## Waste Impoundment Closure Closure - Waste Impoundments

## Definition/Purpose

A <u>Closure</u> of Waste Impoundments <u>Practice Closure</u> means the safe removal of existing waste and waste water and the <u>application</u> of this waste on <u>landutilization</u> in an environmentally safe manner. This practice is only applicable to <u>animal</u> waste storage ponds and lagoons. (<u>DIP</u>)

## Policies

1. The Commission agrees that both technical and financial assistance from the District may be appropriate to ensure water quality protection in situations where farmers are going out of business or where a landowner who was not an operator has an abandoned waste impoundment on his/her property.

Therefore, the District may enter into a contract to offer Cost Share Program financial assistance for a waste impoundment closure. Applicants must follow these guidelines:

- a. The District must verify the system is not under active maintenance requirements for an ACSP contract.
- b. The District demonstrates clearly in the contract provided to the Division that the waste impoundment is in a condition that is creating a water quality problem or presents a potential water quality problem if not corrected.
- c. Each contract must contain the following information and must be received by the Division prior to approval:
  - i. <u>Waste impoundment closure planLength of time system has been</u> abandoned.
  - ii. <u>Phosphorus Loss Assessment Tool (PLAT) results for each application</u> <u>field.</u>Indication of status with the Department of Environmental Quality (i.e. has farm received a Notice of Violation.)
  - iii. Cooperator acknowledgement form.Name of watershed in which system is located.
  - iii.iv. Sludge Impacts to Land Acknowledgement Form for each leased application field
  - iv.v. Division waste impoundment closure plan approval letter.Name of receiving waters (stream, river).
  - v.vi. Waste impoundment specification question form. Volume of system based on length, width, depth of liquid/sludge and slopes.

- vii. A profile of the dam and how it is to be breached, if applicable
- viii. A design of the spillway(s) and installation guidelines, if converting to a freshwater pond.
- ix. Division engineering approval letter for freshwater pond conversions.
- vi.x. Two estimates from established contractors, using entire volume of system as determined by the District and as included in the waste impoundment closure plan. In situations where pumping is impractical because of consistency of sludge (i.e. solid), sludge <u>mayshould</u> be excavated. Estimates should include information regarding how waste is to be removed (i.e. drag line, agitate and pump, etc.)
- vii. Surface area (acres) of the lagoon.
- viii. A profile of the dam and how it is to be breached, if applicable.
- ix.xi. A statement signed by the applicant/landowner that he/she will not reimplement the system and that no confined animal operation will be restarted on that farm. The completion of **NC-ACSP-1C** (07/02) meets this requirement. To close waste impoundments on active confined animal operations utilize the Retrofit of On-Going Animal Operations <u>BMP</u>.

## <u>x-xii.</u> A statement, signed by the technician, certifying that the operation has an approved waste management plan is required for all contracts.

- 2. For all waste impoundment closures:
  - a. Phosphorus Loss Assessment Tool (PLAT) shall be used to assess phosphorous application rates for all planned fields according to NC NRCS Conservation Practice Standard No. 590 "Nutrient Management", April 2024 or any subsequent amendment as described in the CPS – 360 Waste Facility Closure standard.
  - b. —This practice shall not be used to apply waste at a rate exceeding the following maximums:
    - i. For sites with a phosphorus loss potential (per PLAT) of low or medium, waste shall be applied in accordance with a nitrogen-based waste application plan.
    - ii. For sites with a phosphorus loss potential (per PLAT) of HIGH, waste shall be applied accordance to the phosphorus removal rate of the receiving crop.
    - iii. No application of waste is allowed for sites with a phosphorus loss potential (per PLAT) of VERY HIGH.
    - iv. Planning shall project the impact of the waste application to heavy metal critical levels based on soil index. Alternative application sites should be selected if projections indicate that metals may approach excessive levels.
    - v. In addition, the application shall not exceed the rate specified per acre in the plan nor the total nitrogen requirement of the receiving crop specified in the plan. If additional nitrogen is needed, consideration must be given to limit additional phosphorus application.

