



CIVIL ENGINEERING TECHNICIAN I

JOB DESCRIPTION

Department: Public Works	Division: Engineering
Work Location: Urbana Public Works Department	Percent Time: 100%
Job Type: Civil Service	FLSA Status: Non-exempt
Reports To: Assistant City Engineer/Civil Engineer III or designee	Union: Non-Union

JOB SUMMARY:

~~Provides assistance to others who perform~~ Under the direction of the City Engineer, the Civil Engineering Technician performs various engineering activities. Assists with the design tasks and preparation of construction plans for duties as assigned. This position is involved in the planning and implementation of municipal infrastructure improvement projects; ~~conducts and maintenance programs; managing the City's regulatory programs; maintaining the City's compliance with state and federal regulations; conducting field investigations; assists with the collection of project data; performs construction layout; assists with the monitoring of construction work and assesses the condition of infrastructure. Collects and inspections; collecting field data utilizing surveying techniques and instruments; applies principals of mathematics; and measures and calculates quantities. monitoring construction work; and assessing the condition of infrastructure.~~

Defining Characteristics of the Class

~~**Level I:** This is the entry -level in the Civil Engineering Technician class in the Civil Engineering Technician series.~~ This ~~class level~~ is distinguished from the Civil Engineering Technician II, III and IV levels by the performance of basic and routine tasks and duties assigned to positions within the ~~series class~~. Since this ~~class level~~ is typically used as a training ~~class level~~, employees may have limited or no work experience. The incumbent performs beginning-level technical work and is expected to perform routine tasks under the immediate supervision of engineers and higher-level technicians who review the incumbent's work procedures and results. Assignments require the application of basic technical knowledge and skills, acquired through a formal training program, to various public works projects.

JOB DUTIES/ESSENTIAL FUNCTIONS:

- ~~• Assists with construction layout, marks locations for various pay items, measures amount of approved materials used and amount of work completed or accepted;~~
- ~~• Assists~~Perform a range of engineering related tasks requiring independent analysis and formulations of solutions to problems;
- Perform measurements and calculations accurately;
- Assist with planning and implementation of capital improvement projects and maintenance programs;
- Assist with collecting/managing the City's regulatory programs, such as Utility / Right-of-Way Permits, Erosion Control Permits, and Development Review.
- Assist with maintaining the City's compliance with state and federal regulations, such as National Bridge Inspections Standards (NBIS), National Pollutant Discharge Elimination System (NPDES) Permits, and others that may be identified in the future.
- Assist with maintaining and updating data for the City's infrastructure assets.
- **Collect** field data, such as existing topographical data, utilizing surveying techniques and instruments;
- ~~• Performs calculations utilizing a personal computer and/or a scientific calculator;~~
- ~~• Assists with the collection of project data;~~
- Attends pre-Monitor construction of contract work to ensure work is performed in compliance with contract plans and specifications and required quality is obtained;
- Assist with design and development of construction plans, specifications, and contract documents;
- Prepare exhibits, graphics, and special illustrations and attends public information meetings and construction progress meetings for in conjunction with various City projects;
- ~~• Performs computer aided and manual drafting of~~Coordinate contract plans, details and location maps;
- ~~• Assists in preparing contract documents, plans and specifications;~~
- ~~• Assists~~work on concurrent projects with the inspection of contractor's daily work for compliance with plans and specifications; assists with the monitoring of field work performed by contract crews~~other departments and agencies; assists with the preparation of progress reports;~~
- ~~• Assists with maintaining~~news releases, letters, and any other communication tools distributed to property owners, residents and necessary public or private agencies to effectively and efficiently communicate with impacted parties on any project~~construction documentation;~~
- ~~• Conducts inspection and testing of construction materials, as required for~~Provide technical support to various City projects~~departments;~~

- Works effectively and cooperatively with others;
- ~~Assists with coordinating locations of various construction projects with local utility companies~~ Handle requests for information, service or complaints over the phone, via electronic or regular mail and in person, or makes referrals to appropriate staff on behalf of the City of Urbana;
- ~~Ensure that the City vehicle and obtaining locations of their facilities in the project area;~~
- ~~Collects final location data for completed projects and prepares "record" drawings;~~
- ~~Uses all other equipment with to which he/she is assigned is maintained in clean, proper care and ensures that running condition; reporting to supervisor or other appropriate person when vehicle or other equipment is maintained in good working order in need of repair;~~ and
- ~~Performs~~ Perform other activities as assigned.

This job description reflects the general concept and intent of the classification and should not be construed as a detailed statement of all of the job requirements that may be inherent in the position.

JOB REQUIREMENTS

Education & Experience

Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

- ~~Associate's D~~ degree in Civil Engineering Technology or related field from an accredited ~~college or junior college post-secondary~~ program.
- ~~Previous internship or cooperative education experience in municipal, county, state, or federal engineering, or engineering consulting is preferred.~~

Preferred Attributes

- Familiarity with ArcGIS ~~is preferred.~~
- ~~Familiarity with Granite XP S~~ewer ~~T~~elevising ~~S~~oftware ~~is preferred.~~

Knowledge of

- Standard practices, procedures, materials, tools, and equipment used in the maintenance, repair, rehabilitation and construction of municipal infrastructure projects.
- ~~Knowledge of~~ Engineering drafting techniques and tools.
- ~~Knowledge and skill in the use of~~ Field survey instruments and techniques.

