

Department of Natural Resources

Division of External Services

Classification Title: Water Regulation and Zoning Engineer – Entry

Working Title: Floodplain Engineer

Position Summary:

With the support of experienced engineering staff, this position assists in developing floodplain engineering studies that meet State and Federal Emergency Management Agency (FEMA) standards. The position will assist experienced engineering staff in managing contracts and completing quality assurance reviews of consulting firms completing work for the Floodplain Mapping Program. In addition, the position will assist experienced engineering staff on floodplain analyses, floodplain delineation, floodplain mapping issues, and coastal plan reviews, ensuring they meet the standards of Wis. Adm. Code, Ch. NR 116.

Geographic Scope and Travel Requirements:

This position may be located in the Madison Headquarters office or any field office assuming office space availability. This position is responsible for assisting with the development and implementation of floodplain risk identification mapping projects throughout the state. Occasional travel throughout the state will be required for meetings with local DNR staff, community Geographic Information Systems (GIS), engineering and zoning officials, and the general public.

Scope of Authority:

The position is supervised by the Dam Safety and Floodplain Section Manager in the External Services Waterways Program. This position is not supervisory. This position works under close progressing to limited supervision.

Goals and Activities:

- 45% **A. Complete hydrologic and hydraulic analyses for complex floodplain engineering studies.**
- A.1. Assist with development of hydrologic and hydraulic models for comprehensive basin-wide and county-wide flood analyses.
- A.2. Assist with engineering review of hydrologic and hydraulic models developed for comprehensive, county-wide flood studies.
- A.3. Assist with the review of engineering submittals for Letters of Map Revision, including the submittal of required information to FEMA and updating flood hazard maps.
- A.4. As funding allows, assist with engineering analyses used to define floodplain limits for community zoning where no study exists.
- 45% **B. Develop digital floodplain limits and techniques to merge data into existing products.**

- B.1. Use GIS based tools and other automated methodology to digitally incorporate floodplain engineering studies and reports into DNR's and FEMA's comprehensive reporting system.
- B.2. Assist with the review of studied floodplain boundaries for completeness and accuracy and provide support in producing quality assurance/quality control (QA/QC) comments for preliminary flood hazard map development.
- B.3. Assist with maintenance and updates of computer model input files for previously conducted and new hydraulic and hydrologic studies for floodplain analysis.

10% **C. Provide support and perform other duties as assigned by supervisor.**

Special Requirements

- Degree in engineering from an ABET accredited University or the education and experience necessary to be deemed an Engineer-in-Training by the Wisconsin Department of Safety & Professional Services.
- Ability to meet requirements to operate a state vehicle, including obtaining and maintaining a Wisconsin Driver's license.

Knowledge, Skills and Abilities

1. Education or training in hydrologic and hydraulic analyses. Some experience in developing hydrologic and hydraulic models including Hydrologic Engineer Center River Analysis System and Hydrologic Modeling System (HEC-RAS and HEC-HMS) or similar models.
2. Knowledge of GIS.
3. Knowledge of data management techniques.
4. Knowledge of project management.
5. Knowledge of group dynamics and dispute resolution.
6. Knowledge of written and oral communication techniques.

Physical Requirements and Environmental Factors

Strength Requirements: Sedentary work (occasional lifting of up to 15 pounds) about 95% over a year's time. Light work (infrequent lifting of up to 50 pounds) about 5% over a year's time.

Physical: This position will spend a majority of time in an office setting or in meetings. Regular activities include talking, hearing, seeing, handling paper, sitting, walking and driving. The position will also occasionally spend time standing, carrying, lifting, reaching, climbing, bending at the waist, kneeling, and crouching.

Environmental Factors: May need to frequently spend more than one hour outdoors in temperatures below 32 degrees, above 80 degrees and in harsh weather conditions. Ability to traverse uneven ground, steep grades and heavy brush.

Equipment Used: Office equipment, electronic equipment, and motorized vehicles.

Telework Evaluation:

Up to 60% telework may be considered for this position.