



PROGRAM:	Environmental Agriculture Program
EFFECTIVE REGULATION(s):	<i>Water Quality Control Commission Regulation 5 CCR 1002-61</i> January 30, 2015 <i>Water Quality Control Commission Regulation 5 CCR 1002-81</i> January November 30, 2013
GUIDANCE No.:	EAP-1501
DATE:	October 2015
SUBJECT:	Concentrated Animal Feeding Operations Impoundment Management Guidance

Purpose

To clarify the State of Colorado’s expectations for maintaining CAFO impoundments in compliance with state Regulations No. 61 and 81.

Introduction

The Colorado Department of Public Health and Environment’s Environmental Agriculture Program (Ag Program) developed this guidance document to clarify regulatory interpretation and address compliance questions related to the proper level of liquids/wastewater in impoundments at concentrated animal feeding operations (CAFOs). This document is guidance only and should be used together with the regulatory and permitting requirements included in:

- Colorado Water Quality Control Commission Discharge Permit System Regulation, 5 CCR 1002-61 (Regulation No. 61);
- CAFO Discharge Permit System - General Permit for Concentrated Animal Feeding Operations; and,
- Colorado Water Quality Control Commission Animal Feeding Operations Control Regulation, 5 CCR 1002-81, (Regulation No. 81).

Background

Regulation No. 61 and the CAFO General Permit COA932000 require that permitted CAFOs have storage (i.e. tanks or impoundments) capable of storing, at minimum, the volume of all liquid manure and process wastewater, including the runoff resulting from a 25-year, 24-hour storm, or the runoff volume resulting from a Chronic storm, whichever is larger. A similar requirement is found in Regulation No. 81 for non-permitted CAFOs.

Depth markers must be installed in all impoundments that are designed to contain the design storm. Depth markers must be clearly marked, at a minimum, in one-foot increments and must clearly distinguish the level at which draw-down pumping (“pump-down”) should begin and the two-foot (or other approved) freeboard level.



Permit and Regulatory Expectations

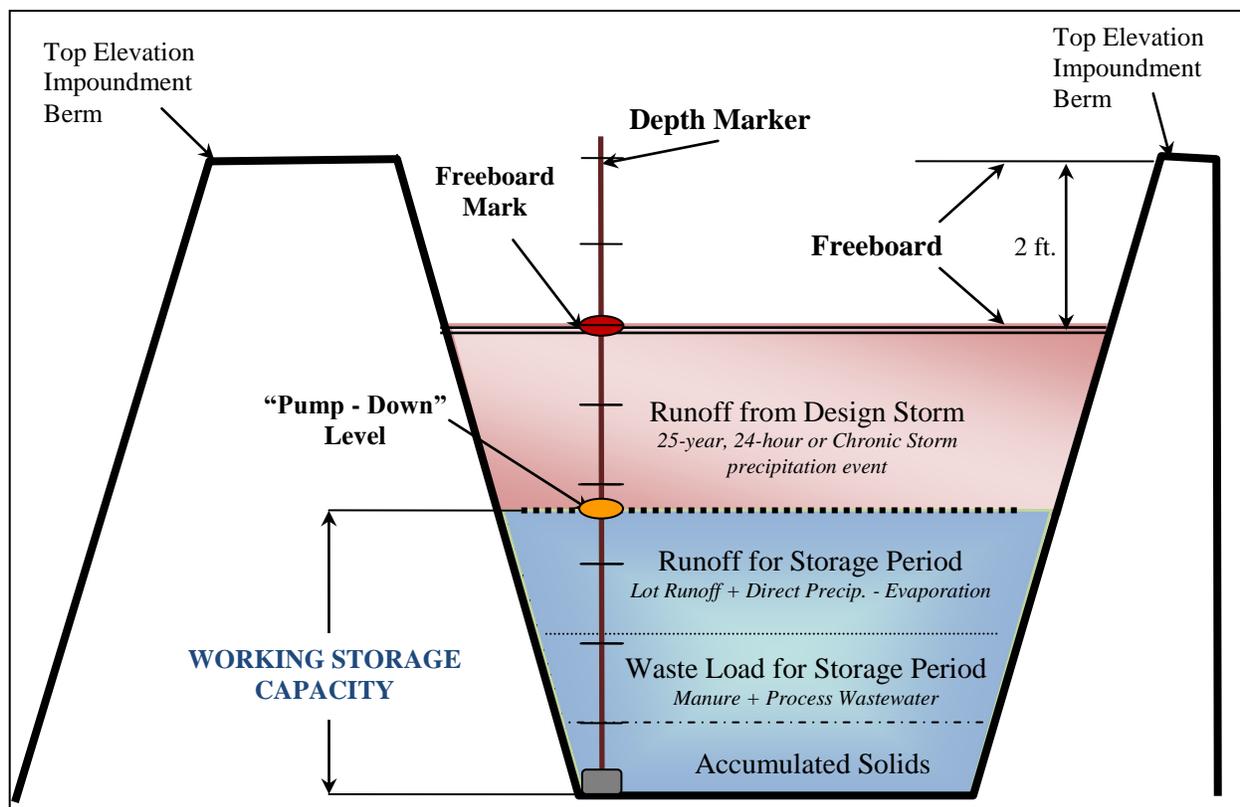
Regardless of the design of an impoundment or the location of the impoundment's spillway(s), the liquid level of impoundments must be drawn down, or otherwise maintained at appropriate operating levels. Depending on the design and construction of an impoundment, diligent and routine management may be required to ensure regulatory compliance and to avoid prohibited discharges. During normal operation, both the freeboard mark and "pump-down" mark must be visible at all times. If impoundments remain above the "pump-down" level, a CAFO loses the ability to contain the design storm and may be out of compliance with permitting and regulatory requirements, making them subject to enforcement action. Enforcement discretion will be exercised during the period after a storm event when land application of wastewater is not possible due to frozen, saturated or snow-covered ground, or when runoff could occur as a result of wastewater application. **Always ensure proper records are being maintained, documenting wastewater levels in the impoundments before, during, and after a precipitation event, as well as site conditions of the land application area.** These records are typically the only documentation the Ag Program can use to determine regulatory compliance.

