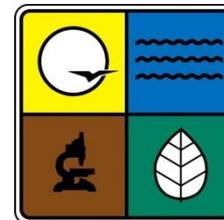


MANURE STORAGE DESIGN REGULATION CHANGES

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MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Purpose of opening rule - House Bill 28

To incorporate changes from legislative decisions on permitting contained in HB 28, effective August 28, 2013:

- Only required for the construction of an earthen storage structure to hold, convey, contain, store or treat industrial or agricultural process wastewater.
- All other construction activities at point sources are exempt.
- A site inspection may be performed by the department, upon receipt of a complete operating permit application or submission of an engineer's statement of work complete.

Conventions used

- Italicized words in brackets are to be deleted
- Bolded words are additions

Primary changes to rule

- References to construction permit requirements removed where no longer applicable
- Consistent references to manure storage structures and earthen manure storage basins used
- Some design requirements modified

(1) Definitions – List expanded

- Design storage period
- Manure storage structure
- Safety volume
- Storage volume
- Total storage capacity
- Treatment volume
- Waste treatment lagoon
- Wastewater
- Wastewater flow

(3) Permit Application Documents

- Specifies documents for submission with construction permit application for earthen basins
- Spells out design calculations needed to justify the size of manure storage structures
- Lists values to needed for permit and DNR's database

(3) Permit Application Documents

- Specifies soils information needed
- Updates name of Missouri Geological Survey
- Outlines what's needed in construction plan drawings

(4) Revisions to Approved Plans

- Section eliminated
- This information appears in the permit

(4) Location

- One minor change

(5) Manure Storage Structure Sizing

- Eliminates evaluation items for using an uncovered, liquid manure storage structure
- Eliminates reference to the Nutrient Management Plan
- Adds that 'Lagoons shall be designed to exclude runoff when possible.'

(7) Construction of Earthen Manure Storage Basins

- Minimum top width changed to 8'
- Top widths for embankments with fill heights >15' will use NRCS' Waste Treatment Lagoon Conservation Practice Standard (359) specifications
- Additional items added to section

(7) Added items

- **(N) Protection of clay liner.** The minimum depth at maximum drawdown shall be two feet.
- **(O) Piping.** The only piping allowed through berms is for irrigation and for connecting pipes between lagoon cells sharing a coincident berm. Irrigation drawdown pipes through the lagoon berm shall be located at a point of minimum fill and preferably on cut slope, and must be valved;
- **(P) Safety.** Consideration should be given for fencing lagoons to exclude trespassers if located in a populated area.
- **(Q) Operation and Maintenance.** An operation and maintenance plan is required addressing all components of an animal waste management system.

(8) Construction of Solid Manure Systems

- Changed references to groundwater tables
- Earthen base shall be a minimum of 2' above the groundwater table & bedrock
- Clarifies the Unified Soil Classification System soil classes for needed for existing consolidated soils and compacted soils.

(9) Temporary Stockpiling of Dry Process Waste

- 'Solid manure' changed to 'dry process waste'
- Defined in 10 CSR 20-6.300(1)(B)11.
- Dry process waste—A process waste mixture which may include manure, litter, or compost (including bedding, compost, **mortality by-products**, or other raw materials which is commingled with manure) and has less than seventy-five percent (75%) moisture content and does not contain any free draining liquids;

- First and final meeting
- Submit comments by May 1, 2014
- Rulemaking schedule
- Other opportunities to comment
- Ag Rules Advisory Group page on the Forum website has been created
- <http://www.dnr.mo.gov/env/Wpp/cwforum/index.html>