

ENGINEERING TECHNICIAN I / II

DEFINITION

To perform a variety of routine and technical engineering and surveying tasks involved in the planning, design and construction of public works projects, to provide technical staff assistance to higher-level engineering staff.

DISTINGUISHING CHARACTERISTICS

Engineering Technician I is the entry-level classification in the technical engineering classification series. This classification is distinguished from the Engineering Technician II by the level of supervision received and the responsibility to perform less complex technical engineering duties. This classification is typically used as a training classification. Employees may have only limited or no directly related work experience.

Engineering Technician II is the mid/journey-level classification within the technical engineering classification series. Employees within this classification are distinguished from the Engineering Technician I by the performance of a full range of duties as assigned. Positions in this classification are flexibly staffed and are normally filled by advancement from the Engineering Technician I level, or when filled from the outside, require prior engineering or surveying experience.

SUPERVISION RECEIVED AND EXERCISED

Engineering Technician I - Receives supervision from higher level technical and professional engineering staff.

Engineering Technician II - Receives supervision from higher level technical and professional engineering staff. Exercises technical supervision over less experienced technical staff in the engineering division.

EXAMPLES OF DUTIES - Duties may include, but are not limited to, the following:

Prepares plans, profiles and drawings including calculation of grades; and preparation of quantity and cost estimates.

Performs manual and AutoCAD drafting for assigned projects.

Utilizes survey equipment; takes survey field notes; prepares drawings from engineering sketches, survey field notes and other data for use in the design and construction of a variety of public works projects.

Inspects construction projects for conformance with specifications; locates and measures boundary lines, rights of way and land grades.

Processes encroachment permits and road agreements.

Engineering Technician I/II
Rev.- 01/01/06
Rev.- 01/01/07
Rev.- 07/01/07
Rev.- 01/01/08
Rev.-07/01/11

M.O. #8-1/04/06
M.O. #19b-1/4/07
M.O. #19b-1/4/07
M.O. #19b-1/4/07
M.O. #11-7/5/11

Plots and drafts street plans, storm drains, water and wastewater lines.

Prepares, assembles and distributes copies of maps, charts and blueprints as requested.

Researches, calculates and drafts revisions to the Assessor's parcel map.

Collects and compiles geological, statistical and traffic engineering data for reports.

Maintains and updates a variety of maps and records, including street maps, utility system maps, lot and block maps, and various wall maps.

Verifies mathematical computations related to drafting and engineering work.

Organizes and maintains records and filing systems.

Assists the public and private surveyors in property research activities as necessary.

Responds to public inquiries and requests for assistance.

Performs routine office work as required, including but not limited to preparing reports and correspondence, copying and filing documents, entering computer data, maintaining computer record-keeping operations, etc.

Perform related duties as assigned.

QUALIFICATIONS

Engineering Technician I

Knowledge of:

Terminology, methods, practices and techniques of manual and automated drafting.

Principles and practices of surveying.

English usage, spelling, grammar and punctuation.

Advanced mathematics and their application to engineering work.

Modern office practices and technology.

Principles of record-keeping.

Ability to:

Learn, understand, interpret and apply pertinent laws, codes and regulations.

Prepare plans and drawings neatly and accurately.

Learn to perform AutoCAD design / drafting with skill.

Perform mathematical calculations with speed and accuracy.

Use and care for drafting, surveying, and mechanical instruments and tools.

Understand and follow oral and written instructions.

Establish and maintain cooperative-working relationships with those contacted in the course of work.

Communicate clearly and concisely, both orally and in writing.

Engineering Technician II (In addition to the qualifications for Engineering Technician I):

Knowledge of:

Principles of supervision.

Ability to:

Supervise and train assigned staff.

Work independently with minimal supervision.

Experience and Training Guidelines

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Engineering Technician I

Experience:

Some experience performing routine surveying or drafting work is desirable.

Training:

High school diploma or GED equivalent.

Engineering Technician II

Experience:

One year of responsible technical engineering and/or land surveying experience.

Training:

High school diploma or GED equivalent. Twelve college semester units in drafting, land surveying or related course work can be substituted for six months of the required experience.

License or Certificate

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

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to inspect County development sites, to operate a motor vehicle and to visit various County 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; the job also involves field inspection work requiring frequent walking at inspection site areas to monitor performance and to identify problems or hazards; standing in work areas and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard, typewriter 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, up to 30 pounds, as necessary to perform job functions.

WORKING CONDITIONS

Employees partially work in an office environment with moderate noise levels and controlled temperature conditions, and partially in the field and may occasionally be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, 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.