DEPARTMENT OF NATURAL RESOURCES
POSITION DESCRIPTION
Classification Title: Water Resources Engineer-Senior
Working Title: CAFO Engineer

Purpose of the Position:

This position serves as an agricultural engineer for the Agricultural Runoff Section in the Bureau of Watershed Management. This position's primary function is to review plans and specifications for construction projects at Concentrated Animal Feeding Operations (CAFOs) for conformance with technical standards and Department rules and regulations. However, this position will also evaluate existing, proposed and emerging water quality protection measures for livestock operations and other agricultural facilities on a statewide basis. The position conducts outreach efforts with both internal and external audiences pertaining to engineering aspects of current rules and standards that apply to agriculture and provides advice on engineering principles that relate to agricultural facilities. The position also supports water quality modeling activities on a field basis, sub-watershed basis and watershed basis to aid in the evaluation and remediation of agricultural runoff pollution. This position is responsible for the implementation of the CAFO permit program in accordance with the Clean Water Act, ch. 283, Wis. Stats., and chs. NR 151 and 243, Wis. Adm. Codes.

Scope of Authority:

This position is supervised by the Agricultural Runoff Section Manager in the External Services Division, Watershed Management Program, central office under general supervision.

Location, Geographic Scope, and Travel Requirements of Position

This position may be in Madison or any regional office with available space and will have responsibilities throughout the state. This position will require occasional statewide travel and overnight stays for meetings, trainings, site visits or to provide program implementation support, and may require minimal out-of-state travel. Remote work may be available for a portion of the work week.

Time %Goal and Worker Activities

65% A. SERVE AS AN AGRICULTURAL ENGINEER FOR THE BUREAU OF WATERSHED MANAGEMENT TO EVALUATE EXISTING, PROPOSED AND EMERGING AGRICULTURAL STRUCTURES, FACILITIES AND PRACTICES FOR PURPOSES OF PROTECTION OF WATER QUALITY.

A.1. Evaluate effectiveness of existing agricultural best management practices, treatment systems, runoff control systems, disposal facilities and storage practices for purposes of assuring statewide consistency and compliance with applicable administrative codes, statutes, Department procedures, and Natural Resources Conservation Service standards.

A.2. Review agricultural engineering plans and specifications, including the most complex proposals and prepare detailed and clear engineering approvals for proposed agricultural best management practices, treatment systems, runoff control systems, disposal facilities and storage practices for purposes of assuring statewide consistency and compliance with applicable WPDES permits, administrative codes, statutes and Department procedures, Natural Resources Conservation Service standards, and ASTM standards.

A.3. Evaluate effectiveness and technical merit of emerging agricultural best management practices, including advanced treatment, infiltration systems, anaerobic digestion systems, feed storage and feed runoff/leachate collections systems, regional storage and treatment systems, composting systems and other technologies for purposes of assuring statewide consistency and compliance with applicable administrative codes, statutes, Department procedures, and applicable standards as listed above.

A.4 Provide agricultural engineering advice and consultation to the Bureau of Law Enforcement, Bureau of Legal Services, the Division of Environmental Management and other Department staff on cross-media environmental issues and natural resource issues.

15% B. SERVE AS AN ENGINEERING STAFF CONTACT ON TECHNICAL STANDARD TEAMS.

B.1. Serve as the Department representative on agricultural technical teams as convened by SOC to revise and develop technical standards for multi-agency and multi-program implementation.

B.2. Develop and promote interagency cooperation among local, federal and other state agencies for purposes of development of new and revised technical standards.

10% C. PARTICIPATE IN THE DEPARTMENT'S OUTREACH EFFORTS WITH BOTH INTERNAL AND EXTERNAL AUDIENCES PERTAINING TO ENGINEERING ASPECTS OF AGRICULTURAL RULES AND STANDARDS RELATED TO WATER QUALITY PROTECTION

C.1. Consult and advise agricultural runoff staff and other field staff, other agencies and consultants on engineering aspects of agricultural best management practices for pollution abatement.

