

## **Engineer In Training – ENGINEERING DEPARTMENT**

### **PURPOSE OF JOB**

Under supervision of Director of Engineering, is responsible for performing entry-level technical engineering work of average difficulty, as assigned, associated with the design and/or coordination of engineering and construction projects to ensure compliance with established industry standards and/or applicable codes; projects are built to plans and specifications, meeting all applicable laws, rules and ordinances and that the quality of work is satisfactory and acceptable within a given time period.

### **EQUIPMENT/JOB LOCATION**

- The employee will perform duties that are to be conducted inside where temperature and ventilation are controlled.
- Some work will be conducted in outside weather conditions with variable temperatures and possible exposure to icy, wet or humid conditions, fumes, chemicals, vibration, dirt, grease, etc.
- The employee will sometimes work near moving mechanical parts or heavy construction equipment.
- Work involves frequent physical exertion including: walking, stooping, bending, kneeling, reaching, twisting, standing, sitting, etc.

### **ESSENTIAL FUNCTIONS**

**The following duties are normal for this job. These are not to be construed as exclusive or all-inclusive. OTHER DUTIES MAY BE REQUIRED AND ASSIGNED.**

- Assists with the design of civil engineering projects for public works, ensuring compliance with all applicable codes, laws and regulations, standards, policies and procedures. Public works projects include, but are not limited to: roadways and streetscapes, storm and sanitary sewer systems, erosion and sediment control, limited structure design, traffic control, utilities, potable water distribution systems, low pressure sewer systems, retention and detention ponds and/or other related design items.
- Prepares engineering designs, plans, maps, charts, diagrams, estimates and permitting requests for projects.
- Communicates with supervisor, management staff, other employees, developers, engineers, contractors, citizens and external organizations to coordinate activities and/or projects.
- Performs on-site and final inspections of projects.
- Assists with technical guidance on a variety of construction related projects.
- Responsible for researching current technical literature, keeping abreast of current trends, maintaining professional affiliations and attending workshops and technical training sessions.
- Utilizes AutoCAD and Carlson Civil/Survey Software to design transportation facilities including survey data processing, surface and contour creation, earthwork calculations, corridor modeling, quantity estimation and 3-D visualization.
- Reviews and provides input on development of revisions of rules, regulations, ordinances and correspondence.
- Assists in preparation and review of Capital Improvement Program, the departmental budget and short/long range goals.
- Assist with interpreting and enforcing local, state and federal regulations affecting municipal projects.
- Recommends solutions to complex design problems or system modifications.
- Assist with the acquisition and easements of property for municipal projects.

- Prepares, assists and completes various forms, reports, bids, correspondence, design drawings, preliminary layouts, contract documents, project lists, cost estimates, minutes, schedules, punch lists or other related documents.
- Assists with grant applications.
- May review final payment for services.
- Will be required to attend various training schools or classes.

## **REQUIRED KNOWLEDGE AND ABILITIES**

- Requires moderate to limited supervision and the use of independent judgment and discretion.
- Knowledge of current practices used in the area of specialization such as municipal facilities, streets, potable water and sanitary sewer systems.
- Knowledge of local, state and federal regulations affecting areas of municipality.
- Knowledge of engineering terminology, principles and theories.
- Knowledge of legal terminology used in construction documents.
- Knowledge of estimating and surveying procedures.
- Knowledge of new trends, procedures, material or regulations in area of specialization.
- Knowledge of planning, forecasting and budgeting techniques.
- Skill in use of AutoCAD and Carlson software.
- Skill in the use of engineering instruments and equipment.
- Organizational and time management skills needed to set goals and meet deadlines.
- Ability to maintain discretion and confidentiality regarding business-related files, reports and conversations, within the provisions of the open records law and other applicable State and Federal regulations.
- Ability to perform complex problem analysis.
- Ability to analyze difficult engineering data.
- Ability to read and interpret engineering plans and specifications.
- Ability to perform cost/benefit, usage and other kinds of analyses.
- Ability to make accurate engineering computations.
- Ability to oversee municipal projects from conception to completion.
- Ability to establish and maintain an effective working relationship with the public, other Engineering officials, City supervisors, City employees and City Council.
- Ability to write detailed technical reports.
- Ability to communicate effectively in both written and verbal form.
- Ability to maintain a high level of discipline and morale.

