows for a medium, modified high-density or commercial subdivision.

7.6.7.1 Subdivisions of 6 lots to 12 lots, shall be required to install a 10,000-gallon storage tank or greater and a dry hydrant system.

7.6.7.2 Subdivisions of 13 lots to 45 lots, shall be required to install a 30,000-gallon storage tank minimum or current NFPA standards verified by a Licensed Professional Engineer of Architect, whichever is the greater capacity, and a dry hydrant system is required for fire protection if a pressurized water system does not provide a 250-gpm hydrant flow.

7.6.7.3 Subdivisions with greater than 45 lots will required to install an additional 10,000-gallon storage tank or greater or current NFPA standards verified by a Licensed Professional Engineer of Architect, whichever is the greater capacity, and dry hydrant system for every additional 10 lots or fraction thereof, unless a dry hydrant can be installed in another County approved water source.

7.6.7.4 Lot splits within an existing subdivision will be applied to the requirements

above and will be counted as an additional lot(s) to the subdivision. It will be the responsibility of the property owner creating the lot split to comply with the requirements of Section 7.6.

7.6.7.5 Dry Hydrant connections may be placed on large aboveground storage tanks used to service a subdivision if a backflow preventer and correct connection fittings are placed for the local fire departments in lieu of a cistern system, as long as the capacities meet or exceed the requirements of this ordinance and are approved by SDDANR.

7.7 OTHER REQUIREMENTS

7.7.1 Well and water distribution systems must be certified by a properly licensed individual active in this field of work.

7.7.2 A detailed water system capacity plan will be filed with the Planning Official showing the ability to achieve and maintain compliance with applicable drinking water standard with capacity.

7.7.3 Technical along with the physical and operational ability to meet current SDDANR standards.

7.7.4 Managerial guidelines indicating the ability to maintain compliance.

7.7.5 Financial ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain SDDANR compliance (lots serving 25 or more individuals), including projected initial water rate schedule per lot and projected estimated water rates for 5-year period per lot.

7.7.6 A detailed operation manual must be furnished by the owner's engineer for all community water systems to include design and operation requirements (including long term plans if and when the water system would be sold or given to the Homeowners Association (HOA), water district or sanitary district.)

7.7.7 New or repaired potable water systems shall be disinfected prior to use according to the South Dakota State Plumbing Code.

7.7.8 New or expansions to existing water systems must also meet the applicable requirements of the New or Expanded Water System Checklist located in Appendix "A" of this ordinance and the Checklist will be enforceable as part of this ordinance.

7.7.9 A Private well cannot be installed on a property that has less than 9 acres. A Private water well cannot be installed when there is an existing community water system that can provide a water service connection to the property with 20 psi minimum at normal operating conditions and at a minimum of 5 gpm water flow.

7.7.9.1 Properties that are platted adjacent to an area that has an existing community water system, shall obtain their water service from the existing community water system if reasonably available. If an existing water system water service is not reasonably available, documentation must be provided before the final plat is submitted. (For platting regulations see Ordinance 20).

7.8 PRIVATE WATER SYSTEM OWNER REQUIREMENTS

7.8.1 Owners of a Private Water System must have a document filed in the Equalization and Planning Office that states the current name(s), address, and phone number(s), including a statement of who will be responsible for the operation and maintenance of the water system, signed by the water system owner and notarized. When there is a transfer of ownership of the water system, an additional document must be filed for the new owner(s) at the time of the transfer, referencing the original filing which will be the responsibility of the water system owner.

7.9 FIRE HYDRANTS, VALVES AND FLUSHING HYDRANTS

7.9.1 All fire hydrants, if required in subdivisions, shall be accessibly located. The fire department in which the proposed subdivision is to be located shall be notified by the developer as to the location and specifications of all hydrants within the subdivision. Such plans are subject to fire department review and subject to the approval of a Meade County Planning Official. Fire hydrants shall be supplied by not less than a 6" diameter water main.

7.9.2 A gate valve shall be provided on each branch line to fire hydrant assemblies and shall be located within 18" of the hydrant branch tee. When a hydrant is located on the opposite side of the street from the water main, or in an easement beyond the standard right-of-way of the street or water main, a second valve shall be installed within 3' of the hydrant boot or base.

7.9.3 The minimum fire flow for fire hydrants shall be in accordance with the local fire department and per the (National Fire Protection Association).