Based on the various designs for impoundments, the following sections provide guidance on how a CAFO can meet regulatory compliance throughout the year.

Impoundments Without Spillways

Impoundments without spillways must be operated so that the impoundment can contain the runoff from the design storm (i.e., 25-year, 24-hour or Chronic storm) at all times. This will also ensure that two feet of freeboard (or other approved freeboard) is maintained above the design storm level at all times (see Figure 1).

FIGURE 1: Impoundment Management (no spillway)

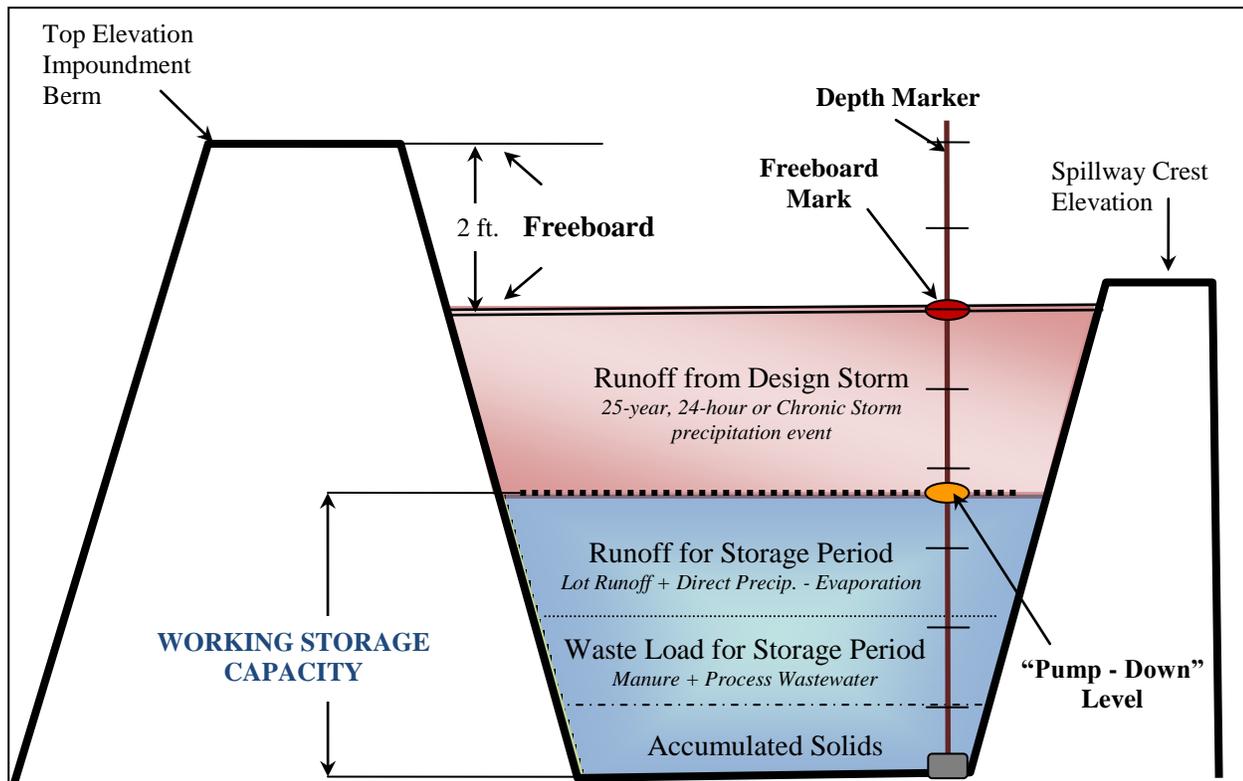


The liquid level in impoundments designed at grade or without a spillway must be maintained within the working storage capacity, except during or immediately after a storm event. Liquid levels that are above the working storage level (i.e., above the “pump-down” level) at any time other than during or immediately after a storm event may be subject to enforcement.

Impoundments With Spillways

The Colorado Department of Public Health and Environment has historically approved various impoundment freeboard designs and spillway placements. Regardless of freeboard and spillway design, impoundments must be operated so that the impoundment can contain the runoff from the design storm (i.e., 25-year, 24-hour or Chronic storm) at all times (see Figure 2).

FIGURE 2: Impoundment Management (with spillway)



For impoundments with spillways, the spillway crest elevation may vary from slightly above the freeboard mark to just below the top of the impoundment berm, depending on the pond design. Based on this design, the liquid level in these impoundments must remain within the working storage capacity of the impoundment. Liquid levels that are above the working storage capacity (“pump-down” level) except during or immediately after a storm event may be subject to enforcement.

For questions related to this guidance or concerns regarding storage capacity in your impoundments, please contact the Environmental Agriculture Program at 303-692-3520.