

STATEMENT OF WORK
Comprehensive Nutrient Management Plan
Vermont

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

Deliverables

ALL ITEMS IN THE ATTACHED THREE COMPONENT CHECKLISTS (MANURE AND WASTEWATER HANDLING AND STORAGE; LAND TREATMENT; AND NUTRIENT MANAGEMENT) MUST BE COMPLETED.

PLANNING

NOTE: A comprehensive nutrient management plan (CNMP) should address all land units that the animal feeding operation (AFO) owner and/or operator owns or has decision-making authority over and on which manure and organic by-products will be generated, handled, stored, or applied.

NOTE: NRCS policy requires that technical assistance provided for conservation planning follow the guidance and processes in the NRCS National Planning Procedures Handbook (NPPH). For the purposes of providing conservation planning technical assistance, Technical Service Providers are to complete the actions required in the first seven Steps of the NPPH planning process. All deliverables below are based on that requirement. For detailed guidance, planners should refer to the appropriate section of the NRCS NPPH (CNMP Technical Guidance, see References).

1. Provide documentation that addresses the following items:
 - a. Site information
 - i. Names, phone numbers, and addresses of the AFO owner(s) and operator(s).
 - ii. Location of production site: legal description, driving instructions from nearest post office, and the emergency 911 coordinates.
 - iii. Farmstead sketch.
 - iv. Plat map or local proximity map.
 - v. Emergency action plan covering: fire, personal injury, manure storage and handling, and land application operations.
 - vi. Operation procedures specific to the production site and practices.
 - vii. Existing documentation of present facility components that would aid in evaluating existing conditions, capacities, etc. (i.e., as-built plans, year installed, number of animals that a component was originally designed for, etc.).
 - b. Production information
 - i. Animal types, phases of production, and length of confinement for each type at this site.
 - ii. Animal count and average weight for each phase of production on this site.
 - iii. Calculated manure and wastewater volumes for this site.
 - iv. Manure storage type, volume, and approximate length of storage.
 - c. List all required and/or associated practices
2. Provide documentation of compliance with all applicable permits or certifications
 - a. Federal, Tribal, State or local permits and/or ordinances.
 - b. Operator or manager certifications.
 - c. Manure applicator certifications.

- d. Record of inspections or site assessments.
3. Provide land application site information documentation
 - a. Date plan prepared.
 - b. Written manure application agreements. (Where Applicable)
 - c. Aerial maps of land application area.
 - d. Individual field maps with marked setbacks, buffers, and waterways, and environmentally sensitive areas, such as sinkholes, wells, gullies, tile inlets, etc.
 - e. Landowner names, addresses, and phone numbers.
 - f. Legal description of land sites, including watershed codes.
 - g. Specific and unique field identification codes.
 - h. Land use designation.
 - i. Soil map, with appropriate interpretations.
 - j. Risk assessments for potential nitrogen or phosphorus transport from fields. (See NRCS GM_190, Part 402, Nutrient Management, Section 402.07. See References)
 - k. Land treatment practices planned and applied, and level of treatment they provide.
4. Provide manure application plans documentation
 - a. Crop types, realistic yield targets, and expected nutrient uptake amounts.
 - b. Application equipment descriptions and methods of application.
 - c. Expected application seasons and estimated days of application per season.
 - d. Estimated application amounts per acre (volume in gallons or tons per acre, and pounds of plant available nitrogen, phosphorous as P205, and potassium as K20 per acre).
 - e. Estimate of acres needed to apply manure generated on this site, respecting any guidelines published for nitrogen or phosphorous soil loading limits.
5. Provide actual activity records
 - a. Soil tests not more than 3 years old.
 - b. Manure test annually for each individual manure storage containment.
 - c. Planned and applied rates, methods of application, and timing (month and year) of nutrients applied. (Include all sources of nutrients, i.e., manure, commercial fertilizers, etc.)
 - d. Current and planned crop rotation.
 - e. Weather conditions during nutrient application. (Optional)
 - f. General soil moisture condition at time of application (i.e., saturated, wet, moist, dry). (Optional)
 - g. Actual crop and yield harvest from manure application sites.
 - h. Record of internal inspections for manure system components.
 - i. Record of any spill events.
6. Document mortality disposal actions
 - a. Plan for mortality disposal.
 - b. Methods and equipment used to implement the disposal plan.
7. Operation and Maintenance requirements
 - a. Detailed operation and maintenance procedures for the conservation systems, holding facility, etc., contained in the CNMP. This would include procedures as calibration of land application equipment, storage facility emptying schedule, and soil and manure sampling techniques, etc.
8. Document the AFO owner's/operator's consideration of the six CNMP elements. It is recognized that a CNMP may not contain all six elements; however, they need to be considered by the AFO owner/operator during development of the CNMP, and the owner's and/or operator's decisions regarding each must be documented. These elements are as follows:
 - a. Manure and Wastewater Handling and Storage
 - b. Land Treatment Practices
 - c. Nutrient Management
 - d. Record Keeping
 - e. Feed Management
 - f. Other Utilization Activities

NOTE: The degree to which each CNMP element is addressed is determined by the General Criteria and must meet the specific criteria provided for each element in the National Planning Procedures Handbook (NPPH), Sections 600.53 and 600.54 (see References) .