7.9.4 Fire hydrants shall be placed at no more than 400' intervals in high-density, modified high-density or commercial subdivisions (definition of subdivisions described in Meade County Ordinance 20) and where water supply and pressure requirements are met, (250 gpm @ 100 psi).

7.9.5 All required fire hydrants in all appropriate subdivision densities shall be accessibly located and reviewed by the appropriate fire departments and subject to the approval of a Meade County Planning Official.

7.9.6 Flushing Hydrants shall be installed at the end of all dead-end water lines.

7.10 MATERIALS

7.10.1 All fire hydrants shall be dry barrel type conforming to AWWA C502, be listed by Underwriters Laboratory, Inc. and have Factory Mutual Research approval. All hose and steamer connections shall include caps attached to the body with a 2/0 minimum twist link, non-kinking, heavy duty machine chain. All caps shall be greased with the manufacturer's specified lubricant and only be hand tight. Caps shall include threaded connections conforming to National Standard Threads. Hydrants shall include a mechanical joint shoe, 1-1/2" pentagon operating nut, painted bronze to bronze seating, shall include a ground breakaway flange and rod coupling and drain in boot to drain barrel when hydrant seat valve is closed.

7.10.2 The hydrant bonnet shall be designed with a sealed oil and grease reservoir with O- ring seals and a Teflon thrust bearing. Operating nut shall open left or counterclockwise and be so marked.

7.10.3 Fire hydrants shall be factory coated as follows: (1) barrel and pipe shall have one coat primer gray oil-based and two coats red epoxy enamel (unless directed differently by the local fire department); (2) caps shall have one coat primer gray oil-based and two coats red epoxy enamel (unless directed differently by the local fire department); and (3) bonnets and caps shall have one coat primer gray oil-based paint only.

7.11 INSTALLATION

7.11.1 All fire hydrants shall be installed plumb with the front of the hydrant facing the road or street with a permanent surrounding grade, which must be installed in a manner which will remain free or grass and weeds at the "bury line" cast on the hydrant; the grade shall not be "dug out" or mounded around the hydrant to satisfy this requirement. Fire hydrants which have been installed must be tagged "OUT OF SERVICE" until such time as the water main to which connected is disinfected and connected to the active water system. Oil or grease reservoirs in the hydrant bonnet shall be refilled after installation and adjustment.

7.11.2 A hydrant drainage test shall be successfully performed by the contractor on each fire hydrant installed as specified by AWWA Manual M-17.

7.11.3 Thrust blocks are required where the pipe changes direction horizontally or vertically; where the pipe changes in size; at dead ends; at restrictions; and, when valves or hydrants are closed quickly.

7.12 WATER MAIN TRACER WIRE AND CAUTION/WARNING (TEAR) TAPE

7.12.1 TRACER WIRE AND CAUTION/WARNING TAPE

7.12.1.1 Tracer wire shall be installed on all non-ductile iron watermains, hydrant laterals and water services except where such water service pipe is of copper material. The wire shall be installed in such a manner as to be able to properly trace all watermains, hydrant laterals and water services without loss or deterioration of signal or without the transmitted signal migrating off the tracer wire.

7.12.1.2 Tracer wire shall be number 12 gauge (AWG), single or seven strands, insulated copper wire with insulation specifically manufactured for direct burial applications.

7.12.1.3 All tracer wire welds onto existing cast or ductile iron pipe shall be completely sealed with the use of a mastic type sealer specifically manufactured for underground use. The mastic shall be applied in a thick coat a minimum of ¼ inch thick and shall be protected from contamination by the backfill material with the use of a plastic membrane.

7.12.1.4 All spliced or repaired wire connections in the tracer wire system shall be made using a Wing Nut Wire Connector (for two to four number ten wires), or approved equivalent, and made waterproof using an approved buried service wire closure. The buried service wire closure shall be Frame Gel Closure or equivalent.

7.12.1.5 Approximately 2' minimum above the utility, warning/caution (tear) tape stating "buried utility" or similar, must be placed to prevent future accidental construction damage and unnecessary interruption of services.

7.12.2 SPLICED CONNECTIONS

7.12.2.1 Spliced connections between the main line tracer wire and branch connection tracer wire shall only be allowed at watermains tees, crosses or at copper water services or where a water service is replaced with a non-iron or non-copper material. The water service tracer wire shall be a single tracer wire properly spliced to the main line tracer wire.

