

# LDEQ Proposed Revised Leachate Regulations

## Industrial and Municipal Landfills



# Intro



# Objectives

- Identify new regulations that are in the process of promulgation
- Understand why we have leachate pumps in landfills
- Identify leachate compliance levels
- Know what will be expected for maintenance and monitoring of leachate collection system
- Know where we are in the rule process

# Background

- From 2019 through 2021, LDEQ conducted leachate management focused multimedia inspections at all municipal solid waste landfills. As a result of the inspections, certain ambiguities and inconsistencies were noted in the current leachate regulations. These issues lead to the development of these proposed regulation changes.
- The goal: Revise the leachate regulations to:
  - Add a defined timeline to repair and/or address leachate equipment break downs or excessive leachate head levels.
  - Resolve inconsistencies and ambiguity in the current solid waste leachate regulations.
- LDEQ, in cooperation with members of the regulated community, had multiple stakeholder meetings. The proposed regulations are the result those meetings

# Proposed Changes Overview

- The proposed changes target Type I and Type II non-hazardous solid waste landfill leachate collection systems.
- The changes require:
  - Additional inspections of the leachate system
  - Repair and replacement of broken components in a timely manner
  - Documented leachate head measuring protocol and records demonstrating less than 12-inches of leachate above the liner.
  - Actions to be taken when leachate head levels exceed 12-inches

# Regulation Changes: Leachate Control, Collection, Treatment and Removal Systems

LAC 33:VII.711.B.4.f.viii - ...down condition such that not more than 1 foot of head shall exist above the lowest elevation of the leachate collection lines. **Compliance with the 1 foot of leachate head shall be achieved by compliance with the provisions of the Facility Operational plan that address 711.D.2.g, h, and i, and compliance with 711.D.3.e. and f.**

- 711.B.4.f.viii reinforces the compliance standard of maintaining less than 1-foot of leachate head and adds the expanded facility operating plan and requirements included as part of this regulation package.

# Regulation Changes: Recordkeeping

LAC 33:VII.711.C.2.c - Records kept on site for all facilities shall include, but not be limited to:

- xii. records on the leachate head, volumes, and results of the leachate sampling;
- xviii. records on leachate pump test;
- xix. records of actions taken under 711.d.2.i.

- The revised regulations now require the facility to record the head height in addition to volumes and sampling results.
- The added regulations require maintaining records on leachate pump tests, maintenance and repair of the leachate system, and action taken when head levels exceed 1-foot.

# Regulation Changes: Facility Operational Plan

LAC 33:VII.711.D.2.h - the measuring protocol and the record keeping to be used to demonstrate leachate head meets the standards of LAC 33:VII.711.B.4.f.viii, and the frequency with which the depth of leachate within the collection system will be checked, as well as how the leachate will be removed and transported to the treatment facility;

- The revised regulation adds an operational plan record keeping requirement which includes the measuring protocol used to determine leachate head levels



# Regulation Changes: Facility Operational Plan

LAC 33:VII.711.D.2.g - the methods that will be used to ensure that the leachate collection/treatment system is functioning as designed, **including but not limited to the testing and inspection of system components, and the repair and/or replacement of system components that are not functioning and the timeframes for such repair and/or replacement;**

- The revised regulation requires more detail in the facility operational plan regarding information and methods for maintaining the leachate collection and treatment system.

# Regulation Changes: Operational Plan

LAC 33:VII.711.D.2.i - the actions to be taken when monitoring indicates leachate head levels exceed the standard in 33:VII.711.B.4.f.viii.

- 711.D.2.i is a new requirement for the operational plan.
- The new regulation, once promulgated, will require the permittee to detail all actions the facility will take once leachate head levels exceed 12-inches.

# Regulation Changes: Facility Operational Standards

- LAC 33:VII.711.D.3.e and f are new requirements that focus on leachate pumps and leachate monitoring levels
- The proposed regulations detail
  - Pump testing, repair and replacement timelines
  - Minimum leachate level monitoring schedule and plans to be taken if leachate head levels are exceeded.

# Regulation Changes: Facility Operational Standards

## LAC 33:VII.711.D.3.e - Leachate Pumps

- i. Leachate pumps shall be tested at least weekly, maintained, and operated to ensure compliance with LAC 33:VII.711.B.4.f.viii.
- ii. Testing results shall be documented within 24 hours and maintained in accordance with LAC 33:VII.711.C.2.a-c.
- iii. For leachate pumps not functioning and/or not maintaining liquid head below the 1 foot leachate head standard set forth in LAC 33:VII.711.B.4.f.viii, action to repair and/or to replace pumps shall be initiated and completed within seven days or as otherwise approved by the administrative authority. Any request for an extension shall be submitted for approval to the Office of Environmental Services and shall include, at a minimum, the following:
  - (a). reason(s) for the extension; and
  - (b). estimated time for repair or replacement, including supporting documentation.

- 721.D.3.e is a new requirement for the operational plan.
- Once promulgated, the operational plan will have to detail all actions the facility will take once leachate head levels exceed 12-inches.

