

Civil Engineer II - Water

Reports to: Assistant City Engineer

FLSA Status: Exempt

Grade: N

Department: Public Works/Water

Summary: The Water Department Civil Engineer II is an advanced level professional engineer exercising full responsibility for planning and organizing a variety of assigned projects and directing the work of assigned staff. The Civil Engineer II performs complex professional engineering and program management assignments demanding considerable knowledge of various aspects of engineering and related program requirements. Projects include but are not limited to general planning, design standards and regulations, water main extensions and replacements, water treatment facilities, distribution system modeling, mechanical maintenance, meter services, department facilities process review, reservoir improvements / stabilization, watershed management, water treatment evaluation and optimization, future water supply planning, bridges and dams, retaining walls, grading and drainage, review and processing of private development plans and development actions, and construction and maintenance.

A Civil Engineer II is expected to communicate technical and non-technical information clearly and effectively, both orally and in writing, with other City staff, public officials, external entities, external professionals and the public. In addition, the Civil Engineer II may supervise interns or seasonal staff and will serve as a technical resource, coach, mentor and trainer to other staff members.

The Civil Engineer II performs complex engineering tasks independent of close supervision. Takes the role of project engineer for large multifaceted capital improvements from planning, through design, bidding and construction phases. Reviews and examines construction drawings, specifications, and shop drawings prepared by outside consultants, determines feasibility and prepares various reports pertaining to design of City infrastructure. Responsible for assisting contractors, developers, builders, and other citizens needing assistance on projects. Perform field observation of contractors performing improvements on City and private entity projects.

Essential Functions include the following. Other duties may be assigned. (These examples may not include all of the tasks and/or knowledge which may be expected of the employee, nor do they cover all of the specific duties which may be required). Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Utilizes principles and practices of Civil / Environmental Engineering to research, conduct field work, design, and work with consultants in the preparation of plans, designs, details, specifications, cost estimates, environmental documentation, and various reports for the construction, maintenance, and operation of projects.

Communicates technical and non-technical information clearly and effectively, both orally and in writing, with other City staff, public officials, external entities, external professionals and the public.

Monitors and evaluates work of interns or seasonal employees while serving as a technical resource, coach, mentor and trainer to other staff members.

Receives reviews, examines and prepares design projects; consults with other departments or agencies, meets and corresponds with consultants, contractors and others to resolve problems.

Reviews, organizes, and ensures Departmental oversight agency permits and correspondence are within guidelines and regulations.

Evaluates and prepares planning alternatives and designs, construction plans, geographical information system (GIS) maps, cost estimates, and specifications for capital improvement projects, i.e., water main extensions and replacements, water treatment facilities, mechanical maintenance, reservoir improvements / stabilization, water treatment evaluation and optimization, and bridges and dams.

Prepare and update distribution system modeling to assist future planning and system modification efforts.

Familiar with the rules and standards associated with various funding alternatives.

Researches all required data for plan completion and integrates data pertaining to the project in hand.

Qualifications:

1) Education/Experience: Graduation from an approved four year college or university with major course work in Civil or Environmental Engineering or other related areas with an emphasis on water treatment and management. Minimum of five (5) years of experience in municipal engineering or water treatment and management work.

2) General Skill Levels:

Knowledge of:

- Principles and practices of Civil / Environmental Engineering, including the areas of drinking water planning, design and implantation.
- Hydraulics, water supply engineering, drainage and environmental engineering.
- Experience and interest in a combination of areas including: water treatment and optimization, water supply, pumping, storage; regulatory requirements; and public involvement.
- Design and construction industry standard practices, codes, contracts, drawings, specifications, and safety standards.

- Field observation and construction management.
- Strong knowledge of computer programs applicable to this position including standard office software and engineering specific programs such as computer assisted design (CAD) software, WaterGEMS or other water distribution analysis and design software, water audit software, and geographical information systems (GIS).
- Project scoping, cost estimating, value engineering, and project management and planning principles.

Skill In:

- Applying the principles of Civil / Environmental Engineering to assigned work.
- Effectively and efficiently administering programs and procedures.
- Communicating effectively, clearly and professionally in writing and verbally with other employees, engineers, contractors, outside agencies and members of the general public.
- Reviewing, analyzing, coordinating and delivering of engineering functions, modeling, or project.
- Planning, designing, detailing and modifying engineering documents.
- Providing coaching, mentorship and training to other staff members.
- Applying mathematical calculations as appropriate to this position.
- Organizing and planning large scale projects and coordinating the efforts of others.
- Working independently in resolving highly complex questions and problems.
- Applying knowledge of fiscal resource and contract management sufficient to assist with budget preparation and program / project execution.
- Using concepts and principles of negotiation to achieve program / project objectives.

Ability to:

- Ability to use word processing, spreadsheet, Internet, e-mail, database and computer assisted design (CAD) software.
- Ability to handle multiple projects at the same time in a dynamic environment.
- Ability to communicate technical information and instructions effectively, in both written and verbal presentations.
- Stay current with professional standards, think critically, solve problems efficiently and manage time well.
- Ability to make complex engineering computations quickly and accurately.
- Ability to review, examine, and prepare construction drawings, geographical information system (GIS) maps, specifications, and shop drawings.
- Ability to consult with others, meet and correspond with consultants, contractors, the general public and others to resolve issues.
- Plan, evaluate and supervise the work of direct reports.
- Travel throughout the community to inspect a wide variety of worksites.
- Move through a wide variety of facilities and worksites, often on uneven, wet or slippery terrain including natural and altered ground surfaces

- Visually inspect construction work and materials and may require bending and stooping.
- Climb steps and slopes.

3) Certificates and Licenses: Valid Illinois driver's license; must also possess licensure as a Professional Engineer in the State of Illinois.

Physical Requirements/Working Conditions: Work is performed both in an office environment and in the field on construction sites. Work requires driving to other office locations and other agency facilities in town or around the state for meetings, as well as visits to work sites. Work may include attending meetings outside of normal work hours. There are no extraordinary physical demands on this position other than incidental outdoor work including occasional oversight activities in dusty, moist or humid conditions and in a range of outdoor temperatures.