C.2. On a statewide basis and in response to program needs, provide training to Central Office and Regional staff, county Land Conservation Department staff, consultants and others on applicability and implementation of technical and engineering aspects of best management practices, rules and standards that relate to agriculture.

C.3. Support the development and implementation of agricultural performance standards for purposes of water quality protection.

C.4. Support the rule revision process for chs.NR 243 and/or NR 151 to address engineering aspects of the rules.

10% D. CONDUCT OTHER AGRICULTURAL RUNOFF MANAGEMENT PRACTICES SECTION ACTIVITIES WITH ENGINEERING EMPHASIS

D.1. Coordinate with state, federal, local, public and private sector agencies and groups as needed.

D.2. Represent the Department in local, state, regional, or work groups developing engineering and technical policies related to agricultural runoff management problems.

D.3. Serve on section, bureau, division, and department teams and work groups as necessary.

D.4. Perform other duties as required by the supervisor.

Special Requirements:

Must have one of the following:

• Registration as a Professional Engineer as determined by the Department of Safety and Professional Services per s. 443.04, Wis. Stats.;

• A specific record, issued by the professional engineering section of the Department of Safety and Professional Services, showing 4 years or more of experience in engineering work of a character satisfactory to the professional engineering section and satisfactory completion of the fundamentals of engineering exam;

• Have graduated, or will graduate by the time of hire, from a recognized college or university with a degree in a related engineering field such as civil, chemical, electrical, environmental, or mechanical engineering; or has successfully completed the DNR engineering equivalency examination;

• Have equivalent professional training and practical experience so as to be deemed a professional engineer as defined in Department of Safety and Professional Services per s. 443.01, Wis. Stats. AND also deemed to be qualified to engage in professional engineering practice as determined by the Department of Safety and Professional Services per s. 443.04 or 443.05, Wis. Stats.

AND

Ability to travel as required for the position including holding a current Wisconsin Driver's License.

KNOWLEDGE, SKILLS AND ABILITIES

1. Experience with agricultural or nonpoint source pollutants and how their characteristics affect water resources.

2. Experience with agricultural or storm water technical standards and best management practices and their application to achieve pollutant reduction goals.

3. Experience with engineering principles related to the design of treatment systems including containment systems, concrete structures, soil permeability and compatibility and pipe systems.

4. Basic knowledge of hydrology, hydrogeology and hydraulics.

5. Basic knowledge of surface runoff computer models and spreadsheets.

6. Basic knowledge of the state processes and requirements for establishing administrative codes.

7. Knowledge of policy development concepts.

8. Basic knowledge of the National Pollutant Discharge Elimination System (NPDES) and Wisconsin Pollutant Discharge Elimination System (WPDES) permits.

9. Ability to present complex technical information clearly and concisely in a variety of oral and written formats.

10. Ability to work effectively in teams of various sizes and independently.

11. Ability to effectively analyze and evaluate issues and programs.

12. Skill in oral and written communications.

13. Basic knowledge of farm operations.

14. Skill in the use of Personal computers with an emphasis on use of the Microsoft Office Suite (i.e., MS-Word, MS-Excel, MS-Project, MS-PowerPoint).

15. Initiating and managing projects with minimal supervision.

PHYSICAL REQUIREMENTS & ENVIRONMENTAL FACTORS:

Physical Factors: Physical requirements include presenting to groups and sitting for long periods of time. Must be able to travel to other work locations as required where there may be a need to walk around on farms and uneven ground. Sedentary work (exerting up to 10 pounds of force occasionally and/or a negligible amount of force) for 85% of the time.

Environmental Factors: This position will spend approximately 85% of time indoors in an office setting. This position will on occasion spend more than one hour outdoors in weather that can be cold or hot and wet.

Equipment Used: Office equipment including telephone, computer hardware and software. Field equipment for site reviews, including digital camera, GPS unit, soil boring instruments and shovels.

Remote Work Evaluation: Remote Work may be available for this position upon successful completion of the probationary period.