



Code: 6142

Family: Operational Engineering
Service: Operation and Construction
Group: Engineering, Designing, and Structural
Series: Sub-Professional Engineering

CLASS TITLE: ENGINEERING TECHNICIAN III

CHARACTERISTICS OF THE CLASS

Under supervision, performs para-professional engineering work to support a variety of engineering projects in an assigned area of responsibility, and performs related duties as required.

This class is the entry-level in the Engineering Technician series. Positions in the class series are allocated across various City departments in support of engineering work which may include but are not limited to projects involving the design, maintenance, and construction of water mains or sewers, roads, bridges, street maintenance, traffic engineering and/or traffic control.

ESSENTIAL DUTIES

- Inspects and reviews construction work and procedures for compliance with City requirements and engineering specifications and standards (e.g., sewer and water mains, curbs, street repavings, catchbasins, street cameras)
- Conducts inspections in response to citizen complaints, work orders, permit requests (e.g., street resurfacing, sewer repair/cleaning, water in basement)
- Reviews and approves permit requests for technical accuracy and compliance, and calculates fees (e.g., traffic, driveway, sewer)
- Reviews and interprets electronic and hard copy blueprints, sketches, and drawings for field crews and office staff used for the approval of permits and to assist in identifying and verifying structures
- Conducts field surveys and takes measurements to establish slopes, baselines, grade elevations, and horizontal and vertical alignments at construction sites, driveways, alleys, sewers, etc.
- Oversees construction laborers performing manual labor to assist in the inspection and testing of water leaks and sewer mains
- Checks forms and construction/street structures (e.g., concrete, sewers, curbs, gutters, street repavings, catch basins, earthwork, retaining walls)
- Assists in the conduct of surveys for the placement, adjustment, or removal of devices (e.g., traffic signs, cameras)
- Conducts dye testing, collects field samples of water and soil, and recommends cleaning and remediation efforts
- Prepares narrative and statistical computerized and/or manual reports detailing findings of inspections or field assignments and makes recommendations regarding corrective action and generates work orders if required
- Prepares geometric designs for street and intersection improvement
- Maintains map and blueprint atlas books
- Develops preliminary material and cost estimates and computes quantities for payment
- Updates databases to track work orders and maintains computerized records
- Utilizes drafting and design software programs (e.g., Computer Aided Design) and Geographic Information System (GIS) to prepare and /or review plans, schematics, maps and drawings

- Monitors the functioning of water pipes with aquaphone/audio phone and sound level meter and performs fire flow and pitometer tests, as required
- Provides technical information at hearings and legal proceedings, as required
- Assists resident engineers on projects, as required

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

- One year of paraprofessional engineering experience; or an equivalent combination of education, training, and experience

Licensure, Certification, or Other Qualifications

- Some positions may require a valid State of Illinois driver's license
- Some positions may require the permanent use of an automobile that is properly insured including a clause specifically insuring the City of Chicago from accident liability

WORKING CONDITIONS

- General office environment
- Exposure to outdoor weather conditions
- Exposure to hazardous conditions (e.g., construction sites)
- May perform in cramped or confined locations

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)
- Two-way radio
- Digital and surveillance camera
- Measuring tools (e.g., tape measure, measuring wheel, ruler, range pole)
- Equipment (e.g., sound sensor device, pressure gauge, dye, surveillance equipment, hoses)
- Personal protective equipment (e.g., hard hat, shoes, glasses, gloves, vest, pads)
- Safety devices or equipment (e.g., cones, barricades, ropes)

PHYSICAL REQUIREMENTS

- Some positions may require moderate lifting (up to 50 lbs)
- Ability to stand and walk for extended or continuous periods of time
- Ability to move one's hands and arms to grasp or manipulate objects

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

Knowledge

Some knowledge of:

- *engineering design and construction principles, methods, practices, and procedures
- *applicable testing and inspecting principles, methods, practices, and procedures applicable to area of assigned responsibility
- *methods, materials, and techniques used in engineering
- *surveying principles, methods, practices, and procedures
- *mathematical principles and applications
- use of engineering drafting equipment and surveying instruments
- applicable federal, state, local laws, regulations, and guidelines
- automated design and computer-aided drafting software
- interpreting blueprints, design plans and specifications

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

Skills

- *ACTIVE LEARNING - Understand the implications of new information for both current and future problem-solving and decision-making
- *ACTIVE LISTENING - Give full attention to what other people are saying, take 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

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
- WORK WITH NUMBERS - Add, subtract, multiply, or divide quickly and correctly

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.

City of Chicago
Department of Human Resources
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