# Regulation Changes: Facility Operational Standards

## LAC 33:VII.711.D.3.f - Leachate Level Monitoring

- i. Leachate levels shall be monitored and recorded in accordance with the Facility Operational Plan at least every normal operating day or as otherwise approved by the administrative authority for cells without final cover and at least every 7 days for cells that have received final cover.
- ii. If monitoring of leachate levels shows an exceedance of more than 1 foot of head above the lowest elevation of the leachate collection lines under the Facility Operational Plan, action shall be taken in accordance with 711.D.2.i.

- 721.D.3.f is a new addition to the facility operational standards.
- The regulation requires facilities to monitor and record leachate levels during normal operating days for active areas and once every seven days where final cover has been placed.
- Any time leachate levels exceed 1-foot; the facility must follow their operational plan on how it will be addressed.

# Why Do We Care?

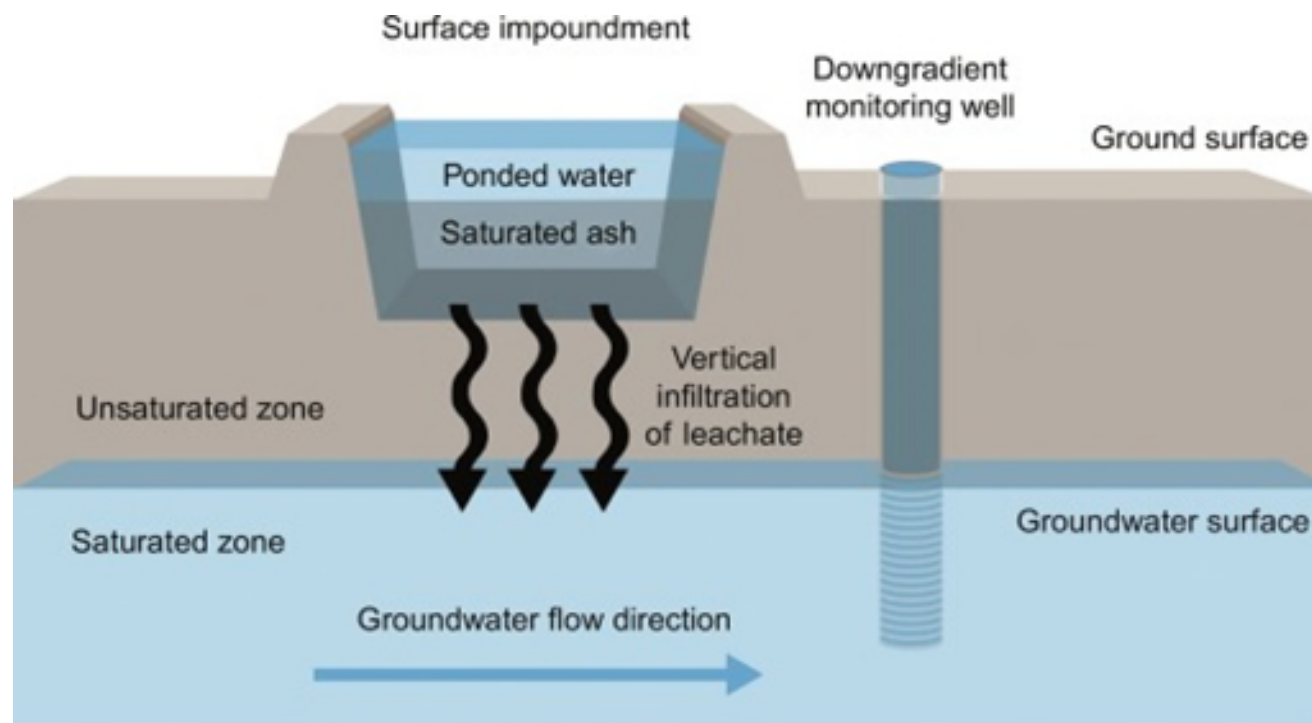


# Why Do We Care?

- Standard Liner
  - ▶ 3 feet of re-compacted clay having a hydraulic conductivity no greater than  $1 \times 10^{-7}$  cm/s.
  - ▶ High-density Polyethylene (HDPE) 60-mil liner.
- Darcy's Law
  - Equation that describes the flow of a fluid through a porous medium
  - The more leachate head the higher the flow through a liner
- Regulations and Standards are for our benefit.

