



Colorado Department
of Public Health
and Environment

Standard Operating Procedure Form

For Impoundment Cleaning and Liner Protection

Section 81.8(3) of Regulation 81 (Animal Feeding Operations Control Regulation 5 CCR 1002-81) requires that all Concentrated Animal Feeding Operations (CAFOs) submit a Standard Operating Procedure (SOP) for removal of manure from impoundments. Removal of manure must be accomplished in a manner that does not damage the integrity of the liner. The approved SOP must be followed whenever manure, including sludge, is removed from the facility's impoundments (including settling basins).

Name of Facility _____
 Address _____
 Contact Person _____
 Phone Number _____

Fill-in the table below with the impoundment identification; an estimate of the length, width and depth; procedure used to clean the impoundment; and the measure(s) taken to protect the impoundment liner. Select all that apply from list 1 and list 2 for liner protection methods that best match your operation and fill-in the chart with the corresponding number from list 1 and 2. Use number 12 for "other" and explain.

Impoundment ID or Description	Type of Liner	Estimate length, width, depth	Removal Method(s) (from list 1)	Liner Protection Method(s) (from list 2)	Cleaning Frequency

List 1 – Removal Methods

- 1) Cleaning not needed (justify below in item 11)
- 2) Backhoe/Excavator/Loader (circle one)
- 3) Biological Treatment
- 4) Dredging/Bucket or Suction (circle one)
- 5) Pump w/ agitation, w/out agitation (circle one) *

List 2 – Liner Protection Methods

- 6) Remove teeth from bucket or implement
- 7) Add protective lip to bucket or implement
- 8) Continual visual inspection used during pumping or agitation
- 9) Use a liner that will not erode during cleaning
- 10) Partial cleaning (explain in item 11, e.g. will remove 50% or to a depth not more than 6 inches above the liner)
- 11) Other (explain) _____

* If the facility chooses pumping (list 1, item 5) as an option for manure removal, the pipe inlet must be placed at a minimum of six inches above the impoundment liner. Information from the site map or survey will provide the operator with the impoundment depth and the operator can then measure the length of the pipe and place the inlet appropriately.

Initial_____

Please initial below for how the top of the liner will be identified prior to a manure/sludge removal event to ensure liner integrity is protected.

The facility will identify the top of the liner by surveying or measuring the total depth of the impoundment. A copy of the survey or site map with the measurements for each impoundment(s) will be kept with the SOP.

Initial_____

Or

A staff gauge is installed in the impoundment(s) that indicates the top of the lagoon liner.

Initial_____

Please initial each item below.

If the facility revises its SOP, the amended SOP will be submitted to the Ag Program for approval within 30 days of a change having been made. For example, a new impoundment or different liner having been constructed would require a revision of the SOP.

Initial_____

After cleaning each impoundment the operator will conduct a visual inspection, certify that this approved SOP was followed and notify the Ag Program within 30 days of the removal event if this SOP is not followed. The facility must make all certifications available on-site and submit them to the Ag Program upon request.

Initial_____

For concrete-lined impoundments, a certification for each removal event is not required where the operator implements the below protocol:

- 1) Drain and clean the impoundment every five years and use best professional judgment to determine whether the liner integrity is damaged such that the impoundment is no longer capable of having a maximum seepage rate of 1×10^{-6} cm/sec.
- 2) Within five days of this liner inspection, certify that the impoundment remains capable of having a maximum seepage rate of 1×10^{-6} cm/sec. The certification shall include photographs supporting the determination.
- 3) If the impoundment is no longer capable of having a maximum seepage rate of 1×10^{-6} cm/sec, the operator shall:
 - a. Repair the impoundment within 30 days of the liner inspection to ensure that the impoundment maintains a maximum seepage rate of 1×10^{-6} cm/sec.

- b. Within 14 days of the impoundment having been repaired, submit to the Ag Program evidence of the repair having been properly completed. The evidence shall consist either of photographs with accompanying written documentation or other evidence as approved by the Ag Program.

If the facility would like to use this protocol for concrete-lined impoundments, please initial below.

Initial_____

Owner/Operator signature Date Print Name

UPON APPROVAL BY THE AG PROGRAM, THIS SOP WILL BE SIGNED BY THE AG PROGRAM AND RETURNED TO THE FACILITY. THE APPROVED SOP MUST BE AVAILABLE ON-SITE AND SUBMITTED TO THE AG PROGRAM UPON REQUEST.

AG PROGRAM SOP CERTIFICATION APPROVAL DATE
SIGNATURE

Manure/Sludge Removal Certification
(complete for each applicable removal event)

Date of Removal: _____

Manure/sludge removed from which impoundment(s): _____

Was the Standard Operating Procedure followed for this manure/sludge removal event?

Yes

No, Ag Program must be notified within 30 days of the date of manure/sludge removal that the SOP was not followed.

Operator Signature: _____ Date: _____