

Engineering Options for Barn Projects



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Engineer Options for Barns

- Review of Barn Info
- TSP Project
- NRCS Engineer Lead

Hoop Barn



SEP 13 2010

Mono-Slope Barn



Barn Technical Note

- The technical note describes the different bedding and manure management practices used by producers. It also explains how to size a facility, in order to meet the manure storage requirements.
- ftp://ftp-fc.sc.egov.usda.gov/SD/www/Technical/Engineering/Design_Technical_Note_SD2011-1.pdf

SD NRCS Bedded Pack Barn Design Worksheet

- Determines the required solid manure storage volume
- ftp://ftp-fc.sc.egov.usda.gov/SD/www/Technical/Engineering/Bedded_Pack_Barn_Design_Worksheet_Version_1_0_10-2011.xlsx

Barn Project - TSP Project

- Proceed as a normal TSP project
- Need to meet applicable standards and provide documentation as required in the Statements of Work
- Certify all of the practices as normal with the standard Warranty of Services Form

Barn Project – NRCS Engineer Lead

- NRCS engineer will:
 - Be responsible for certifying the practices with their Job Approval Authority
 - Generally handle the manure storage volume calculations
 - Generally handle the design of the barn floor
 - Generally handle the initial planning, locating the barn, contract quantities, operation and maintenance agreement

Barn Project – NRCS Engineer Lead

- NRCS engineer will:
 - Coordinate with the producer and consulting engineer to design and certify certain parts of the building
 - Coordinates getting the SD-ENG-59 form completed for design
 - Coordinates getting SD-ENG-59 form completed after construction

SD-ENG-59—Design Certification

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SD-ENG-59
10/11

ROOFED ANIMAL PRODUCTION FACILITIES CERTIFICATION

Use this form to **certify the design** of the roof structure for a roofed animal production facility that has been designed by a non-Natural Resources Conservation Service (NRCS) engineer. South Dakota (SD) NRCS considers a “roof structure” to include the roof itself and the required piers, columns, walls, footings, pilings, etc., that are used to support or hold up the roof. This form should be completed and sealed by the SD registered professional engineer who **designed** the roof structure or portion of the roof structure for this project. Check the structural components that are being certified:

- Roof
- Piers
- Columns
- Walls
- Footings
- Floor
- Pilings
- Other: _____

SD-ENG-59—Design Certification

United States Department of Agriculture Program Participant Information:

Storage Facility Producer _____

Facility Location _____

Profession Engineer Information and certification:

To the best of my professional knowledge, judgment, and belief, **the design**, construction drawings, and specifications of this animal manure storage structure meet the SD NRCS Waste Storage Facility and other appropriate SD NRCS standards. The design also complies with appropriate federal, state, and local building codes and requirements.

Design Engineer's Name (print) _____

Design Engineer's Signature
(Stamp)

Date

Attach to this form:

- o **Plans and specifications for the structure(s) indicated above**

SD-ENG-59–Construction Certification

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SD-ENG-59
10/11

ROOFED ANIMAL PRODUCTION FACILITIES CERTIFICATION

Use this form to **certify the construction** of the roof structure for a roofed animal production facility that has been designed by a non- Natural Resources Conservation Service (NRCS) engineer. The SD NRCS considers a “roof structure” to include the roof itself and the required piers, columns, walls, footings, pilings, etc. that are used to support or hold up the roof. This form should be completed and sealed by the SD registered professional engineer who is **certifying the construction** of the roof structure, or portion of the roof structure for this project. Check the structural components that are being certified:

- Roof
- Piers
- Columns
- Walls
- Footings
- Floor
- Pilings
- Other: _____

SD-ENG-59–Construction Certification

United States Department of Agriculture Program Participant Information:

Storage Facility Producer _____

Facility Location _____

Profession Engineer Information and certification:

To the best of my professional knowledge, judgment and belief, **the construction** of this roof structure meets the SD NRCS Waste Storage Facility and other appropriate SD NRCS standards. The construction also complies with appropriate federal, state, and local building codes and requirements.