- c. The District or a Technical Specialist shall prepare the waste impoundment closure plan in accordance with the current standards promulgated by the United States Department of Agriculture, Natural Resource Conservation Service and the State of North Carolina, using the latest version of NC Nutrient Management Planning Software program. The plan must address removal of transfer pipes and installation of a spillway, if needed. The planned waste application may not cause excessive zinc or copper soil levels and shall occur within nor exceed the animal waste application window based on SB1217 guidance documents. crops' timely nitrogen uptake.
- d. The plan shall be written according to the closure methodologies agreed upon by the producer and contractor (i.e. agitate and combine all liquid and sludge, pump to water off then agitate, dredge sludge, etc.). If it is determined that a different methodology will be used after development of the plan, the plan shall be revised and approved by the division prior to land application of waste. The revised plan approval must be included in the project file.
- e. All land application setbacks according to 15A NCAC 02T .1304 and SB1217 guidance document shall be observed in the development of the waste application plan and adhered to during land application of waste.
- d.f. A pre-construction conference including the district technical representative, nutrient management plan developer, contractor and landowner shall be held prior to commencement of closure.
- e.g. Cost Share Program funds will be used for the removal of waste and stabilization of site only (not for fill materials). Removal of foreign materials will be at the landowner's expense and must be removed according to state and federal guidelines.
- f.h. Breaching of any diked or dammed structures is optional; howeverhowever, all disturbed areas will be vegetated to permanent grass, trees, or wildlife plantings according to NRCS 342 Critical Area Planting Standard. NCACSP policies and NRCS Standards will apply to all vegetated areas.
- g.i. Districts may write contracts for waste impoundment closures based on the lowest bid that is technically acceptable. Payments will be based on actual cost basedshown on receipts. Total charge to NCACSP is restricted to no more than the maximum cost share for the practice listed in the NCACSP average cost list.
- h.j. Copies of receipts, waste application records, DSWC certification of closure form and DWR closure report form must accompany the Request for Payment.
- i.\_\_\_\_\_ lowest bid that is technically acceptable. Payments will be based on actual cost based on receipts. Total charge to NCACSP is restricted to no more than the maximum cost share for the practice listed in the NCACSP average cost list. Receipts and a copy of the waste analysis report must accompany Requests for Payment
  - j.<u>k. TheA TRC</u> subcommittee for waste management measures of the TRC will review lagoon/pond closure contracts that exceed \$50,000. The District will be notified of the subcommittee's decision.

Closure activities covered by the contract shall not begin until the District has received the approval from the Division.

- 3. In addition to above, for waste impoundment closures converting to a freshwater pond:
  - a. All pond designs and completed construction must be certified by a professional engineer or an individual with appropriate Job Approval Authority.
  - b. The Landowner is responsible for acquiring any appropriate local, state and federal permits.
  - c. The pond must be designed to meet the specifications listed below based on the hazard classification:
    - i. Excavated Ponds- NRCS Standard 378
    - ii. Low Hazard NRCS Standard 378 OR NC Dam Safety Law (15A NCAC 02K .0100)
    - iii. Intermediate Hazard NC Dam Safety Law (15A NCAC 02K .0100) iv. High Hazard – NC Dam Safety Law (15A NCAC 02K .0100)
  - d. A Jurisdictional Determination/Hazard Classification Request form may be required to determine hazard classification. The responsible design engineer is responsible for submitting the request to NC Dam Safety.
  - e. Any pond dam that is classified as Intermediate or High Hazard, pursuant to NC Dam Safety Law, is required to be designed by a private engineer.
  - <u>f.</u> Private engineer designs, except for High Hazard ponds, shall be submitted to a Division Engineer for review and approval of Job Approval Authority.
    <u>i.</u> Dam Safety design and construction approval shall serve as Job Approval Authority for High Hazard ponds.
  - g. A pre-construction conference including the district technical representative, designer, contractor and landowner shall be held prior to commencement of conversion.
  - h. Upon completion of the project, copies of the as-built survey should be provided to the Soil and Water Conservation district, landowner and Division of Soil and Water Conservation.
  - i. An Operation and Maintenance Plan is required.
  - j. Livestock shall be excluded from the pond. Ponds without livestock access, do not require fencing.
  - k. Additional water can be used to fill ponds including stormwater runoff, wells, streams and other water resources.
  - I. For excavated ponds and those embankment dams with low hazard classification, trees six inches in diameter or greater can remain in the embankment if they are not dead or unhealthy, and if they are located such that

they could not pose structural damage to the embankment, pipes, or spillway structures etc. All other trees, shrubs and woody vegetation shall be removed.

