

STATEMENT OF WORK
Anaerobic Digester (366)
Virginia

These deliverables apply to this individual practice. For other planned practice deliverables, refer to those specific Statements of Work.

DESIGN

Deliverables:

1. Design documentation that will demonstrate that the criteria in the NRCS practice standard have been met and are compatible with other planned and applied practices:
 - a. Identify, discuss and document client needs, and recommend method of resolution.
 - b. Practice purpose(s) as identified in the conservation plan.
 - c. List of required permits to be obtained by the client as applicable.
 - d. Compliance with NRCS national and state utility safety policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06). This includes contacting MISS UTILITY (811 or 1-800-552-7001) a minimum of 3 days before beginning construction.
 - e. List of associated practices (conservation practice name and number).
 - f. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. A study documenting the feasibility of the practice.
 - ii. Geology and soil mechanics (NEM Subpart 531a).
 - iii. Storage volume and hydraulic retention time.
 - iv. Structural, mechanical and appurtenance design.
 - v. Environmental considerations, such as air quality and bio-security.
 - vi. Safety considerations (NEM Part 503-Safety, Subpart A, 503.10 through 503.12).
 - vii. A process flow diagram detailing flow rates, volumes, and energy transfer.
2. Provide written plans and specifications, including sketches and drawings, to the client that adequately describe the requirements to install the practice and obtain necessary permits. Develop plans and specifications in accordance with the requirements in the Virginia NRCS Conservation Practice Standard *Anaerobic Digester (Code 366)*.
3. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32).
4. Operation and Maintenance Plan.
5. Emergency Action Plan, including emergency contact information.
6. Certification that the design meets NRCS standards and specifications and is in compliance with permits (NEM VA505.03, Amendment VA-22).

INSTALLATION

Deliverables:

1. Pre-installation conference with client and contractor.
2. Verification that client has obtained required permits.
3. Staking and layout according to plans and specifications including applicable layout notes.
4. Installation inspection (according to inspection plan as appropriate):
 - a. Actual materials used.
 - b. Inspection records.
5. Facilitate and implement required modifications with client and original designer.
6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation.

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CHECK OUT

Deliverables:

1. As-Built documentation.
 - a. "Red-line" drawings including but not limited to documentation of final construction, changes to initial design, and changes in materials used.
 - b. Extent of practice units applied.
 - c. Final quantities.
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits (NEM VA505.03, Amendment VA-22).
3. Progress reporting.

REFERENCES

- VA NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - *Anaerobic Digester (Code 366)*.
- VA NRCS Field Office Technical Guide (eFOTG), Section IV, Operation and Maintenance Plan - *Anaerobic Digester (Code 366)*.
- NRCS Agricultural Waste Management Field Handbook (AWMFH).
- NRCS National Engineering Manual (NEM).
- NRCS National Environmental Compliance Handbook.
- NRCS National Cultural Resources Procedures Handbook.
- An Analysis of Energy Production Costs from Anaerobic Digestion Systems on U.S. Livestock Production Facilities, ASABE paper number 084643, July 2008.
- Guide to Anaerobic Digesters, US EPA AgSTAR Program, April 2008.
- Methane Recovery from Animal Manures: The Current Opportunities Casebook, P. Lusk, Resource Development Associates, Washington, DC, September 1998, NREL/SR-580-25145