Design Engineer's Name (print) _____

Design Engineer's Signature
(Stamp)

Date

Attach to this form:

- **As-Built plans and specifications for the structure(s) if the construction differed from the original design plans for the project**

Barn Project – NRCS Engineer Lead

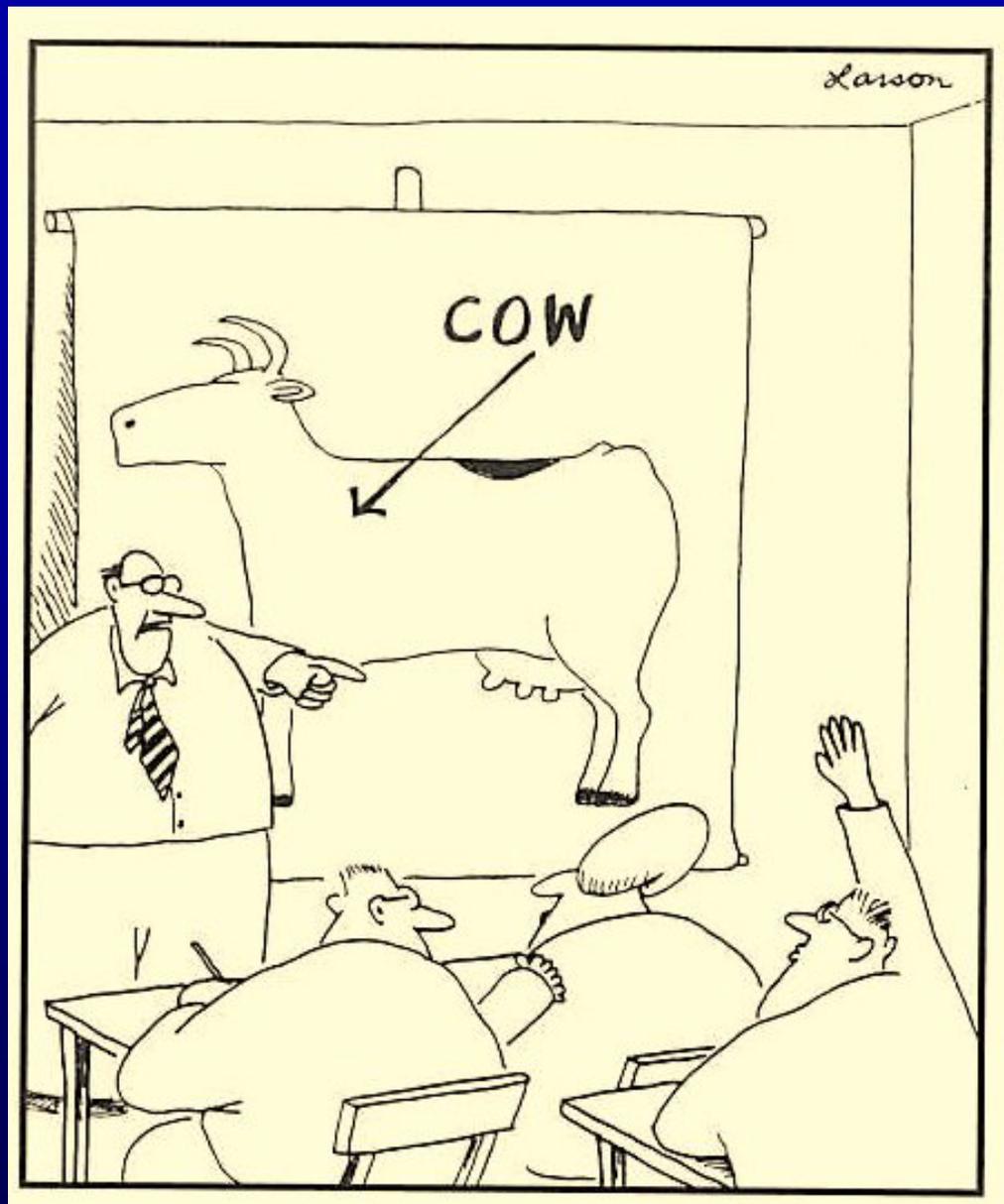
- Consulting engineer will:
 - Design and certify certain parts of the building
 - Completes the SD-ENG-59 form for the design of certain parts of the barn
 - Completes the SD-ENG-59 form for the construction certification of certain parts of the barn

Barn Project – NRCS Engineer Lead

- The consulting engineer:
 - is not certifying the design or completion of the NRCS conservation practices
 - Does not have to be a certified TSP on Techreg
 - Is responsible for designing according to the appropriate conservation practice standards
 - Is not responsible for completing all of the items in the Statements of Work

Barn Projects

- The bottom line is to communicate with each other to determine whether you are working as a normal TSP project or as a project that is a NRCS engineer lead project. Certify the project accordingly.



"Yes...I believe there's a question there in the back."