- m. For waste impoundments being converted to a freshwater pond, a Certificate of Completion must accompany the Request for Payment.
- n. Eligible pond conversion costs will be based on the approved engineering design within the maximum cost share for the practice listed in the NCACSP average cost list.
- <u>4. A signed copy of the waste impoundment closure plan must be sent to the appropriate DWR Regional Office and to animal.operations@deq.nc.gov prior to starting the closure process. The permittee shall notify the appropriate DWR Regional Office at least twenty-four (24) hours prior to beginning closure of the waste impoundment.</u>
- 5. Maintenance period requirements are based on closure method as described below:
  - a. When a waste impoundment is closed to meet the NRCS 360 Waste Facility <u>Closure standard per breach or backfill final decommissioning method, a one-</u> year site maintenance period is required to ensure proper practice function and any necessary vegetative establishment to stabilize the site is achieved prior to <u>land or site use conversions.</u>
  - <u>b.</u> When a waste impoundment is closed to meet the NRCS 360 Waste Facility Closure standard criteria per freshwater pond conversion final decommissioning method, then a 10-year maintenance period is required of the resulting pond structure. The pond structure may receive funding for repair during the maintenance period.
- If the former waste impoundment is converted to residential or commercial structures during the maintenance period, the cost share contract shall be considered out of compliance.

CLOSURE WASTE IMPOUNDMENT CLOSURE		
Maintenance Period	<u> 1 year – breach/backfill</u>	
	10 years <u>– pond conversion</u>	
BMP Units	EACH	
Required Effects	ACRES_AFFECTED ANIMAL TYPE ANIMAL UNITS N and P WASTE MANAGED	

JAA <del>/NRCS standards</del> <del>unless otherwise</del> <del>noted</del>	ECS - 342 - Critical Area Planting ECS - 633 - Waste Utilization NRCS - ENG - 360 - Closure of Waste ImpoundmentsWaste Facility Closure OR; DSWC Guidelines for Lagoon Closure Plan Development SWCC JAA - 360-Closure -of Waste Impoundments OR Professional Engineer For Conversion to Freshwater Ponds: Professional Engineer
<u>NRCS Standards &amp;</u> <u>Reference Materials</u>	CPS – 360 Waste Facility ClosureCPS – 590 Nutrient ManagementCPS – 342 Critical Area PlantingCPS – 378 PondNC Dam Safety Law (15a NCAC 02K. 0100)Lagoon Closure StepsDSWC Guidelines for Lagoon Closure Plan Development
CS2 Reference Materials	NC-ACSP-11 Signature Page Map with BMP location, fields, and roads. NC-ACSP-1C Form <u>NC-ACSP-WMP Form</u> <u>Waste ImpoundmentLagoon</u> Specification Questions <u>Form</u> , <u>Two2</u> bids <u>Cooperator Acknowledgement Form</u> <u>Waste Impoundment Closure Plan Approval Letter</u> <u>Waste Impoundment Closure Plan Approval Letter</u> <u>Waste Impoundment Mannet Plan</u> <u>Receipts (for RFP)</u> <u>DWR Closure Form (for RFP)</u> <u>Waste Application records (for RFP)</u> <u>DSWC Certification of Closure Form (for RFP)</u> <u>For Conversion to freshwater pond also include:</u> <u>Operation and Maintenance Plan</u> <u>Division Engineer Approval Letter</u> <u>Pond Conversion Design</u> <u>Certification of Completion Form (for RFP)</u>
Additional Spot- check Requirements	All waste management systems for operations not permitted by the Division of Water Resources must be spot-checked annually for five years following implementation. <u>All freshwater pond</u> <u>conversions must be spot-checked annually for five years following</u> <u>implementation</u> .

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## **Policies**

1. The Commission agrees that both technical and financial assistance from the District may be appropriate to ensure water quality protection in situations where farmers are going out of business or where a landowner who was not an operator has an abandoned waste impoundment on his/her property.

Therefore, the District may enter into a contract to offer Cost Share Program financial assistance for a waste impoundment closure. Applicants must follow these guidelines:

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- b. The District demonstrates clearly in the contract provided to the Division that the waste impoundment is in a condition that is creating a water quality problem or presents a potential water quality problem if not corrected.
- c. Each contract must contain the following information and must be received by the Division prior to approval:
  - i. Waste impoundment closure plan.
  - ii. Phosphorus Loss Assessment Tool (PLAT) results for each application field.
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  - v. Division waste impoundment closure plan approval letter.
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  - vii. A profile of the dam and how it is to be breached, if applicable
  - viii. A design of the spillway(s) and installation guidelines, if converting to a freshwater pond.
  - ix. Division engineering approval letter for freshwater pond conversions.
  - x. Two estimates from established contractors, using the entire volume of system as determined by the District and as included in the waste impoundment closure plan. In situations where pumping is impractical

because of the consistency of sludge (i.e. solid), sludge should be excavated. Estimates should include information regarding how waste is to be removed (i.e. drag line, agitate and pump, etc.)

xi. A statement signed by the applicant/landowner that he/she will not reimplement the system and that no confined animal operation will be restarted on that farm. The completion of **NC-ACSP-1C** (07/02) meets this requirement. To close waste impoundments on active confined animal operations utilize the Retrofit of On-Going Animal Operations BMP.

