

**DOCUMENTING PLANNING, DESIGN, CONSTRUCTION AND CHECKOUT OF
ENGINEERING CONSERVATION PRACTICES GUIDE**

Agrichemical Handling Facility, Code 309

I. References

A. Design Criteria

1. Alabama FOTG Section IV, conservation practice standard, Agrichemical Handling Facility, Code 309.

B. Design/Layout Surveys

1. TR-62 Engineering Layout, Notes, Staking & Calculations.
2. NEFH Part 650, Chapter 1, Engineering Surveys.

C. Design Aids

1. Alabama Poultry Waste Management Workbook.

II. Documentation

A. Preliminary Investigation

Make a preliminary investigation of the need and feasibility of an agrichemical handling facility considering site topography, floodplain, type and amount of chemicals stored and/or mixed at the facility, potential for ground water contamination, size of application equipment, potential water source and cost.

B. Engineering Surveys

1. An accurate topographic survey of the proposed location shall be taken and shall extend a minimum of 150 feet beyond the limits of the proposed facility and in sufficient detail to determine drainage patterns in the vicinity of the proposed facility. The proposed location of the agrichemical handling facility shall be referenced so that it can be staked in the field. The survey should show the location of existing buildings, utilities, electrical hookup source, wells, planned water source, existing buried pipelines, drainage ditches, streams, etc., in the vicinity of the proposed facility.
2. Note the location of any utilities or utility markers.

C. Design

1. Determine the size and type of structure needed. The dimensions of the agrichemical handling facility shall be designed to accommodate the landowner's equipment. Record design data on NRCS-ENG-523A (or equivalent).
2. Determine chemical spill storage volume required based on the largest sprayer equipment or storage tank that will be brought onto the facility.
3. For pole barn type structures, size support posts and beams based on appropriate dead and live loads. Design charts contained in the Alabama Poultry Waste Management Workbook may be used if applicable. Trusses designed by others shall be certified by an Alabama licensed professional engineer.
4. Develop engineering plans and specifications. As a minimum the plans and specifications shall include:
 - a. Planned location of the facility on the topographic survey.
 - b. Plan view of agrichemical handling facility.

DOCUMENTING PLANNING, DESIGN, CONSTRUCTION AND CHECKOUT OF ENGINEERING CONSERVATION PRACTICES GUIDE

- c. Cross sections of the agrichemical handling facility, including roof and wall details.
 - d. Truss connection detail and cross bracing details.
 - e. Knee, girder, and purlin brace detail.
 - f. Post embedment detail, when pole building is used.
 - g. Electrical components (e.g. switches, lights, outlets, etc.).
 - h. Pump type, size, and location.
 - i. Safety signs.
 - j. Sump detail.
 - k. Liner detail.
 - l. Concrete floor, footer, and curb details with steel reinforcement details.
 - m. Concrete floor sealant.
 - n. Emergency eyewash/shower details and location.
 - o. Water supply schematic with anti-syphon device type and location.
 - p. Location of nearby wetlands, surface waters, wells, sinkholes, and/or surface anomalies and the necessary 100 foot separation buffer.
 - q. Location and size of backflow prevention device.
 - r. Location of utilities and notification requirements.
5. Compute quantity of sub base material when used as basis of payment.
 6. Compute quantity of concrete when used as basis of payment.
 7. Develop a site specific O&M Plan for the practice.

D. Construction Layout

Review the plans and specifications with the landowner and contractor prior to the start of construction. Ensure the landowner/contractor thoroughly understand their responsibilities including obtaining all permits, easements, etc.

Record all layout information in the engineering field book.

1. Set a sufficient number of stakes to guide the landowner or contractor in constructing the facility. As a minimum, stake the corners of the facility.
2. Stake location of all appurtenances (e.g. waterline, sump, electrical, etc.).

E. Construction

Adequate site visits and checks shall be made during construction to verify that the plans and specifications are followed.

Any changes in the design must be reviewed and concurred by the landowner and shall be approved by the designer and person with appropriate engineering design job approval authority.

F. Construction Checkout

Record the following information on the engineering plans and in the engineering field book or in the electronic field book.

DOCUMENTING PLANNING, DESIGN, CONSTRUCTION AND CHECKOUT OF ENGINEERING CONSERVATION PRACTICES GUIDE

1. Elevation of completed agrichemical handling facility and sump. A sufficient number of cross sections shall be taken to document the slope of the slab.
2. Constructed dimensions of the agrichemical handling facility.
3. Structural components.
 - a. Spacing, height, depth of embedment, and size of support posts and preservative treatment used.
 - b. Type of trusses used and certification from an Alabama licensed professional engineer.
 - c. Size of beams and preservative treatment used.
 - d. Sump dimensions and materials used.
 - e. Liner type and thickness.
 - f. Pump type and capacity.
 - g. Type of sealant used for concrete floor.
 - h. Emergency eyewash/shower unit used.
 - i. Backflow prevention devices used.
 - j. Anti-siphon device used.
 - k. Safety signs.
 - l. Concrete design mix.
 - m. Roof details and pitch.
4. Prepare as-built drawings showing final construction dimensions, details, etc.
5. If the practice meets NRCS standards and specifications, then the statement "This practice meets NRCS practice standards and specifications" shall be placed on the checkout document and signed and dated by the responsible person with appropriate level of engineering job approval authority.

G. Reporting and/or Certifying

After it has been determined and documented that the practice meets NRCS plans and specifications, it can be reported and certified. The extent of the practice to be reported is the number of facilities installed. The extent certified shall be the quantities used as the basis of payment.