9. CNMP's will contain actions that address water quality criteria for the feedlot, production area, and land on which the manure and organic by-products will be applied (i.e., as a minimum the plan would address CNMP elements a, b, c, and d listed in item 8 above). This includes addressing soil erosion to reduce the transport of nutrients within or off of a field to which manure is applied. For AFO owners and/or operators who do not land apply any manure or organic by-products, the CNMP would address only the feedlot and production areas (i.e., address CNMP elements a, d, and f listed in item 8 above).
10. Document that the CNMP meets all applicable local, Tribal, State, and Federal laws and regulations. When applicable, ensure that USEPA-NPDES or State permit requirements (i.e., minimum standards and special conditions) are addressed.
11. Certify that the CNMP meets requirements of the NRCS Field Office Technical Guide (FOTG) conservation practice standards for all practices contained within it.
12. Progress reporting

REFERENCES

- NRCS National Planning Procedures Handbook (CNMP Technical Guidance) http://policy.nrcs.usda.gov/scripts/lpsiis.dll/H/H_180_600.htm
- NRCS Field Office Technical Guide <http://www.nrcs.usda.gov/technical/efotg/>
- NRCS National Engineering Manual <http://www.info.usda.gov/CED/ftp/CED/NEM.html>) and Vermont supplements
- NRCS National Agronomy Manual http://policy.nrcs.usda.gov/scripts/lpsiis.dll/M/M_190_NAM.htm
- NRCS Environmental Compliance Handbook http://policy.nrcs.usda.gov/scripts/lpsiis.dll/H/H_190_610_Content.htm
- NRCS Cultural Resources Handbook http://policy.nrcs.usda.gov/scripts/lpsiis.dll/H/H_190_601_Content.htm
- NRCS General Manual Title 190, Part 402 (Ecological Sciences, Nutrient Management, Policy) http://policy.nrcs.usda.gov/scripts/lpsiis.dll/GM/GM_190.htm
- NRCS Agricultural Waste Management Field Handbook, Chapter 4 – Agricultural Waste Characteristics <http://www.wcc.nrcs.usda.gov/awm/awmfh.html>

CNMP CHECKLIST – MANURE AND WASTEWATER HANDLING AND STORAGE COMPONENT

- ____ 1. Identify where water supplies are located with respect to the six functions of manure management (production, collection, storage, treatment, transfer, and utilization).
- ____ 2. Narrative describing current and planned processes for production, collection, storage, treatment, transfer and utilization of manure and wastewater. If milk house waste is stored, transferred or treated separately, identify this process and all components such as settling trap, grease trap, pump station and storage or treatment type, as applicable.
- ____ 3. Narrative describing current and planned processes for disposing of dead animals, animal medical wastes, spoiled feed, and any other potential contaminants to insure compliance with federal, state and local laws and regulations.
- ____ 4. Documentation of types of animals and production phases (milkers, dry cows, heifers, etc.) and numbers of each type. Also document average weights of each animal type and the period of confinement for each type of animal.
- ____ 5. Document total estimated manure and waste water volumes produced at the facility. For a new facility estimate these volumes using procedures and tabular data provided in the NRCS Agricultural Waste Management Field Handbook (AWMFH), Chapter 4, "Waste Characteristics", <http://www.wcc.nrcs.usda.gov/awm/awmfh.html>.
- ____ 6. Identify manure storage type, volume, and length of storage. If more than one storage is planned, give this information for each storage. (i.e. Manure storage, solids settling tank, filter strip flush tank, etc.).
- ____ 7. Identify existing transfer equipment, system and procedures, as well as those that are planned, if different from existing scenario.
- ____ 8. Include a copy of the Operation and Maintenance (O&M) plan for all facilities and maintenance activities that address collection, storage, treatment and transfer of manure and wastewater, including associated equipment, facilities and structures.
- ____ 9. Document nutrient content and volume of any and all manure that will be transferred to others off of the farm.
- ____ 10. Include an emergency response plan to address any potential spills and catastrophic events.
- ____ 11. Include any additional considerations addressing air quality issues or concerns.
- ____ 12. Include any additional considerations addressing pathogen issues or concerns.

Note: Check or initial each item when complete. Enter NA where not applicable. Maintain this checklist at the back of this component in the field office copy of the CNMP.

CNMP CHECKLIST-LAND TREATMENT COMPONENT

____ 1. Narrative describing on-site visit identifying potential natural resource concerns, problems, and opportunities for the conservation treatment unit. (VT Resource Inventory spreadsheet, Alternatives Tab, http://efotg.nrcs.usda.gov/references/public/VT/VT_Resource_Inventory.xlt)

____ 2. Documentation that NRCS Quality Criteria for Water Quality, found in Section III of the FOTG has been met. (VT Resource Inventory spreadsheet, Quality Criteria Checklist Tab, http://efotg.nrcs.usda.gov/references/public/VT/VT_Resource_Inventory.xlt)

____ 3. Documentation that soil erosion has been addressed to reduce the transport of manure nutrients within or off of a field to which manure is applied. (RUSLE2 documentation will meet this requirement.)

