

CITY OF REDWOOD CITY

SENIOR ENGINEERING TECHNICIAN

DEFINITION

To perform advanced technical, paraprofessional office and field engineering work; serve as a member of an engineering design team; may serve as a construction inspector for public works construction and improvement projects.

DISTINGUISHING CHARACTERISTICS

This is the advanced journey level of the paraprofessional engineering class series. A Senior Civil Engineer may be assigned to work independently as a construction inspector. In the office, work of this class involves performing complex and technical engineering work approaching that of the professional engineering series. Duties performed involve the application of precise paraprofessional engineering knowledge and techniques. Work is ordinarily performed under the general supervision of a professional engineer who makes general assignments and inspects work to ensure that it is conducted according to instructions and in conformity with accepted engineering standards.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from a Supervising Civil Engineer or other engineering management position; may receive functional or technical supervision from design team leaders.

Exercises technical supervision over lower level Engineering Technicians and over clerical support staff as assigned.

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

Construction Inspection

Review plans and specifications of assigned project with construction supervisor; attend pre-construction conferences.

Inspect materials for identification as conforming to specifications.

Take samples of materials for examination or analysis by laboratories; perform tests on soils and concrete and monitor cathodic protection systems.

Perform routine field tests.

Observe work during progress and upon completion.

CITY OF REDWOOD CITY
SENIOR ENGINEERING TECHNICIAN (*Continued*)

Monitor manpower reports and payroll for compliance with State and Federal regulations.

Inspect various structures such as utilities, streets, sidewalks, gutters, and other offsite construction; check line, grade, size, elevation and location of structures for conformance with specifications and regulations.

Record amounts of materials used and work performed; prepare necessary reports for progress payments.

Indicate location of various appurtenances on plans.

Inspect adjacent properties for damage from construction activity.

Confer with property owners regarding project schedule, hazards and inconvenience.

Coordinate work with other City departments and utilities.

Help locate other utility structures ahead of work sites.

Schedule service interruptions with least interference and least inconvenience to properties.

Prepare daily activity records and reports.

Perform related duties as assigned.

Design and Support Services

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

Prepare plans and specifications for the construction of routine and minor public works projects and assist in this regard for larger projects; research project design requirements; perform calculations; prepare estimates of time and material costs.

Perform title searches, research rights-of-way and easements based on legal descriptions.

Attend staff meetings regarding public works and utility matters.

Make field checks of project sites or survey area to verify survey results of features.

May perform field inspections and participate in survey work.

CITY OF REDWOOD CITY
SENIOR ENGINEERING TECHNICIAN (Continued)

Assist in the coordination of office and field engineering tasks with other City departments and outside agencies.

Prepare a variety of special engineering-related reports and studies.

Prepare and interpret legal descriptions.

Respond to routine inquires from developers, contractors, and the general public regarding City requirements relative to the construction, alteration and maintenance of public works facilities.

Perform related duties as assigned.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Knowledge of:

Principles, methods, materials, equipment and safety hazards of construction and surveying.

Defects and faults in construction.

Basic mathematics including algebra, geometry, and trigonometry.

Basic soil mechanics and geology.

Materials sampling, testing, and estimate procedures.

Engineering mechanics of structures.

Applicable laws, regulations, codes and departmental policies governing the construction of assigned projects.

Principles and practices of civil engineering as performed by a para-professional engineering position.

Drafting techniques and surveying practices.

Real property legal descriptions.

Policies and regulations governing the construction, extension and maintenance of systems and facilities associated with areas of assignment.

Methods and techniques of engineering design, investigation, drafting, and estimating.

CITY OF REDWOOD CITY
SENIOR ENGINEERING TECHNICIAN (*Continued*)

Ability to:

Understand and interpret engineering plans and specifications and prepare accurate engineering records.

Deal firmly and tactfully with contractors, engineers and property owners.

Communicate clearly and concisely, orally and in writing.

Learn to test soils, concrete, and related material samples.

Perform the entire range of construction inspection activities with a minimum of supervision.

Use and care for surveying instruments.

Perform technical research and provide reliable staff support for work on engineering projects.

Perform engineering calculations with speed and accuracy.

Prepare complete plans and estimates of routine public works projects.

Oversee the work of others.

Use and care for engineering and drafting instruments and equipment.

Prepare real property legal descriptions and other engineering records.

Assist with the preparation of plans, drawings, specifications, diagrams, and sketches pertaining to public works development and maintenance projects.

Operate surveying equipment.

Physical Characteristics:

Must be able to work in varying climatic conditions; must be in sufficiently good health to perform job duties, including inspection work.

CITY OF REDWOOD CITY
SENIOR ENGINEERING TECHNICIAN (*Continued*)

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 of experience similar to that of an Engineering Technician II in the City of Redwood City, or substantial experience in one or more construction trades leading to knowledge and skills required of a construction inspector.

Education:

Equivalent to completion of the twelfth grade supplemented by college level courses in engineering, mathematics, surveying, or related subjects. An Associate of Arts Degree is preferred.

License or Certificate:

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

Effective: February, 1985

Bargaining Group: Service Employees' International Union - Local 715