

City of Fort Worth, Texas

Job Description

Classification Title	Senior Engineering Technician		
Job Code:	TC5430	Job Family:	Technical/Para-Professional
Pay Grade	511	Date Reviewed:	06/15/15
FLSA Status	Nonexempt	Date Revised:	02/03/25

GENERAL SUMMARY

Performs complex technical civil engineering work including survey, design, mapping, materials testing, drafting and in related areas. Provides technical assistance to professional level engineering staff. Initiates new projects and trains staff.

ESSENTIAL DUTIES & RESPONSIBILITIES

The intent of this job description is to provide a representative summary of the major duties and responsibilities performed by incumbents of this job. Incumbents may be requested to perform job-related tasks other than those specifically presented in this description.

1. Leads, plans, trains and reviews the work of subordinate employees and consultants responsible for civil engineering services including the planning, design, inspection, and contract administration of projects including street, storm water system, traffic controls, traffic operations, water and wastewater facilities, facility planning and related capital improvement projects.
2. Performs research on existing and proposed city infrastructure projects for consultants, contractors, project managers, and citizens.
3. Monitors and evaluates quality, responsiveness, efficiency and effectiveness of engineering and construction project management, delivery methods and procedures.
4. Performs technical and complex tasks of the work unit including managing high impact engineering projects, updates and analyzes engineering models for assigned area. Coordinates work of outside consultants.
5. Performs professional civil engineering work including the design, inspection and contract administration of water and wastewater facilities, traffic mitigation, facility planning and related capital improvement areas.
6. Provides professional engineering expertise in the design and construction of major civil engineering projects. Reviews, evaluates and approves a variety of engineering and construction documents, including drawings, plans, designs, contract documents, technical specification, cost estimates, environmental documents and reports.
7. Identifies and plans required capital improvement projects for system expansion; Designs necessary modifications and/or new construction of public works streets, water, and related projects within City, County, State and Federal guidelines.

8. Prepares special engineering studies and reports. Conducts comprehensive studies for planning future expansions including streets, utilities, flood control systems, and other public works projects.
9. Participates in the selection of engineering employees; provides or coordinates employee training.
10. Prepares analytical and statistical reports on operations and activities.
11. Meets with city departments, citizens and community groups to provide information on activities in assigned area.
12. Performs field and final inspections in assigned area to ensure compliance with project specifications.
13. Assists in reviewing plans, specifications and drawings in assigned area.
14. Performs related duties as required.
15. Adheres to assigned work schedule as outlined in the Department and City attendance policies and procedures; ensures all behaviors comply with the City's Personnel Rules and Regulations.

KNOWLEDGE, SKILLS & ABILITIES

- **Knowledge of:**

- State federal and local laws, rules and regulations.
- Principles of lead supervision and training.
- Methods, techniques and practices in assigned area including land surveying, drafting, materials collection and testing, and related technical engineering functions.
- Computer and associated software. (GIS Arc Map, Arc Editor, Arc View, Arc Map and Arc Catalog, Buzz saw).
- Geographic Information System (GIS) to provide maps.
- Department computer programs and software.
- A variety of mathematical principles for application into assigned area including computation of angles, areas, distances, or calculations on tested materials to ensure specification compliance.
- Design and construction theory.
- Engineering principles and design standards.
- Methods and techniques of advanced report writing.
- Terminology, methods, practices and techniques of drafting.
- Materials, methods, and techniques of modern construction.
- A variety of materials and equipment used in assigned area including CAD systems, and surveying and materials testing equipment.
- Construction plans and specifications.
- Office equipment including computers and supporting word processing and spreadsheet applications.
- Applicable laws, regulations, codes, department policies, governing assigned technical engineering duties.
- Pertinent Federal, State and local laws, codes and regulations.

- **Skill in:**

- Engineering.
- Records maintenance.
- Data gathering, compile information, and prepare reports.
- Attention to detail.
- Leading and directing subordinates.
- Monitoring assigned activities and operations.
- Prioritizing work activities.
- Making observations.
- Operating assigned equipment.
- Research.
- Arithmetic, Geometry and Algebra.
- Information analysis.
- Time management.
- Analyze and solve problems.
- Organization.
- **Ability to:**
 - Communicate clearly and effectively, both orally and in writing.
 - Lead, oversee and train assigned staff.
 - Interpret and apply state and local policies, procedures, laws, codes and regulations.
 - Reduce, interpret, and apply field notes in the performance of drafting and survey duties.
 - Compile rough technical data and prepare statistical and narrative reports from field studies.
 - Perform civil engineering design, drafting and specification work.
 - Understand and interpret engineering plans and specifications.
 - Interact with contractors, engineers, and property owners.
 - Establish and maintain effective working relationships.
 - Prepare accurate engineering records.
 - Operate a variety of materials and equipment used in assigned area including CAD systems.
 - Use algebraic formulas, trigonometry tables and statistical mathematics to accomplish duties in assigned area.
 - Communicate clearly and concisely, both orally and in writing.
 - Operate office equipment including computers and supporting word processing and spreadsheet applications.
 - Establish and maintain effective working relationships with those contacted in the course of work.

MINIMUM JOB REQUIREMENTS

Associate's Degree in Engineering, Architecture or a related field and five years of increasingly responsible technical engineering experience in the areas of drafting, design and/or survey.

OTHER REQUIREMENTS

Valid Texas Driver's License

WORKING CONDITIONS

The work environment characteristics described here 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.

Depending on assignment, positions in this class typically require touching, talking, hearing, seeing, grasping, standing, stooping, kneeling, crouching, reaching, walking, repetitive motions, climbing, balancing, pushing, pulling and lifting.

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

Medium work – Depending on assignment, positions in this class typically exert up to 50 pounds of force occasionally, up to 20 pounds of force frequently, and/or up to 20 pounds of force constantly having to move objects.