____ 4. Identify NRCS Conservation Practice Standards, and code numbers that will be used as part of a conservation system to minimize runoff and soil erosion. (Completed Conservation Plan will meet this requirement.)

____ 5. Identify federal, state and local laws and regulations that are not being met and how compliance will be attained, as applicable. (VT Resource Inventory spreadsheet, Alternatives Tab, http://efotg.nrcs.usda.gov/references/public/VT/VT_Resource_Inventory.xlt)

____ 6. Identify the following on an aerial photo:

____ Land application areas.

____ Individual fields with setbacks, buffers, waterways and other planned conservation practices.

____ Sensitive areas such as sink holes, streams, springs, lakes, ponds, wells, gullies, and drinking water sources.

____ Other site information features of significance such as property lines.

____ 7. Include soils map and soils information such as features, limitations, and capability for each field.

____ 8. Identify operation and maintenance (O&M) requirements for all conservation practices.

Note: Check or initial each item when completed. If not easily identifiable, note where it can be found. Enter NA where not applicable. Maintain this checklist at the back of this component in the field office copy of the CNMP.

CNMP CHECKLIST – NUTRIENT MANAGEMENT COMPONENT

- _____ 1. Producer name, address, county, phone number, email. Planner's name, address, phone number, email. Date plan prepared and crop year of plan.
- _____ 2. Narrative describing the farm enterprise: farm manager, type of operation, animal units (types, number, and weight of each animal and period of confinement), acreage (rented and owned), business objectives/plan, watershed, watershed code, and watershed concerns.
- _____ 3. Aerial site photographs or maps with boundaries of fields and marked setbacks and buffers. Soil map, soil descriptions. Maps should have appropriate map symbols and legends including a title block with:
 - Landowner/operator
 - Prepared with assistance from _____
 - Scale of the map
 - Date prepared
 - North Arrow
 - Name of the County
 - District and State
- _____ 4. The following have been identified for all crop fields:
 - Primary soil type
 - Crop rotations and year in rotation (e.g. C2 of C3H5)
 - Type, timing, depth, and sequence of tillage
 - Description of crop residue use
- _____ 5. Topographic map (with appropriate legend) showing farmstead, tracts and watercourses.
- _____ 6. Location of designated environmentally sensitive areas or resources, such as sinkholes, streams, springs, lakes, ponds, wells, gullies, tile inlets areas of concentrated flow and drinking water sources.
- _____ 7. Farm Service Agency (FSA) designation for Tracts and Fields, along with FSA acreage.
- _____ 8. Landowner/operator field identification codes and whether land is owned or rented.
- _____ 9. Land use designation (hayland, cropland, pasture, etc.).
- _____ 10. Current and/or planned plant production sequence or crop rotation.
- _____ 11. At least one third of all fields must have recent soil tests (within 3 yr.). Those fields without a current test must have a soil test no older than 5 years. On all fields without current soil tests, application rates of manure or other organic by-products will be planned based on phosphorus removal rates and revised accordingly within 1 year based on current soil tests. Identify the soil lab and extraction method. Only the Modified Morgan extraction is acceptable.
- _____ 12. Annual manure test results from each storage containment.
- _____ 13. Estimation of manure production including bedding, milk center, and barnyard runoff, if applicable.
- _____ 14. All Manure/Waste application equipment has been described, sized and calibrated.
- _____ 15. Manure/waste produced in relation to available or spreadable acres has been assessed.
- _____ 16. Manure storage type, volume, and length of storage.

- _____ 17. A complete nutrient budget for nitrogen, phosphorus, and potassium for the plant production system that includes all potential sources of nutrients.
- _____ 18. Realistic yield goals and a description of how they were determined.
- _____ 19. Recommended nutrient application rates by field including the form, source, amount, timing (month and year) and method of application of nutrients (manure and commercial fertilizer).
- _____ 20. Manure/Waste spreading schedule has been developed.
- _____ 21. If excess nutrients exist, decisions have been made, or alternatives presented for off-farm use of the manure and appropriate documentation provided (such as an Exporting/Importing Manure Agreement).
- _____ 22. Risk assessments for potential nitrogen and phosphorous transport from fields are made and recommended BMPs to treat the concerns are indicated.
- _____ 23. Assistance Notes (NRCS CONS-6 Equivalent) showing discussions with landowner during the development of the plan, site visits etc...
- _____ 24. Plan has been checked for cross-compliance with all applicable Federal programs (Food Security Act-HEL and Wetland Conservation) and State regulations (AAPs).
- _____ 25. Guidance for implementation, operation, maintenance, and record keeping.

Note: Check or initial each item when complete. Enter NA where not applicable. Maintain this checklist at the back of this component in the field office copy of the CNMP.