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  - a. All pond designs and completed construction must be certified by a professional engineer or an individual with appropriate Job Approval Authority.
  - b. The landowner is responsible for acquiring any appropriate local, state and federal permits.

- c. The pond must be designed to meet the specifications listed below based on the hazard classification:
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- d. A Jurisdictional Determination/Hazard Classification Request form may be required to determine hazard classification. The responsible design engineer is responsible for submitting the request to NC Dam Safety.
- e. Any pond dam that is classified as Intermediate or High Hazard, pursuant to NC Dam Safety Law, is required to be designed by a private engineer.
- f. Private engineer designs, except for High Hazard ponds, shall be submitted to a Division Engineer for review and approval of Job Approval Authority.
  - i. Dam Safety design and construction approval shall serve as Job Approval Authority for High Hazard ponds.
- g. A pre-construction conference including the district technical representative, designer, contractor and landowner shall be held prior to commencement of conversion.
- h. Upon completion of the project, copies of the as-built survey should be provided to the Soil and Water Conservation district, landowner and Division of Soil and Water Conservation.
- i. An Operation and Maintenance Plan is required.
- j. Livestock shall be excluded from the pond. Ponds without livestock access do not require fencing.
- k. Additional water can be used to fill ponds including stormwater runoff, wells, streams and other water resources.
- I. For excavated ponds and those embankment dams with low hazard classification, trees six inches in diameter or greater can remain in the embankment if they are not dead or unhealthy, and if they are located such that they could not pose structural damage to the embankment, pipes, or spillway structures etc. All other trees, shrubs and woody vegetation shall be removed.
- m. For waste impoundments being converted to a freshwater pond, a Certificate of Completion must accompany the Request for Payment.
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- 4. A signed copy of the waste impoundment closure plan must be sent to the appropriate DWR Regional Office and to <u>animal.operations@deq.nc.gov</u> prior to starting the closure process. The permittee shall notify the appropriate DWR Regional Office at least twenty-four (24) hours prior to beginning closure of the waste impoundment.
- 5. Maintenance period requirements are based on closure method as described below:
  - a. When a waste impoundment is closed to meet the NRCS 360 Waste Facility Closure standard per breach or backfill final decommissioning method, a oneyear site maintenance period is required to ensure proper practice function and any necessary vegetative establishment to stabilize the site is achieved prior to land or site use conversions.
  - b. When a waste impoundment is closed to meet the NRCS 360 Waste Facility Closure standard criteria per freshwater pond conversion final decommissioning method, then a 10-year maintenance period is required of the resulting pond structure. The pond structure may receive funding for repair during the maintenance period.

WASTE IMPOUNDMENT CLOSURE		
Maintenance Period	1 year – breach/backfill	
	10 years – pond conversion	
BMP Units	EACH	
Required Effects	ACRES_AFFECTED	
	ANIMAL TYPE	
	ANIMAL UNITS	
	N and P WASTE MANAGED	
	NRCS - ENG - 360 - Waste Facility Closure	
	OR	
	SWCC JAA–Closure - Waste Impoundments	
10.0	OR	
AA	Professional Engineer	
	For Conversion to Freshwater Ponds:	
	Professional Engineer	
NRCS Standards & Reference Materials	CPS – 360 Waste Facility Closure	
	CPS – 590 Nutrient Management	
	CPS – 342 Critical Area Planting	
	CPS – 378 Pond	
	NC Dam Safety Law (15a NCAC 02K. 0100)	
	Lagoon Closure Steps	
	DSWC Guidelines for Lagoon Closure Plan Development	

CS2 Reference Materials	NC-ACSP-11 Signature Page
	Map with BMP location, fields, and roads.
	NC-ACSP-1C Form
	Waste Impoundment
	Specification Questions Form
	Two bids
	Cooperator Acknowledgement Form
	Waste Impoundment Closure Plan Approval Letter
	Waste Impoundment Closure Plan
	Receipts (for RFP)
	DWR Closure Form (for RFP)
	Waste Application records (for RFP)
	DSWC Certification of Closure Form (for RFP)
	For Conversion to freshwater pond also include:
	Operation and Maintenance Plan
	Division Engineer Approval Letter
	Pond Conversion Design
	Certification of Completion Form (for RFP)
Additional Spot-	
	All freshwater pond conversions must be spot-checked annually
check Requirements	for five years following implementation.