



<b>PROGRAM:</b>	Environmental Agriculture Program
<b>EFFECTIVE REGULATION(s):</b>	<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> November 30, 2013
<b>GUIDANCE No.:</b>	EAP-1503
<b>DATE:</b>	December 2015
<b>SUBJECT:</b>	<b>Concentrated Animal Feeding Operations</b> <b>Hay Storage Siting Index Guidance</b>

**Purpose**

To clarify the expectations of the State of Colorado with regards to managing hay bale storage areas as part of a CAFO’s daily operation and maintenance activities.

**Summary**

Hay production and the storage of hay bales is a standard practice for Colorado’s agricultural sector with the storage of hay bales in fields or near barns or other agricultural areas being a common management practice. Unless there is evidence of an environmental concern, such as runoff from storage areas discharging directly to waters of the state or to waters of the U.S., or close proximity to waters of the U.S. where runoff can comingle with wastewater from the production area, regulation of runoff from hay bale storage areas would be disruptive and costly to Colorado’s Concentrated Animal Feeding Operations (CAFOs).

According to the 2008 federal CAFO rule, water that comes into contact with any raw material, products or byproducts, including manure, litter, feed, milk, eggs or bedding, is defined as process wastewater [40 CFR 412.2(d)]. Although not clearly defined as a “raw material”, hay bales stored in the production area of a CAFO as feed or bedding can potentially be considered a raw material. As a raw material, water that comes into contact with such hay bales can be considered process wastewater.

The EPA however, has not provided states with sufficient evidence to demonstrate that there is an environmental harm, or a quantifiable loss of nutrients to precipitation that comes into contact and runs off stored hay bales. Colorado finds no guidance or regulatory language in the federal rule, the preamble, or other implementation guidance that specifically addresses the generation of pollution from precipitation coming into contact with hay bales. Furthermore, the use of hay and straw for purposes other than as livestock feed or bedding, such as a best management practice (BMP) at construction sites for control of storm water runoff and erosion control purposes, is not considered a source of pollution, and thereby not regulated under the Clean Water Act.

Lacking sufficient clarity of environmental harm or pollution from the runoff of stormwater from hay bales at CAFOs, the state of Colorado will address hay storage areas during permitting and inspection activities based on the CAFO Hay Storage Siting Index set forth in this document. In addition, Colorado’s producers can utilize this guidance to store and manage hay bales as required by Colorado’s CAFO regulations.



## Introduction

The Colorado CAFO Hay Storage Siting Index is based on a number of suggested management practices for hay bale storage areas either within or outside of the CAFO's production area. The practices included in the table are intended as stand-alone guidance for siting purposes, and may not align with interpretations of runoff from hay storage per the federal CAFO rule, particularly at the federal level (e.g. during EPA inspections). The federal rule remains unchanged and the state's CAFO regulation must be as stringent as the federal requirements. For example, hay stored in any method listed under the "Wastewater" column in the Hay Storage Siting Index will require a CAFO to meet effluent limitations specified in Colorado Water Quality Control Commission Regulations No. 61 or 81. Therefore, this guidance does not substitute for applicable regulatory requirements or result in an absolute presumption by the state that all runoff from hay storage areas is considered to be stormwater runoff.

Lacking quantifiable evidence of the environmental harm or pollution generated from precipitation coming into contact with stored hay bales in either the federal or state rules, the state of Colorado will address hay bale storage areas during permitting and inspection activities based on the CAFO Hay Storage Siting Index set forth in this guidance document.

## Background

Depending on the location (within or outside of the CAFOs production area) and management practices, runoff from a hay bale storage area will be considered one of the following:

- Stormwater
  - Runoff from hay bale storage areas in this category would be considered stormwater and not subject to effluent limitations in Regulations No. 61 and 81. In addition, the practices included in this category provide the greatest degree of protection from environmental harm by significantly minimizing or completely eliminating runoff from hay bales stored either within or outside of the production area. In addition, should a Colorado CAFO adopt any one of the siting methods included under the "Stormwater" column, the state will deem the area as being managed in compliance with the requirements of Regulations No. 61 and 81.
- Wastewater
  - Siting hay bale storage in areas identified in this category is considered to be wastewater and subject to the applicable requirements of Regulations No. 61 and 81.

Please refer to the Colorado CAFO Hay Storage Siting Index provided in the table below for applicable management practices and to determine if the runoff from a hay storage area would be categorized as stormwater or wastewater.

**COLORADO CAFO HAY STORAGE**  
**SITING INDEX**

Hay Storage Area	Stormwater (NOT subject to Regulations No. 61 or 81)	Wastewater (Subject to Regulations No. 61 or 81)
<b><u>WITHIN THE PRODUCTION AREA</u></b>	Hay storage area is graded to clearly drain away from the production area and in such a way as to not runoff and directly enter surface water. At a minimum, hay storage areas should be located 100 feet or more from any down-gradient surface water, open tile line intake structures, sinkholes, agricultural well heads or other conduits to surface water.	Hay storage area is located in an area where runoff flows into or through the production area.
	Hay storage area is located on a grassy area that will not drain directly to waters of the state or to waters of the U.S. At a minimum, hay storage areas should be located 100 feet or more from any down-gradient surface water, open tile line intake structures, sinkholes, agricultural well heads or other conduits to surface water.	Hay storage area is located on bare ground that lacks vegetation or sustains minimal vegetation such that runoff will comingle with other sources of wastewater.
	Hay storage area is completely bermed around the stack. A drainage outlet oriented away from the production area or from a direct conduit to surface water is acceptable.	Hay storage area is not bermed or otherwise sufficiently graded to divert runoff from pens or other sources of wastewater runoff in the production area.
	Hay storage area is located on gravel or an elevated pad that will drain or eliminate runoff from the production area, or is not otherwise a direct conduit to surface water.	Hay storage is located in the feed processing area or with other wet feed or commodities.
	Hay is located within the production area or closer than 100 feet from surface water but is adequately bermed to contain or prevent runoff.	
	Hay is stored in a shed or pole barn structure that keeps precipitation off the stored hay.	



**COLORADO CAFO HAY STORAGE**  
**SITING INDEX GUIDANCE**

Hay Storage Area	Stormwater (NOT subject to Regulations No. 61 or 81)	Wastewater (Subject to Regulations No. 61 or 81)
<p><b><u>WITHIN THE PRODUCTION AREA (Cont.)</u></b></p>	<p>Hay is tarped, wrapped in plastic or other protective covering, such as a bale sleeve or plastic wrap that is on the ground.</p>	
	<p>Runoff is managed in such a way as to not comingle with other sources of wastewater.</p>	
	<p>Hay or other baled crop residue, such as corn stalks, is being used as a wind barrier or snow fence.</p>	
<p><b><u>OUTSIDE THE PRODUCTION AREA</u></b></p>	<p>Hay storage area is located on grassy or vegetative areas that will not drain directly to waters of the state.</p>	<p>Hay storage area is located on a poorly vegetated or sustained vegetative area that can drain into the production area and comingle with manure or other open-lot wastewater.</p>
		<p>Hay storage area is located near pens or other areas that are graded in such a manner that runoff can comingle with manure or other wastewater.</p>
		<p>Hay storage area is located within close proximity to a creek, stream or other tributary to waters of the U.S. At a minimum, the hay storage area is located closer than 100 feet from surface water that is considered waters of the U.S., unless the area is bermed or another BMP is implemented.</p>

For questions related to this guidance or concerns regarding the regulatory implications of hay storage sites, please contact the Environmental Agriculture Program at 303-692-3520.