



**Code: 6086**

Family: Technical Engineering  
Service: Operation and Construction  
Group: Engineering, Designing, and Structural  
Series: Mechanical Engineering

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## **CLASS TITLE: ASSISTANT ENGINEER OF WATER PUMPING**

### **CHARACTERISTICS OF THE CLASS**

Under direction, assists in managing the personnel and operations of the City's pumping stations supplying water to the City of Chicago and various municipalities, and performs related duties as required

### **ESSENTIAL DUTIES**

- Assists in directing unit supervisors in overseeing professional and skilled trades personnel in operating, maintaining, and repairing water pumping equipment and facilities
- Inspects station operations and makes staffing, equipment, and procedural changes to ensure operational efficiency and effectiveness
- Assists in developing work standards and evaluating supervisory performance
- Coordinates the inspection of water pumping equipment malfunctions and approves repairs
- Assists in developing specifications for the acquisition and installation of new water pumping equipment
- Assists in coordinating the contracting, purchase, installation, and testing of new and refurbished pumping equipment
- Assists in reviewing design drawings for new pumping station equipment or the refurbishment of existing equipment
- Supervises the review of contract documents and engineering calculations prepared by contractors to ensure compliance with project specifications and sound engineering principles
- Assists in determining and prioritizing facility and equipment repair, replacement, and maintenance schedules
- Schedules and coordinates construction, installation, repair, and maintenance work to minimize interruption of normal operations
- Supervises or personally analyzes and resolves complex equipment engineering problems
- Coordinates and monitors projects assigned to staff and/or consultant engineers to ensure compliance with project specifications, schedules, and budgets
- Approves final payments to consultants and contractors for completed work
- Coordinates and participates in the development and implementation of safety programs and training for plant personnel
- Responds to emergencies involving water pumping operations
- Assists in directing the maintenance of detailed records on equipment and power failures and the preparation of operational reports
- Assists in preparing and administering the annual budget for pumping operations
- Consults with other departments and agencies to coordinate work affecting pumping operations
- Researches new mechanical equipment and processes to improve water pumping operations
- Conducts tours of water pumping facilities for visiting engineers and dignitaries
- Provides technical information on water pumping operations at regulatory proceedings

**NOTE:** *The list of essential duties is not intended to be inclusive; there may be other duties that are essential to particular positions within the class.*

## MINIMUM QUALIFICATIONS

### Education, Training, and Experience

- Graduation from an accredited college or university with a Bachelor's degree in Electrical or Mechanical Engineering or a directly related field of engineering, plus six years of professional engineering work experience, of which four years is in a supervisory role requiring experience in the design, operation, and maintenance of water pumping stations; or an equivalent combination of education, training and experience provided that the minimum degree requirement is met

### Licensure, Certification, or Other Qualifications

- Registration as a Professional Engineer (R.P.E.) is required. At the time of employment, positions must have obtained Registration as a Professional Engineer (R.P.E.) in the State of Illinois

## WORKING CONDITIONS

- General office environment
- Exposure to loud noise
- Exposure to hazardous conditions (e.g., heavy machinery)

## EQUIPMENT

- Standard office equipment (e.g., telephone, printer, photocopier, fax machine, calculator)
- Computers and peripheral equipment (e.g., personal computer, computer terminals, hand-held computer)
- Personal protective equipment (e.g., hard hat, shoes, glasses, gloves)
- Scientific calculators

## PHYSICAL REQUIREMENTS

- Ability to climb staircases, ladders, and/or step stools

## KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

### Knowledge

Considerable knowledge of:

- \*applicable mechanical engineering theories, principles, methods, and procedures
- \*mechanical system installation and maintenance methods
- \*use of mechanical, electrical and hydraulic equipment for water pumping station operations
- \*procedures and methods for monitoring and maintaining equipment and instruments

Moderate knowledge of:

- \*management and supervisory methods, practices, and procedures

Some knowledge of:

- budgetary preparation and planning

- contract administration procedures
- project costing, monitoring and reporting methods, practices, and procedures
- procurement processes (e.g., purchase of equipment, supplies, materials)
- water treatment and purification operations
- \*safety principles, methods, practices, and procedures
- applicable electrical engineering methods, theories, principles, and procedures
- applicable federal, state, and local laws, regulations, and guidelines

Knowledge of applicable City and department policies, procedures, rules, regulations, and ordinances

### **Skills**

- \*ACTIVE LISTENING - Give full attention to what other people are saying, taking time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times
- \*CRITICAL THINKING - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems
- \*MATHEMATICS - Use mathematics to solve problems
- \*MONITORING - Monitor and assess performance of one's self, other individuals, or organizations to make improvements or take corrective action
- \*COMPLEX PROBLEM SOLVING - Identify complex problems and review related information to develop and evaluate options and implement solutions
- \*MANAGEMENT OF FINANCIAL RESOURCES - Determine how money will be spent to get the work done and account for these expenditures
- \*JUDGEMENT AND DECISION MAKING - Consider the relative costs and benefits of potential actions to choose the most appropriate one
- \*SYSTEMS ANALYSIS - Determine how a system should work and how changes in conditions, operations, and the environment will affect outcomes
- \*SYSTEMS EVALUATION - Identify measures or indicators of system performance and the actions needed to improve or correct performance relative to the goals of the system
- \*EQUIPMENT MAINTENANCE - Perform routine maintenance on equipment and determine when and what kind of maintenance is needed
- \*TROUBLESHOOTING - Determine causes of operating errors and decide what to do about it

### **Abilities**

- COMPREHEND ORAL INFORMATION - Listen to and understand information and ideas presented through spoken words and sentences
- SPEAK - Communicate information and ideas in speaking so others will understand
- COMPREHEND WRITTEN INFORMATION - Read and understand information and ideas presented in writing
- WRITE - Communicate information and ideas in writing so others will understand
- REASON TO SOLVE PROBLEMS - Apply general rules to specific problems to produce answers that make sense

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- REASON MATHEMATICALLY - Choose the right mathematical methods or formulas to solve a problem
- MAKE SENSE OF INFORMATION - Quickly make sense of, combine, and organize information into meaningful patterns
- REACH CONCLUSIONS - Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)

**Other Work Requirements**

- INITIATIVE - Demonstrate willingness to take on job challenges
- LEADERSHIP - Demonstrate willingness to lead, take charge, and offer opinions and direction
- COOPERATION - Be pleasant with others on the job and display a good-natured, cooperative attitude
- ADAPTABILITY/FLEXIBILITY - Be open to change (positive or negative) and to considerable variety in the workplace
- DEPENDABILITY - Demonstrate reliability, responsibility, and dependability and fulfill obligations
- ATTENTION TO DETAIL - Pay careful attention to detail and thoroughness in completing work tasks
- ANALYTICAL THINKING - Analyze information and using logic to address work or job issues and problems

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All employees of the City of Chicago must demonstrate commitment to and compliance with applicable state and federal laws, and City ordinances and rules; the City's Ethics standards; and other City policies and procedures.

The City of Chicago will consider equivalent foreign degrees, accreditations, and credentials in evaluating qualifications.

\* May be required at entry.

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City of Chicago  
Department of Human Resources  
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