

**OPEN TO ALL QUALIFIED APPLICANTS
ENGINEER 1, 2 OR 3
WATER UTILITY**

DANE COUNTY RESIDENCY IS REQUIRED FOR THIS POSITION

SALARY RANGE: \$48,225 to \$68,241 annually. The applicant will be hired at the level of an Engineer 1, 2 or 3, depending upon qualifications.

GENERAL RESPONSIBILITIES: *Engineer 1:* This is entry level professional civil engineering work performed in the office and/or field in connection with the design and construction of public works projects for Madison Water Utility. *Engineer 2:* This is intermediate-level professional engineering work performed in the office and/or field in connection with the design and construction of public works projects. Assignments are received from higher-level engineers who define the scope of the work, review the work in progress and upon completion, and certify the results. The work is characterized by the application of theoretical professional engineering expertise and the attainment of procedural knowledge through experience. *Engineer 3:* This is journey-level professional engineering work performed in the office and/or field in connection with the design, management, and construction of a wide variety of public works projects. Assignments are received from an Engineer 4 or higher-level engineer who generally defines the scope of the work; reviews progress periodically and upon completion; and certifies the results, if necessary. The work is characterized by the exercise of technical and professional judgment, the broader application of professional engineering expertise, and proficiency in the operational and procedural aspects of the work. Work duties include preparing drawings and specifications, coordinating and administering construction contracts, and performing complex technical water system and computer analysis, database work, report preparation and research.

EXAMPLES OF DUTIES AND RESPONSIBILITIES: *Engineer 1:* Perform professional engineering work as assigned to include: Prepare engineering drawings and specifications for Water Utility projects. Using computer aided design software, develop designs for water pipeline projects, pressure reducing stations, and other projects as assigned. Coordinate design activities with developers, private entities, other engineering units, City Engineering, City Planning, and other governmental entities. Prepare and evaluate project construction cost estimates. Develop project planning budgets, evaluate feasibility, and complete life cycle cost analysis of proposed projects and improvements. Work with consultants on Utility pump stations, reservoirs and special projects. Conduct basic engineering research and complete special studies. Prepare narrative and statistical reports, maps, and other materials. Gather and evaluate GPS field data. Work with Utility Mapping section to update and maintain utility and GIS records. Complete quality control reviews of completed designs and construction documents. Maintain records of progress, costs and other related details. Develop and implement wellhead protection plans. Provide engineering support to other areas of the Utility. Organize, coordinate, and author Utility standard operating procedures. Develop process flow charts and decision matrix to characterize and document current procedures. Work with other engineers to optimize standard procedures and processes to improve efficiencies with an objective of conserving energy, water and labor. Assist in the coordination and administration of construction contracts. Work with higher level engineers to prepare change order requests. Review requests for information from the field. Evaluate contractor payment requests, construction schedules and progress toward completion. Prepare summary field reports. Assist with the close out of completed contracts. Work closely with field personnel to apply Utility standards and details of construction. Work with the Utility's distribution computer model to analyze the system and

recommend improvements. Assist with the updating, maintenance and calibration of the Utility's distribution system hydraulic model as assigned. Independently conduct complex engineering analysis of the distribution system to allow higher level engineers and managers to make multifaceted long term system capital improvement decisions and establish budgets. Provide fire flow evaluation and identify deficiencies of the system. Recommend improvements to correct or mitigate fire flow deficiencies. Analyze the system for well supply capacity and need. Evaluate system performance and recommend improvements. Routinely add improvements to the model, update system water demands and projected service expansion, develop standard planning scenarios, manage software updates, and prepare reports of findings. Troubleshoot and maintain software and hardware problems with City Information Technology. Answer technical questions from the public, contractors, property owners, and elected officials about engineering considerations and plans. Attend public hearings and other public meetings with higher-level engineers and provide project-related information. Perform related work as required and assigned. *Engineer 2*: Perform all work of an Engineer 1 with greater professional expertise and responsibility for the completion of major project components. If delegated, supervise construction inspectors and other field personnel in the completion of construction work. Conduct regular and routine training sessions for other Utility employees. *Engineer 3*: Perform all work of an Engineer 2 with the application of broader professional expertise and independent responsibility for the completion and management of major project components.

