



Engineering Technician/Senior Engineering Technician

Definition

To perform paraprofessional engineering work involving manual and computer drafting, records management, annexation processing, retrieval of information, assistance with field surveys, assistance in the orderly administration of assigned projects and programs, and to do related work as required. Direct supervision of the Engineering Technician series is provided by a Senior Civil Engineer.

Class Characteristics

Engineering Technician – This is the entry level class in the Engineering Technician series. This class is typically used as a training class in that incumbents may have only limited related work experience. This class is distinguished from the Senior Engineering Technician by the performance of the more routine tasks and duties assigned to positions within the series including drafting, maintaining engineering records and base map information, issuance of encroachment permits and engineering work that does not require previous specialized experience. Generally, work is observed and reviewed both during performance and upon completion, and changes in procedures or exceptions to rules are explained in detail as they arise. Positions in this class possess the applicable knowledge or training background necessary to perform paraprofessional engineering work and computation, yet typically lack practical engineering related work experience.

Senior Engineering Technician – This is the journey level class in the Engineering Technician series. The Senior Engineering Technician class is distinguished from the Engineering Technician by the responsibility assumed for overseeing and coordinating routine contract administration for Capital Projects. Incumbents typically perform the more complex duties and tasks assigned to the unit and possess specialized skills, knowledge and abilities beyond those of the lower classifications. Employees at this level receive only occasional instruction or assistance as new or unusual situations arise, and are fully aware of the operating procedures and policies of the work unit. Positions in this class are flexibly staffed and are normally filled by advancement from the lower class of Engineering Technician, or, when filled from the outside, require substantial prior technical engineering work experience.

Typical Job Functions

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.

Performs design and computer drafting duties in connection with Public Works related facilities and related projects. Prepares a variety of graphic presentations, including visual displays for meetings, technical illustrations, signs, charts, graphs, pamphlets, and similar materials.

Provides information regarding existing infrastructure to the general public at the counter, over the telephone and by computer.

Provides technical advice and counsel to developers and others in the interpretation of City Ordinances and established City policies relative to land development.

Provides technical engineering staff support in a wide range of project activities; prepares and maintains a variety of correspondence, reports, and records.

Reviews and processes all actions necessary to affect encroachment permits, including review and approval of traffic control plans, and maintains street cut permit records.

Manages, enters, and maintains data for Public Works information management systems, engineering records and retrieval systems, and prepares periodic reports.

Prepares, revises, and maintains base maps, and constructions drawings; updates maps, adding new infrastructure, boundaries, subdivisions, easements and related information.

Makes field investigations and surveys to verify conditions, measurements, and conformity to specifications. Investigates field problems affecting property owners, contractors, and maintenance operations; resolves problems or refers as appropriate.

Makes and checks mathematical calculations related to surveying and basic engineering. Computes appropriate fees.

Reviews accident reports and maintains a data base on accidents.

Provides information to and/or obtains information from engineering staff, developers, contractors, the public and other agencies; provides technical engineering staff support in a wide range of project activities.

Uses computers, calculators, drafting tools and equipment, survey equipment, reproduction equipment, and a variety of other engineering and office related equipment.

Builds and maintains positive working relationships with co-workers, other city employees and the public using principles of good customer service.

Assists other higher level engineers in administering various projects as needed.

Qualifications

Engineering Technician

Knowledge of:

Basic principles and practices of civil engineering, and its administration, as related to design, construction and maintenance of streets, sidewalks, drainage and other public works facilities. Basic knowledge of the tools and techniques of manual and computer drafting, and modern office procedures

and methods. Basic understanding of surveying principles and equipment. Engineering department regulations, policies, and procedures relative to the area of assignment. Knowledge of algebra, geometry and trigonometry. Knowledge of AutoCAD and Arcview is preferred.

Ability to:

Research engineering information for residents, engineers, and utility companies. Use and maintain a variety survey equipment, engineering copiers and printers, calculators, and computer aided drafting software and equipment. Read and understand City and State regulations, policies, and procedures. Read, interpret, update and maintain engineering records and files for maps, drawings, plans, easements, and lot line adjustments; run copies, and obtain supplies as necessary. Compile information required for assignments; consult with engineering staff to obtain necessary information. Assist in conducting, tabulating, and analyzing various engineering surveys and studies. Process property annexations and encroachment permits, including the review of routine legal descriptions. Make accurate mathematical calculations; and solve mathematical problems related to drafting. Understand verbal and oral instructions, and explain procedures to applicants. Build and maintain positive working relationships with others using principles of good customer service and effective communications.

Physical Demands

Intermittently, sit while studying or preparing work papers, drawings or working at computer equipment; bend, squat, stand, climb, kneel, and twist while performing field work; perform simple and power grasping, pushing, pulling and fine manipulation; and lift or carry weight of 50 pounds or less.

Education and Experience

Any combination of experience and education will qualify if it provides for the required knowledge and abilities. One year of varied paraprofessional civil engineering experience. Education equivalent to the completion of the twelfth grade, including successful completion of college level course work in algebra, geometry, trigonometry and manual and computer drafting.

Licenses and Certifications

Possession of, or ability to obtain, a valid California driver's license.

Senior Engineering Technician

In addition to all the qualifications for Engineering Technician:

Knowledge of:

Applicable laws and regulatory codes relevant to assigned area of responsibility; methods, materials and techniques used in the construction of public works and utilities projects; basic understanding of contract administration as related to the facilitation of routine capital improvement projects.

Ability to:

Check, reconcile, interpret and prepare, or assist in the preparation of, specifications, plans, maps, contracts, estimates and reports pertaining to the construction, maintenance and operation of a variety

of engineering and utility projects. Facilitate, prepare and update modifications to City Municipal Code sections as necessary to keep the code compliant with state and federal laws and current City policies. Assists in contract administration for routine Capital Projects, and maintains street pavement management program and sidewalk, curb and gutter repair program.

Education and Experience

Any combination of experience and education will qualify if it provides for the required knowledge and abilities. Four years of increasingly responsible and varied paraprofessional civil engineering experience, three of which are comparable to an Engineering Technician with the City of Cupertino. Education equivalent to the completion of the twelfth grade, including successful completion of college level course work in algebra, geometry, trigonometry and manual and computer drafting.

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