

# CITY OF REDWOOD CITY ENGINEERING TECHNICIAN I ENGINEERING TECHNICIAN II

## **DEFINITION**

To perform a variety of paraprofessional office and field engineering work, including drafting, minor design work, engineering records preparation and management and surveying; and to serve as a member of an engineering design team.

## **DISTINGUISHING CHARACTERISTICS**

**Engineering Technician I:** This is the entry level class in the paraprofessional engineering class series. Incumbents in this class perform routine drafting, office and field 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. Under this training concept, positions assigned to the class of Engineering Technician I may reasonably expect to progress to the Engineering Technician II level with experience and satisfactory job performance.

**Engineering Technician II:** Positions in this class are normally filled by advancement from the lower class of Engineering Technician I, or when filled from the outside, require substantial prior paraprofessional engineering work experience. Appointment to the higher class requires that the employee be performing the full range of duties in drafting, office and field engineering work, and meet the qualification standards for the class. Work in this class is distinguished from that of the Engineering Technician I class by the greater complexity of the assignments received and by the greater independence with which an incumbent is expected to operate.

## **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from higher level engineering personnel. Technical or functional supervision may also be received from higher level engineering personnel.

Assignments of the Engineering Technician II may occasionally require technical supervision of Engineering Technician I positions.

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

Prepare simple design layouts.

Locate utilities, easements, property lines and other information on plans.

**CITY OF REDWOOD CITY**  
**ENGINEERING TECHNICIAN I-II (*Continued*)**

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Prepare topographical plan and profile maps of property and pertinent features from survey notes and legal descriptions.

Check parcel maps, subdivisions and various other drawings.

Participate in the preparation, filing, and retrieval of a variety of engineering maps, documents and records.

Assist traffic engineering staff as needed in conducting traffic studies, preparing diagrams and reports, and other traffic related duties.

Maintain engineering base maps, reports, and drawing files.

Enter addresses to all parcels in geo-base records.

Ink, pencil, trace and letter charts, graphs, maps, plans and other drawings; prepare miscellaneous illustrative materials such as charts and graphs.

Prepare final drawings of existing improvements, rights-of-way, and other utilities using field notes, maps and photographs; check calculations used in designs and estimates.

Assist in measuring accurate distances to be used in the determination of locations of boundaries, easements, improvements, structures and topographic features; keep notes on measurements made.

Answer routine questions and provide information to the public concerning engineering activities.

Make and check mathematical calculations related to surveying and basic engineering.

Perform a variety of general office procedures including blue printing, filling, and ordering supplies.

Establish line and grade for public works construction projects; makes record of completed public works projects, location and direction for official records.

Maintain files and surveys, computations and maps; provide documented information to engineers, realtors, officials and the public.

Prepare visual aids for public presentations.

Add new roads and subdivisions to index maps; record land use and zoning data on plats and master planning maps.

**CITY OF REDWOOD CITY**  
**ENGINEERING TECHNCIAN I-II (Continued)**

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Participate in the preparation of specifications, plans estimates and reports pertaining to the construction and maintenance of projects; assist project engineers in writing specifications and obtaining bids for projects on materials.

Assist in surveying property boundary lines and compute coordinates; operate transit to establish lines for surveys; serve as rod and chain person in survey party.

Prepare legal description of real estate annexation, rezones and other items.

Operate theodolites, transits, levels, electronic distance measuring devices and record field notes of readings and observations; check level instrument for accuracy and makes minor mechanical adjustments to transit.

Research, information for ownership and property description.

Perform related duties as assigned.

**QUALIFICATIONS**

**Engineering Technician I**

**Knowledge of:**

Terminology, methods, practices and techniques of drafting.

Basic math, including trigonometry as applied to the computation of angles, areas, distances and traverses.

Elementary surveying techniques and practices.

Engineering maps and records.

Modern office methods and practices.

**Ability to:**

Perform engineering and mathematical calculations with speed and accuracy.

Understand and follow oral and written instructions.

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

Communicate clearly and establish effective working relationships with others.

Do basic drafting.

**CITY OF REDWOOD CITY**  
**ENGINEERING TECHNICIAN I-II (*Continued*)**

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**Physical Characteristics:**

Must be in sufficiently good health to perform job tasks.

**Experience and Education:**

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

**Experience:**

None required.

**Education:**

Equivalent to completion of the twelfth grade supplemented by specialized courses in engineering, mathematics, surveying, or related subjects.

**License or Certificate:**

Possession of, or ability to obtain, an appropriate, valid California Driver's License.

**Engineering Technician II**

In addition to the qualifications for Engineering Technician I:

**Knowledge of:**

City engineering policies and procedures; construction, design, survey and land use regulations and ordinances.

**Ability to:**

Make moderately complex engineering and field survey computations.

Perform moderately complex engineering drafting work.

Reduce, interpret and apply field notes in performance of drafting duties.

Compile rough data and prepare statistical and narrative reports from field studies.

Make accurate computations of material quantities, application rates and production measures.

Perform work with a minimum of supervision.

**CITY OF REDWOOD CITY**  
**ENGINEERING TECHNICIAN I-II (*Continued*)**

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Draft engineering plans from rough layouts; assist with design drafting.

Operate survey equipment.

**Experience and Education:**

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

**Experience:**

Two years similar to that of an Engineering Technician I in the City of Redwood City.

**Education:**

Equivalent to completion of the twelfth grade supplemented by specialized courses in engineering, mathematics, surveying, or related subjects. An Associate of Arts degree is desirable.

**Effective Date:** February, 1985

**Bargaining Group:** Service Employees' International Union - Local 715