MINIMUM QUALIFICATIONS REQUIRED AT TIME OF APPLICATION

KNOWLEDGE, SKILLS AND ABILITIES: *Engineer 1 and Engineer 2*: Knowledge of the principles, theories and practices of public works engineering, particular as they relate to the design and construction of public works projects. Ability to independently make engineering computations and document them. Ability to read maps and locate facilities in the field. Ability to operate GPS equipment and bring information back to the office. Ability to perform GIS functions, computer aided design, database development and management, and spreadsheet analysis. Ability to exercise independent professional expertise quickly and efficiently in the resolution of engineering problems. Ability to independently collect, analyze, and compile data and prepare technical reports. Ability to communicate effectively, both orally and in writing. Ability to develop and maintain effective working relationships and day-to-day communication with managers, supervisors, co-workers, contractors, the general public and other parties. Ability to maintain adequate records. Ability to inspect or assign others to inspect public works construction projects. Ability to maintain adequate attendance. *Engineer 3*: All of the above plus: knowledge of the procedural aspects of the City's contracting processes. Ability to design and/or coordinate routine projects and provide necessary follow-through to completion. Skill in making and documenting engineering computations and cost estimates. Ability to exercise significant professional engineering expertise and judgment in the resolution of engineering problems. Ability to speak before large groups and answer technical questions. Ability to maintain adequate attendance.

TRAINING AND EXPERIENCE: *Engineer 1*: Graduation from an accredited college or university with a degree in civil engineering or a closely related field. *Engineer 2*: One year of professional engineering experience at the Engineer 1 level comparable to the City of Madison. *Engineer 3*: One year of professional engineering experience at the Engineer 2 level comparable to the City of Madison. Other combinations of training and/or experience which can be demonstrated to result in the possession of the knowledge, skills and abilities necessary to perform the duties of this position will also be considered.

NECESSARY SPECIAL QUALIFICATIONS: *All Levels*: Possession of a valid driver's license or the ability to meet the transportation requirements of the position. *Engineer 2*: Ability to obtain a Certificate of Engineer in Training within 18 months of hire, with one six-month extension allowed if the employee

has met requirements and taken the Fundamentals of Engineering exam and not yet been notified of the results. Engineer 3: Possession of a valid Certificate of Engineer in Training at time of hire.

PHYSICAL REQUIREMENTS: The position will be primarily work in the office with some periods of field work. This position requires the ability to work at a computer workstation for long periods of time. Sitting at a desk for full days for weeks or months at a time should be expected. When working in the field, this position requires the ability to stand for long periods of time, walk substantial distances, walk over uneven terrain, bend and squat in all weather conditions. Ability to carry a 25 pound backpack over rough terrain potentially several times per day in all seasons and weather conditions.

APPLICATIONS: Are available at the City Human Resources Department, 210 Martin Luther King, Jr. Blvd., Room 501, Madison, WI 53703; (608) 266-6500; FAX (608) 267-1115; TTY/Textnet (866) 704-2340; www.cityofmadison.com/employment/employmentListings.cfm. Resumés received without formal application will not be considered. Applications will be accepted until 4:30 p.m. on April 9, 2010.

Reasonable accommodations for persons with a known disabling condition will be considered in accordance with State and Federal law. Persons needing assistance with examinations should contact the City of Madison Occupational Accommodations Specialist at (608) 267-1156.

REPRESENTATION: Non-Represented

CERT 2010087.DOC; JFC 2D; COMP GROUP 18; RANGE 10; PCN 3807; DEPT #64; 03/12/2010; SD:15

THE CITY OF MADISON IS AN EQUAL OPPORTUNITY EMPLOYER FUNCTIONING UNDER AN AFFIRMATIVE ACTION PLAN. WE ENCOURAGE MINORITIES, WOMEN AND INDIVIDUALS WITH A DISABILITY TO APPLY.

IN ACCORDANCE WITH THE IMMIGRATION REFORM AND CONTROL ACT OF 1986, THE CITY OF MADISON WILL HIRE ONLY UNITED STATES CITIZENS AND ALIENS LAWFULLY AUTHORIZED TO WORK IN THE UNITED STATES. ALL APPLICANTS OFFERED A CITY OF MADISON POSITION WILL BE REQUIRED TO PERSONALLY PRESENT DOCUMENTATION, BOTH TO IDENTIFY THEMSELVES AND TO PROVE THAT THEY ARE ELIGIBLE FOR EMPLOYMENT IN THE UNITED STATES (NOTE - THIS ALSO APPLIES TO U.S. CITIZENS). THIS MUST BE DONE BEFORE EMPLOYMENT BEGINS. FURTHER INFORMATION CAN BE OBTAINED FROM THE HUMAN RESOURCES DEPARTMENT. THIS INFORMATION WILL BE KEPT CONFIDENTIALLY, IN A SEPARATE FILE, IN THE HUMAN RESOURCES DEPARTMENT.