SOUTH COAST WATER DISTRICT

SENIOR ENGINEERING TECHNICIAN

DEFINITION

Under general supervision, performs a variety of paraprofessional engineering field and office duties in support of professional engineering staff, involving construction inspection, computer-aided design, and drafting; researches complex engineering topics and prepares engineering calculations; provides responsible technical support to the District’s professional engineering staff; provides technical advice to the public; assists in plan review; maintains plan files and engineering records; prepares reports; and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the Director of Engineering. No direct supervision of staff is exercised. May exercise technical and functional supervision over lower-level or office support staff.

CLASS CHARACTERISTICS

This is the journey-level classification in the paraprofessional engineering series in which incumbents have responsibility for the entire spectrum of paraprofessional engineering functions, including independent responsibilities for projects and support programs. Incumbents apply paraprofessional engineering knowledge and skills to complete assignments in engineering, mapping, contract coordination, and preparation of specifications, plans and estimates. Incumbents in this classification perform the more complex technical support duties requiring significant independent judgment. This class is distinguished from the professional engineering class series in that the latter performs design and plan review work requiring specific training in an engineering discipline and professional credentials.

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.

- Performs a variety of technical engineering drafting responsibilities; drafts construction plans for projects designed in-house and “As-Built” revisions on improvement plans for tracts and District facilities; updates sectional maps and prepares sketches for special illustrations.
- Designs simple engineering projects by researching existing facilities, designs manuals, and District standards; applies knowledge of engineering principles and researches information to conceptualize and sketch designs; analyzes cost of alternative designs and prepares construction plans.
- Assists in performing technical plan checks of District plans, subdivision plats and improvement drawings, grading and plat maps, annexations and related proposals to ensure compliance with development conditions, District code provisions, specifications and policies.
- Assists in the development and maintenance of the Geographical Information System (GIS).
- Measures distances to be used in the determination of locations of boundaries, easements, improvements, structures and topographic features; maintains written records of measurements.
- Prepares illustrative graphics including charts, illustrations, graphs for reports, and drawings for design manual.
- Responds to public inquiries regarding engineering activities, gives direction on easements, improvement plans, final maps and various legal documents.
- Performs basic design tasks required in the drafting of plans and drawings such as horizontal and vertical layout for infrastructure facilities.
Researches and compiles data from field verifications or office engineering records for inclusion in engineering reports and studies or in response to public inquiry.

Verifies location of utilities, easements, property lines, etc., on District engineering plans.

Maintains inventory of drafting supplies and equipment; orders necessary drafting and filing equipment.

Prepares a variety of written reports and correspondence.

Conducts field review as necessary to assess all pertinent issues of the assigned project.

Maintains and updates miscellaneous engineering records, files, maps and logs.

May perform or assist with the inspection of infrastructure, capital improvement, and private development construction projects for conformance with approved plans, specifications, contract provisions and safe work practices in accordance with all applicable laws, codes and regulations.

Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

- Basic civil engineering principles, practices and methods applicable to office and fieldwork involving the design, construction and maintenance of utilities projects.
- Modern materials and techniques used in the construction of municipal utilities projects.
- Modern equipment and techniques used in engineering.
- Principles, practices, techniques and equipment of technical civil engineering drafting.
- Engineering plan types, review practices, and permit filing and approval procedures.
- Applicable Federal, State, and local laws, codes, and regulations, including administrative and department policies and procedures.
- Basic design principles of underground facilities and related utilities infrastructure.
- Technical report writing practices and procedures.
- Principles and procedures of record keeping.
- Principles of engineering mathematics.
- Modern office practices, methods and computer equipment.
- Computer applications related to the work.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for dealing effectively with the public, vendors, contractors and District staff, in person and over the telephone.
- Techniques for effectively representing the District in contacts with governmental agencies, community groups and various business, professional, educational, regulatory and legislative organizations.
- Techniques for providing a high level of customer service to public and District staff, in person and over the telephone.

Ability to:

- Perform responsible technical engineering support work with accuracy, speed, and minimal supervision.
- Prepare accurate plans, specifications, maps, graphic materials, cost estimates and technical reports.
- Modify engineering drawings, topographic maps, improvement plans and illustrative graphics using Computer-Aided Drafting (CAD) software.
- Read and interpret engineering plans, technical drawings, specifications, and subdivision maps.
- Perform standard engineering design under professional engineering supervision.
- Perform responsible field and office work.
- Interpret complex construction plans and specifications.
- Interpret, apply and explain policies and procedures.
- Use engineering and drafting instruments and equipment.
Senior Engineering Technician

- Respond to requests from the general public.
- Make and record accurate field engineering observations.
- Prepare accurate and precise technical reports.
- Make accurate mathematic computations.
- Maintain accurate records and files of work performed.
- Organize work, setting priorities and meeting multiple deadlines.
- Operate modern office equipment including computer-aided design equipment and software programs.
- Use English effectively to communicate in person, over the telephone and in writing.
- Establish and maintain effective working relationships with those contacted in the course of the work.

**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:*

**Experience:**

Three (3) years of experience in field or office engineering technical support, computer-aided design, construction inspection, or drafting.

**Training:**

Equivalent to completion of the twelfth (12th) grade supplemented by technical or college-level courses in civil engineering, drafting, mathematics, or related field.

**License or Certificate:**

- Valid California class C driver’s license with satisfactory driving record.
- Ability to obtain a Grade II Water Distribution Operator Certificate issued by the California Department of Health Services within 24 months of employment.

**PHYSICAL DEMANDS**

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to inspect District development sites, to operate a motor vehicle and to visit various District 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 weighing up to 25 pounds.

**ENVIRONMENTAL ELEMENTS**

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.

*The specific statements shown in each section of this classification description are not intended to be all-inclusive. They represent the essential functions and minimum qualifications necessary to successfully perform the assigned 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.*