GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Land Treatment System Workshop

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Tradeport Training Room
4220 International Parkway
Atlanta, GA

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OVERVIEW

- Timeline & Public Involvement
- Definitions, Background, & Regulations
- Project Goals
- Modifications to the Design Guidelines
  - Maximum Contaminant Levels
  - Industrial Wastewater Considerations
  - Nitrogen Uptake Rates
  - Groundwater Mounding

STAKEHOLDER TIMELINE

Sept 2017 – Feb 2018

- EPD review current documents and make recommendations/revisions as needed

June 2018

- Targeted technical Stakeholder meeting

Aug 2018

- Technical & Permittee Stakeholder Meeting

STAKEHOLDER TIMELINE

Sept 2018

- Review comments

Oct 2018

- Hold for additional technical input/review

Nov 2018

- Finalize document and publish online

DEFINITIONS

"Land treatment system" means any land disposal system in which vegetation on the site is used to removed some of the pollutants applied

"Land Disposal System" means any method of disposing of pollutants in which the pollutants are applied to the surface or beneath the surface of a parcel of land and which results in the pollutants percolating, infiltrating, or being absorbed into the soil and then into the waters of the State.

PROJECT BACKGROUND

- Update design guidelines for Land Application by Drip Irrigation (1996) and Spray Irrigation (2010) in accordance with recent EPA design guidance
- Combine the two documents for consistency and to ease customer utilization
- Address Challenges at Land Treatment Sites
  - Groundwater Quality
  - Mounding
  - Ponding
  - Side Slope Seepage

PROJECT GOALS

- Provide a high level of protection for waters of the State
- Address concerns with failing and/or aged Land Treatment Systems (LTS)
- Increase EPD efficiency and review time by providing clear expectations to the regulated community
- Ensure permits are legally defensible, protective of human health and the environment, and enforceable

REGULATIONS

Rule 391-3-6-.11.

Land Disposal and Permit Requirements

Purpose: To provide for the degree of pollutant treatment required and the uniform procedures and practices to be followed relating to the application for and the issuance or revocation or permits for the discharge of pollutants into land disposal or land treatment systems and then into the waters of the State.

REGULATIONS

Rule 391-3-6-.11. (4)(e)

Degree of Pollutant Treatment Required

The groundwater leaving the land disposal system's boundaries must not exceed maximum contaminant levels for drinking water in accordance with Chapter 391-3-5 and subsequent amendments.

PROPOSED MODIFICATIONS

- Clarified requirements for the evaluation of all constituents subject to drinking water MCLs (Table 2.2-1; Section 4.2.2 & 4.2.3)
- Specified criteria for establishing industrial BOD & TSS design limitations (Section 3.3.3)
- Established maximum recommended nitrogen uptake rates for design (Table 3.8-1)
- Added requirements for Mounding Analysis (Section 3.15)
- Updated drip design example with seasonal calculations (Section 5.5)

MAXIMUM CONTAMINANT LEVELS

New/expanding facilities:

- All pollutants subject to a drinking water MCL must be considered in the design phase

All facilities:

- May be required to analyze effluent and/or groundwater for any pollutants subject to MCL at permit reissuance

INDUSTRIAL CONSIDERATIONS

Section 3.3.3:

Industrial permits may have a BOD and/or TSS limit established after evaluating the following:

- Influent concentration and loading
- Percent reduction economically feasible to protect aerobic bacteria in the soil, human health, and the control of odors
- Geographic location of the treatment system and spray fields
- Compliance history
- Additional reasonable criteria when deemed necessary

DESIGN NITROGEN UPTAKE RATES

Cover Crop	Annual Nitrogen Uptake (lbs/acre/yr)
Coastal Bermuda Grass	350
Ryegrass	150
Tall Fescue	200
Pine with no Understory	200
Pine with Understory	250

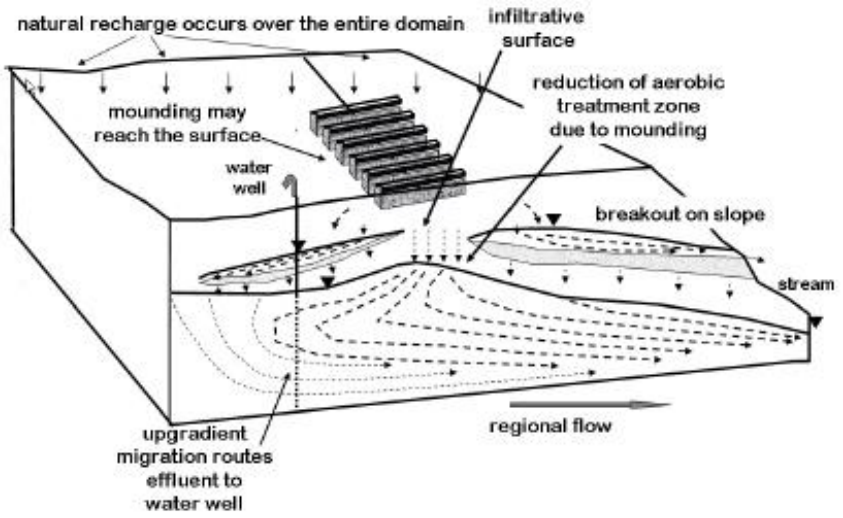
If a higher uptake rate is recommended in design, laboratory analysis should be provided to justify the site specific value.

EXCESSIVE GROUNDWATER MOUNDING

Excessive groundwater mounding could compromise the effectiveness of land treatment systems, create ponding/pooling, and cause groundwater breakout

DESIGN CRITERIA:

- Seasonal high water table must be greater than 5 feet from the surface
- Maintain at all time 3 feet separation between the surface and mounded water table
- All New/Expanding Facilities must submit screening (refer to Colorado School of Mine's Guidance Document) with Site Selection, then additional analysis will be required as necessary

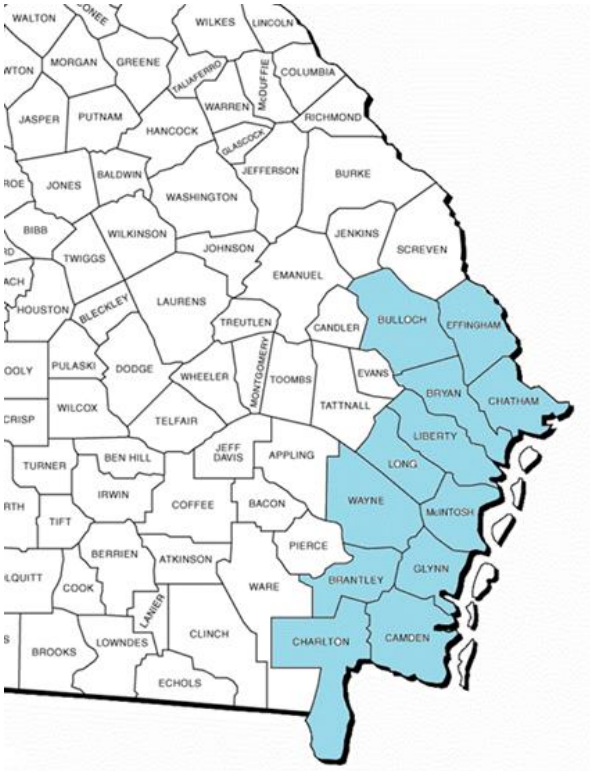


SEASONAL HIGH WATER TABLE

Section 3.15:

Projects in counties with a seasonally high water table will require extensive investigations to demonstrate site suitability.

Recommended Tool:
USGS Scientific Investigation Report 2010-5102: Mounding calculation spreadsheets based on the Hantush analytical model



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