



## City of Irving Job Description

### Graduate Engineer

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<b>FLSA Status:</b>	EXEMPT	<b>Job Department:</b>	Capital Improvement Program Department
<b>Job Code:</b>	K331	<b>Reports To (Job Title):</b>	Engineering Coordinator

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#### PURPOSE

To support senior staff with engineering design, technical documentation, and project management of in-house public works assignments. To perform a variety of technical tasks relative to assigned area of responsibility.

#### ESSENTIAL DUTIES AND RESPONSIBILITIES

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily.\*

- Prepare, under the direction of a professional licensed engineer, designs, project contracts, and drawings for a variety of public works projects including water, wastewater, paving, and drainage plans.
- Assist in the operation of site investigation of proposed public works under the technical supervision of the City Surveyors.
- Manage the construction phase of capital improvement projects, including review of monthly estimates and writing and negotiating change orders with assistance from the Engineering Inspectors.
- Conduct pre-bidders meetings to provide answers about construction sequencing, working day assessment, construction safety, and allowable construction materials.
- Train and direct several employees in research, drafting, and design.
- Assist the general public and private contractors with questions and comments.
- Provide primary assistance and supervision to Engineering Technicians and City Surveyors on technical software.
- Install and maintain/update CAD software for all department users.
- Use GIS system to retrieve utility and property information.
- Identify needs for additional right-of-way or easements for CIP projects.
- Review and revise construction specifications as needed.
- Perform related duties as assigned.

#### OTHER DUTIES AND RESPONSIBILITIES

- Represent the City at a variety of meetings, including public meetings and technical seminars and committees, to provide information on engineering related matters.

#### SUPERVISORY RESPONSIBILITIES

Functional and Technical Supervision - Regular responsibility for giving direction and guidance to employees as a lead worker, project manager or internal advisor. As an ongoing part of the position, the employee can expect to supervise approximately 5 employees.

## **FINANCIAL / BUDGETARY RESPONSIBILITY**

Responsible for estimating proposed construction costs, and reviewing monthly construction pay estimates.

## **QUALIFICATIONS:**

The requirements listed below are representative of the knowledge, skill, and/or ability required.\*

### **EDUCATION**

- Bachelor's degree (B.S.) from accredited four year college or university in Civil Engineering.

### **EXPERIENCE**

- None.

### **CERTIFICATES, LICENSES, REGISTRATIONS**

- Appropriate, valid, state-issued driver's license.
- Engineering-In-Training Certificate.

### **KNOWLEDGE OF**

- Design: Techniques, principles, tools, and instruments involved in the production and use of precision technical plans, blueprints, drawings, and models.
- Computers and Electronics: Computer hardware and software including applications and programming, especially CAD and other technical design related programs.
- Standard Construction Contracts: Principles involved in bidding and managing projects.
- Public Works Construction: Engineering and other materials, methods, laws, and tools to safely and accurately complete public works construction projects which fall under federal, state, and municipal restrictions, laws, and ordinances that govern the planning and ongoing management of a project.

### **SKILLS AND ABILITIES IN**

- System Analysis: Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- System Evaluation: Identifying measures or indicators of system performance and the actions needed to improve or correct performance relative to the goals of the system.
- System Perception: Discerning when important changes have occurred or likely will in a system.
- Management of Material Resources: Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work, developing plans and budgets, and monitoring them against actual activity.
- Analysis & Complex Problem-Solving: Applying advanced mathematical concepts, analyzing complex problems, identifying alternate solutions, projecting consequences of proposed actions, and implementing recommendations in support of goals.

- Technical reasoning: Interpreting an extensive variety of technical instructions in mathematical or diagram form and dealing with multiple abstract and concrete variables.
- Interactive Presentation: Effectively presenting information and responding to questions from groups of managers, clients, customers, and the general public.

## **GUIDANCE RECEIVED**

### **Direction and Varied Methods**

Typically receives specific direction about assignments and work results to be attained. Requires judgment to determine which methods or procedures apply and what data/information should be considered. Position must think through how issues can be addressed within existing policies and procedures.

## **CONTACTS**

Interacts with other departments such as Water Utilities, Police, Fire, Code Enforcement, Traffic, Information Technology, Parks & Recreation and Building Inspections. Often will interact with outside agencies such as consulting firms, Dallas County, DART and TxDOT.

## **EQUIPMENT AND PROPERTY**

Computers, plotters, fax, printers, automobile and calculator.

## **PHYSICAL DEMANDS**

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job.\*

The employee constantly is required to see and/or sit. Frequently, s/he is required to listen and/or talk. Occasionally, s/he is required to drive a vehicle and/or walk.

## **WORK ENVIRONMENT**

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.\*

The employee occasionally is exposed to a dirty environment, extreme temperatures or weather conditions, and/or noise. This job requires the employee to make decisions directly affecting to the safety of others. The noise level in the work environment is usually moderate.

\* Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

**Note:** A class specification is a general listing of duties, responsibilities, knowledge, skills, and abilities required of an incumbent assigned to a particular class of work. There may be one or multiple positions assigned to a single classification; therefore, the class specification lists those work attributes that are common to every incumbent in the class.