- ~~Knowledge of~~ Mathematics through trigonometry.
- Microsoft Office applications, including Word, Excel, Access, PowerPoint and Outlook
- AutoCAD or Microstation.

Ability to

- Assist with and learn to operate equipment, such as a theodolite, level, metal detector, computer, scientific calculator, plotter and mobile radio;
- Layout construction projects, including sewers, new pavements, and sidewalks;
- ~~Assist with the construction layout of bridges/structures;~~
- Obtain concrete samples to measure for air entrainment and slump and cylinder testing; inspect manholes; drill cores; measure quantities; and calculate construction quantities and costs;
- Make quick and intelligent field judgments required during construction inspection;
- ~~Perform AutoCAD drafting and use computer spreadsheet and word processing software;~~
- ~~Measure and calculate construction quantities and costs;~~
- Read figures quickly and accurately and make mathematical calculations;
- ~~Draft plans for various contract projects from preliminary design stage through final "record" drawing stage;~~
- Learn and adhere to City policies and procedures;
- Communicate effectively with the public and co-workers; ~~and~~
- Follow oral and written instructions.

RESPONSIBLE FOR:

- ~~Performing measurements~~Work effectively and ~~calculations accurately;~~
- ~~Assisting cooperatively with observation of contractor's work to ensure that work complies with contract requirements~~others;
- ~~Assisting with maintaining project~~Stand for long periods of time while inspecting construction ~~correspondence~~projects; and ~~records from project conception to completion.~~
- ~~Ensuring that the City vehicle and other equipment to which he/she is assigned is maintained in clean, proper running condition; reporting to supervisor or other appropriate person when vehicle or other equipment is in need of repair; and~~
- ReferringRefer questions and problems to higher levels.

Licenses, Certifications, and Memberships Required

- Must possess a valid Illinois driver's license or have the ability to obtain one within fifteen (15) days of employment and have the ability to operate a motor vehicle.

Contacts: Internal/External

- ~~Daily contacts with residents and contractor personnel during construction projects.~~
- ~~Regular contact with utility company personnel, businesses, citizens, other governmental agencies, consultants and other City departments.~~

Work Environment:

- ~~Ability to work in varying climates. Job requires outside work in all weather conditions, winter and summer as well as inside office work.~~
- ~~Works around traffic and in and around heavy equipment in construction zones. Works around potentially hazardous fumes and caustic compounds.~~

Supplemental Information

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Supervision received

- Works under the direction of the City Engineer; establishes procedures for attaining specific goals and objectives and is assigned responsibility for establishing the methods to attain them. Generally in charge of an area of work, but does not have the authority for approving policy.

Level and complexity of supervision exercised

- This position is not responsible for supervising any staff positions.

Physical Demands and Working ENVIRONMENT: Conditions

The work environment characteristics described herein are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- The work will occur in Physical Demands: ability to lift and carry fifty (50) pounds; sit, stand and/or walk for extended periods and ability to walk on uneven terrain at construction sites and other surfaces; manual dexterity and eye-hand coordination needed to use a variety of office equipment such as computers, telephones, calculators, copiers, and topographic surveying equipment. Position requires visual acuity sufficient to read computer screens and printed documents and visually inspect work in progress and hearing in the normal audio range with or without correction.
- Working Conditions: Work generally occurs in both an office and field environment. Incumbents may be subjected to dusts, fumes, extreme temperatures, inadequate lighting, and intense noises. A typical work schedule: Monday - Friday, 7:00 a.m. - 4:00 p.m. with flexibility depending upon the needs of the department. May be required to work in excess of 40 hours a week and/or work irregular hours, particularly during construction projects or emergency situations. Job requires outside work in all weather conditions, winter and summer as well as inside office work. Work occurs around traffic, in and around heavy equipment in construction zones, and around potentially hazardous fumes and caustic compounds.

Incumbents may be subjected to dusts, fumes, extreme temperatures, inadequate lighting, and intense noises.

PHYSICAL REQUIREMENTS:

The physical demands described herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- ~~Must be able to lift and carry fifty (50) pounds.~~
- ~~Sit, stand and/or walk for extended periods;~~
- ~~Have manual dexterity and eye-hand coordination needed to use a variety of office equipment such as computers, telephones, calculators, copiers, and topographic surveying equipment;~~
- ~~Have corrected vision in order to review plans and specifications and perform other essential functions of the job; and~~
- ~~Walk on uneven terrain at construction sites, etc.~~

ADDITIONAL PHYSICAL REQUIREMENTS:

VISION AND HEARING

~~See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; visually inspect work in progress. Ability to hear in the normal audio range with or without correction.~~

Job Dimensions

- General guidelines for work exist, but employee is increasingly responsible for determining the approach for performing the work.
- At the entry level, employee performs technical or trades-based work that requires a solid understanding of basic algebra and statistics at the para-professional level. Work complexity and independence increase relative to demonstrated proficiency and expertise. At advanced levels, employee performs work that encompasses advanced technical, scientific, legal, or mathematical concepts. Work directly contributes to the implementation of specific policies, programs, or initiatives of the organization.

The physical demands and work environment described herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

City of Urbana
Civil Engineering Technician I

Prepared By: John Zeman and Tim Cowan 03/22/2022
Signature *Date*

Class Specification History

New classification added: 02/10/2016.

[General revision: 03/30/2022](#)

For HR/Finance Use

Title Code	Pay Grade
	<u>236</u>
EEO Category	
3-Technician	