October 2012
FLSA: NON-EXEMPT

ENGINEERING TECHNICIAN I

DEFINITION

Under direct supervision, performs a variety of technical and/or paraprofessional engineering work and office duties in support of professional engineering staff and inspectors for the planning, design, and construction of the City's Capital Improvement Projects (CIP) and infrastructure; maintains plan files and engineering records; conducts field surveys, maintains the database, generates reports, and creates maps utilizing Computer Aided Drafting (CAD), and implements and maintains the Geographic Information System (GIS); and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives direct supervision from the Public Works Director/City Engineer. Exercises no direct supervision of staff.

CLASS CHARACTERISTICS

This is the entry-level class in the paraprofessional Engineering Technician series. Initially under close supervision, incumbents with basic technical engineering experience perform work such as maintaining engineering records, performing basic engineering calculations, performing field observations and surveys, researching engineering topics, and updating maps and drawings, in addition to performing office and field work related to assigned engineering projects and programs. As experience is gained, assignments become more varied and are performed with greater independence. Positions at this level usually perform most of the duties required of the II level, but are not expected to function at the same level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise. Since this class is often used as a training class, employees may have only limited or no directly related work experience.

EXAMPLES OF ESSENTIAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.

- Assists in the preparation of specifications, plans, estimates, and reports pertaining to the construction, maintenance, and operation of a variety of basic to routine engineering, land development, utility, and other capital improvement projects (CIP).
- Maintains engineering files, including plans, studies, inspections, surveys, maps, and other data related to engineering projects; prepares, updates, reproduces, and distributes maps, drawings, blueprints, and other information recorded in the Geographic Information System (GIS).
- Learns to utilize GIS software to create and modify plot plans, topographic maps, improvement plans, and illustrative graphics, such as charts, illustrations, and graphs for reports, drawings for design manuals, and other projects.
- Performs basic design and drafting duties in connection with streets, storm drains, utilities, and other projects.
- Receives, tags and logs submitted engineering plans, maps, and related documents for plan check; routes documents to consultants or developers for preceding and following plan review; tracks status of plan checks and original documents.
- Receives and responds to information requests for base maps, parcel maps and improvement plan information, encroachment permits, benchmarks, and other geographical data; provides reports, permits, and files as necessary to comply with requests; responds to complaints from the public.
- Maintains and updates department records, tracking lists, permit records, and files of engineering plans.
- Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

- Basic civil engineering principles, practices, and methods applicable to office and field work involving the design, construction, and maintenance of public works projects.
- Basic design and construction practices and methods of streets, underground facilities, and related public works infrastructure.
- Engineering plan types, review practices, and permit filing and approval procedures.
- Principles and practices of technical civil engineering drafting and surveying support.
- Drafting and surveying equipment, computers, principles, problems, techniques, and practices.
- Applicable Federal, State, and local laws, codes, and regulations, including administrative and department policies and procedures.
- Basic technical engineering mathematics.
- Modern office practices, methods, computer equipment and computer applications, including GIS concepts and applications.
- Technical report writing practices and procedures.
- Principles and procedures of record keeping.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors and City staff.

Ability to:

- Prepare basic plans, specifications, maps, graphic materials, cost estimates, and technical engineering reports.
- Modify engineering drawings, topographic maps, improvement plans, and illustrative graphics using GIS software.
- Perform technical engineering support work with accuracy, speed, and minimal supervision.
- Read and interpret engineering plans, technical drawings, specifications, and subdivision maps.

- Make mathematical calculations and accurate engineering computations and drawings.
- Make and record accurate field engineering observations.
- Use engineering, drafting, and surveying instruments and equipment.
- Prepare clear and concise reports, correspondence, and other written materials.
- Understand and follow oral and written instructions.
- Organize own work, set priorities, and meet critical time deadlines.
- Operate modern office equipment including computer equipment and specialized software applications programs.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:
Any combination of training and experience, which would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:

Equivalent to completion of the twelfth (12^{th}) grade; equivalent to graduation from an accredited four-year college or university with major coursework in civil engineering or a related field is highly desirable. One (1) year of general experience in civil engineering, drafting, surveying, or related field.

Licenses and Certifications:

Valid California class C driver's license with satisfactory driving record.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer, to inspect City development sites, to operate a motor vehicle, and to visit various City and meeting sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is partially a sedentary office classification, although the job involves field inspection work requiring frequent walking at inspection sites to monitor performance and to identify problems or hazards; standing in work areas and walking between work areas is required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push and pull materials and objects weighing up to 25 pounds.

ENVIRONMENTAL ELEMENTS

Employees work in an office environment with moderate noise levels and controlled temperature conditions; but may occasionally work in the field and be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.