7.13 PLUMBING AND WELL CONSTRUCTION CODES

7.13.1 The design and location of, and the materials for use in building sewers and on-site systems shall comply with all applicable portions of both the South Dakota State Plumbing Code (ARSD 20:54) and the Well Construction Standard (ARSD 74:02:04).

ARTICLE 8. VARIANCES

8.1 VARIANCE PROCEDURE

8.1.1 The Commission shall hear and decide appeals and requests for variances from the terms of this ordinance. The board shall base its determination on the recommendation of the Planning Board, technical justifications, and has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of this ordinance. All variances must first go through the Planning Board who will either recommend approval or denial to the Commission.

8.1.2 Conditions in granting variances, modifications, and approvals: The Commission may require such conditions as will, in its judgment, secure substantially the objectives or the standards or requirements so varied, modified, or approved. In granting any variance, the Commission may prescribe conditions that it deems necessary to, or desirable for, the public interest. These conditions may include, without being limited to personal, surety, performance, or maintenance bonds, affidavits, covenants, or other legal instruments.

8.1.3 In making its findings as required herein, the Commission shall consider the nature of the proposed use of land and the existing use of land in the vicinity and the probable effect upon living conditions in the vicinity.

8.1.3.1 That the variance is necessary for the preservation and enjoyment of a substantial property right of the petitioner.

8.1.3.2 That there are special circumstances or conditions affecting said property such that the strict application of the provisions of this Ordinance would deprive the applicant of the reasonable use of his/her land.

8.2 APPLICATION REQUIRED

8.2.1 Applications for any such variance shall be submitted in writing by the property owner or developer. The application must state fully and clearly all facts relied upon by the petitioner and shall be supplemented with maps, plans or other additional data which may aid the Planning Board and the Commission in the analysis of the proposed project. The plans for the proposed project shall include such covenants, restrictions other legal provisions necessary to guarantee the full achievement of the proposed plans.

8.2.2 Applications for variance shall be considered by the Planning Board first and then the Commission which will render its decision at the hearing or no later than thirty (30) days after the hearing. All variances must be approved by the Commission to be valid.

8.3 REQUIREMENTS FOR GRANTING VARIANCE

8.3.1 The Commission shall have the authority to give a variance. The individual(s) applying for the variance has the burden of showing:

8.3.1.1 That the granting of the variance will not be contrary to the public interest.

8.3.1.2 That the literal enforcement of the ordinance will result in unnecessary hardship.

8.3.1.3 That by granting the variance contrary to the provisions of the ordinance the spirit of the ordinance will be observed; and

8.3.1.4 That by granting the variance, justice will be done.

ARTICLE 9. PENALTIES FOR VIOLATION

9.1 The provisions of this ordinance shall be administered and enforced by a County Ordinance Enforcement Officer appointed by the Meade County Commission, who shall have the power to make inspections.

9.2 The County Ordinance Enforcement Officer shall have the power to appoint deputies to assist in his duties. Such deputies to be approved by the Meade County Commission.

9.3 The County Ordinance Enforcement Officer, and any deputies appointed, shall have authority to issue an ordinance violation notice (ticket) which shall specify, in addition to other information at the discretion of such officer, the following:

9.3.1 Date of violation

9.3.2 Nature of violation

9.3.3 Amount of penalty or fine associated with the violation

9.3.4 Date the individual is required to appear in court unless the designated fine is paid prior thereto; and

9.3.5 Signature, or noted refusal to sign, of the violator.

9.4 An ordinance violation notice issued under authority of this ordinance shall be enforced as a civil proceeding before a magistrate court.

ARTICLE 10. PENALTY FOR VIOLATION OF THIS ORDINANCE

10.1 Any person that violates any provision of this ordinance may be punished pursuant to SDCL17-18A-2. Each and every day that such violation continues may constitute a separate offense. In addition, any person, firm, or corporation that violates any provision of this ordinance may be subject to civil penalties as set forth in SDCL 34A-2.

ARTICLE 11. SEVERABILITY AND SEPARABILITY

11.1 Should any Article, Section, Sub-section or Provision of the Wastewater Treatment and

Water Systems Ordinance be declared by a court of competent jurisdiction to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of this Ordinance as a whole or any part thereof other than the part so declared to be invalid or unconstitutional.