# Why do we care?

- Geology
  - Detection
  - Assessment
  - Corrective Action
    - Natural Attenuation
    - Pump and Treat
    - Injection
    - Phyto-Remediation



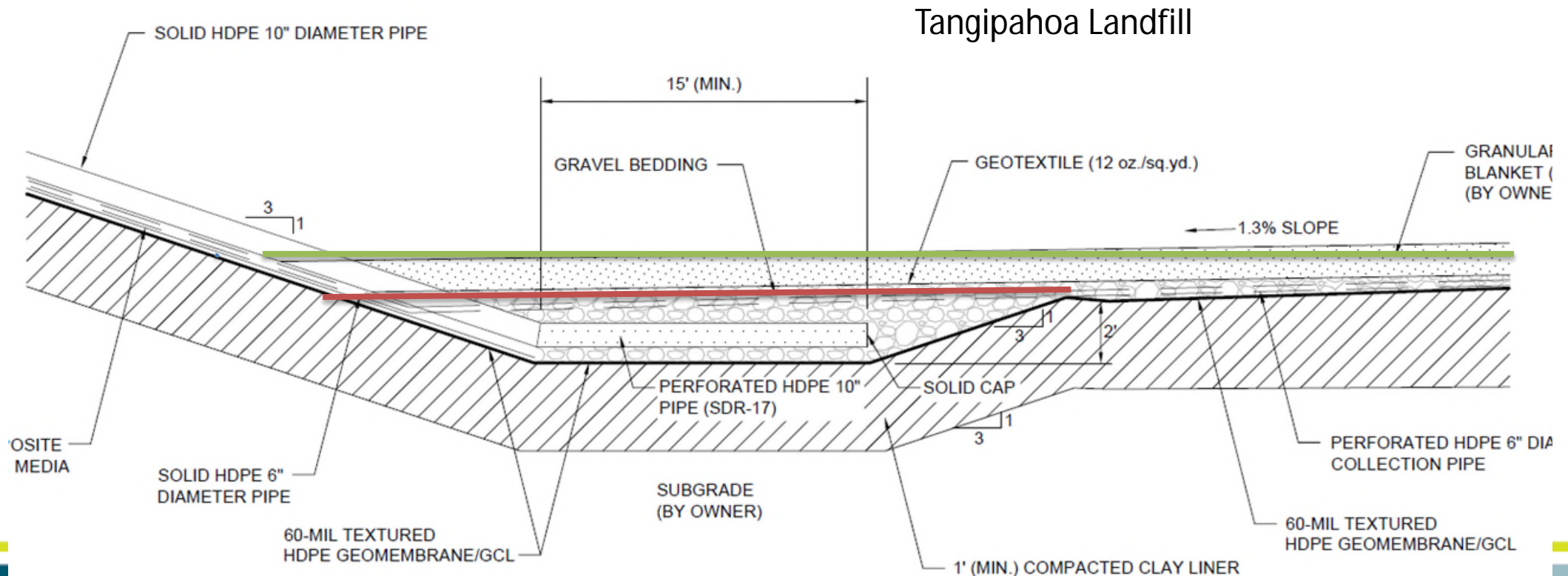


# Operations and Inspections

- How is the Leachate levels measured?
- What is the measuring system?
- Is facility measure leachate?
- May I review the Leachate Level logs?



# Control Panels May measure More than 1ft and still be in compliance





# Implementation

- Permit Modification
  - You may want to have in your permit time to fix a leachate pump.
- Permit Renewal
  - You will be required to include all provisions of the regulations.
- Enforcement?



# LDEQ Inspectors

- Inspectors are trained to inspect leachate collection systems.
- Review records.
- They will document and refer non-compliant leachate collection systems.



# What Will Be Expected of Operators?

- Have a leachate pump/maintenance program that is working and obvious.
  - Know what to do if you can't fix a system in a timely manner
- Understanding of your leachate pumps.
  - How to operate your pumps.
  - How to measure head levels.
- Maintain detailed records on levels and pumps.

# Original Proposed Time Line

- April 20, 2023 - Rule language, Notice of Intent, Fiscal Economic Impact Statement submitted to Legislative Fiscal Office
- May 10, 2023 – Proposed rule package submitted to Louisiana Register
- May 20, 2023 – Notice of Intent published in Louisiana Register
- June 27, 2023 – Public hearing
- July 4, 2023 – Comment period ends
- July 9, 2023 – Summary Report submitted to Legislative Oversight Committee\*\*\* **NO COMMENTS RECEIVED**
- August 10, 2023 – Final rule package submitted to Louisiana Register
- August 20, 2023 – Final rule published in Louisiana Register



# Public Comments

- The proposal to test leachate pumps at weekly intervals should be clarified regarding what would be included in the testing procedure.
  - There are many different types and manufactures of leachate pumps, therefore the Department cannot specify how a pump can be tested.
  - Generally the flow should be verified and the pump is operational, and doesn't need any attention to be operated, such as resetting the pump daily.
- Weekly testing takes up time that can cost money.
  - Current regulations require the leachate head be maintained and that can only be maintained in a state like Louisiana with a functioning pump system.

# Public Comments

- Differentiation between landfills in post closure for pump testing
- The seven-day repair requirement may not be feasible.
  - The department will be flexible with repairs that are completed in a timely manner and allows for longer period of repair/replace if there is supporting data.
  - Department should consider having a email for leachate pumps.
- The required monitoring of the leachate-head every seven days may not be necessary at every facility with final cover in certain situations.
  - Agree and leachate pumping can be discontinued if leachate is no longer produced. Any special cases that need longer there is an exemption process.



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# Questions?

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