**MINIMUM TRAINING, EXPERIENCE AND LICENSING REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS:** *Any combination of training and experience equivalent to the following can be approved at the discretion of the Director of Engineering, Human Resources Manager and City Manager.*

- Bachelor's Degree from an EAC/ABET accredited college or university in an Engineering discipline
- Must be registered as an Engineer in Training in the state of Tennessee or passage of the Fundamentals of Engineering exam.
- Requires a valid State of Tennessee drivers' license.
- Must be eligible for professional engineering licensure.

## **MINIMUM QUALIFICATIONS OR STANDARDS REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS**

**PHYSICAL REQUIREMENTS:** Must be able to work near a variety of machines, tools and equipment. Must be able to use body members to work, move or carry objects/materials. Some heavy lifting may be required.

**ENVIRONMENTAL FACTORS:** Performance of essential functions may require exposure to adverse environmental conditions such as grease, dirt, dust, various weather conditions, fumes, chemicals and vibrations.

**DATA CONCEPTION:** Requires the ability to compare and/or judge the readily observable functional, technical, structural, or compositional characteristics (whether similar to or divergent from obvious standards) of data, people or things.

**INTERPERSONAL COMMUNICATION:** Requires the ability of speaking and/or signaling to convey or exchange information. Includes giving assignments and/or directions to co-workers or assistants.

**LANGUAGE ABILITY:** Requires the ability to read a variety of informational documentation, directions, instructions, and methods and procedures related to the job. Requires the ability to write reports with proper format, punctuation, spelling and grammar, using all parts of speech.

**INTELLIGENCE:** Requires the ability to learn and understand basic to complex principles and techniques; to make independent judgments in absence of supervision; to acquire knowledge of topics related to the job.

**VERBAL APTITUDE:** Requires the ability to record and deliver information to supervisors and officials; to explain procedures and policies; and to follow verbal and written instructions, guidelines and objectives.

**NUMERICAL APTITUDE:** Requires the ability to utilize complex mathematical formulas; add and subtract totals; multiply and divide; determine percentages; determine time and weight.

**FORM/SPATIAL APTITUDE:** Requires the ability to inspect items for proper length, width, and shape, visually and with equipment.

**MOTOR COORDINATION:** Requires the ability to coordinate hands and eyes in using automated equipment.

**MANUAL DEXTERITY:** Requires the ability to handle a variety of items, equipment, control knobs, switches, etc. Must have the ability to use one hand for twisting or turning motion while coordinating other hand with different activities. Must have average levels of eye/hand/foot coordination.

**COLOR DISCRIMINATION:** Requires the ability to differentiate colors and shades of color.

**INTERPERSONAL TEMPERAMENT:** Requires the ability to deal with people (i.e. staff, supervisors, general public, and officials) beyond giving and receiving instructions such as in interpreting departmental policies and procedures. Must be adaptable to performing under minimal stress when confronted with an emergency related to the job.

**PHYSICAL COMMUNICATION:** Requires the ability to talk and/or hear: (talking – expressing or exchanging ideas by means of spoken words). (Hearing – perceiving nature of sounds by ear.)

Note: This job description does not constitute an employment agreement between the City of Crossville and the employee and is subject to change by the employer as the needs of the City and requirements of the job change.

The City of Crossville is an EEO/Affirmative action employer and does not discriminate on the basis of race, age, sex, religion, color, disability or national origin. In compliance with the Americans with Disabilities Act, the City may provide reasonable accommodations to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer.

**I have received a complete copy of the job description and understand the requirements of the job. It is not to be construed as an exhaustive list of all responsibilities and duties required of the job.**

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**Employee Signature**

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**Date**