ARTICLE 12. EFFECTIVE DATE

12.1 Ordinance 33 shall take effect and be in force from and after 20 days from the date of completed publication. Adopted this 24th day of May 2022

Dated at Sturgis, South Dakota, this 24th day of May 2022

Chairman Ted Seaman: _____
Meade County Commissioner

Attested: _____
Helen Hall-Jensen, Meade County Auditor

AUDITOR SEAL Meade County South Dakota

ORDINANCE
First Reading: April 1, 2008
Second Reading: May 7th, 2008
Adopted: May 7th, 2008

2ND REVISION
First Reading: September 23rd, 2015
Second Reading: October 28th, 2015
Adopted: October 28th, 2015
Effective Date: December 8th, 2015

3rd REVISION
Planning Board Public Hearing Date:
First Reading: May 9th, 2018
Second Reading: June 27th, 2018
Adopted: June 27th, 2018
Published: July 11th & July 18th, 2018
Effective Date: August 7th, 2018

6th REVISION
Planning Board Approval Date: March 7th, 2022
First Reading: May 10th, 2022
Second Reading: May 24th, 2022
Adoption: May 24th, 2022
Published: June 8th, 2022 & June 15th, 2022
Effective Date: July 5th, 2022

1ST REVISION
First Reading: August 2nd, 2011
Second Reading: September 6th, 2011
Adopted: September 6th, 2011

4th REVISION
First Reading: April 23rd, 2019
Second Reading: May 28th, 2019
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Published Dates: June 3rd,10th, 2019
Effective Date: July 1st, 2019

5TH REVISION
First Reading: September 14th, 2021
Second Reading:
Adopted:
Published Dates:
Effective Date:

APPENDIX A

NEW OR EXPANDED WATER SYSTEM CHECKLIST

Subdivision Name: _____ Developer: _____

Parent Parcel No: _____ □ Preliminary Plat □ Under Construction

Water System ID: _____ Water System Provider/Owner: _____

Contact Information: Name: _____ Address: _____

Contact Person Phone Number: _____ Certified Operator: _____

- □ Size and material of water main shown. Size: _____ Material: _____
- □ Pipe sizes (watermains) shown. Size: _____
- □ Specify pipe materials and pressure classes shown (Example: C900 CL 150 PVC).
- □ Water system looped where possible. Notes: _____
- □ Gate valves shown (two at each tee, one at end of water main to be extended in the future). Notes: _____
- □ Fire hydrant spacing – 400' in between. □ Storage & Dry Hydrant Tank Size: _____
- □ Show existing fire hydrant locations to proposed development shown.
- □ Water mains shown on road profiles (especially at crossings with other utilities).
- □ In line reaction or thrust blocking shown at designated at termination of water mains, tees, etc. Field Verified □ Yes □ No
- □ Reaction or thrust blocking shown at all changes in direction greater than 11 1/4 degrees. Field Verified □ Yes □ No
- □ Blow-off/flushing valve assemblies or fire hydrants shown at ends of waterlines. Field Verified □ Yes □ No.
- □ Air release valves shown at significant high points.
- □ Install UL approved 14 gage solid copper tracer wire along all PVC pipes. Bring wire up into valve boxes and connect bare wire to valve volts for continuity. Field Verified □ Yes □ No.
- □ Tear tape per Ordinance 33. Field Verified □ Yes □ No
- □ Individual water services and meters shown on plans, with service sizes indicated.
- □ Meter box or curb stop designed or shown. Field Verified □ Yes □ No
- □ SDDANR Approval Letter. Received □ Pending □
- □ Current pressure at all lot lines (tested). Pressure: _____ psi.
- □ Current Water Test submitted. Notes: _____
- □ Storage Capacity per Ordinance 33. Actual Gallons proposed: _____
- □ Well capacity, Permit No. and Name of Aquifer Formation. Pump Test _____ gpm Aquifer Name: _____ State Permit No. _____

_____

Initial Preliminary Plat Information.

Review by: _____ *Date:* _____

Watermain Inspections by: _____ *Dates:* _____

Water Services Inspected by: _____ *Dates:* _____
Water Pressure Test Passed: □ Yes □ No
Water System Functioning Properly available at lot lines: □ Yes □ No
Building permits may be issued: □ Yes □ No SDDANR Certified: □ Yes □ No