



## Engineering Technician I/II

Class Code:  
302, 303

ALAMEDA COUNTY WATER DISTRICT  
Revision Date: October, 2015

### DEFINITION

Under supervision, performs routine to difficult drafting and technical engineering work in field surveying, material testing, inspection, drafting and/or office engineering functions; utilizes manual drafting and a variety of technical engineering software applications including the CADD (Computer Aided Drafting and Design) system and GIS (Geographic Information System) to create and maintain engineering drawings and maps; collects samples and performs a variety of field engineering activities; establishes and maintains a variety of engineering files and records; provides technical and administrative support to District projects and programs; and performs other related work as required.

### DISTINGUISHING CHARACTERISTICS

**Engineering Technician I** is the entry level classification within the Engineering Technician series. Under close to general supervision within a framework of established policies and procedures, incumbents perform routine engineering technical assignments; work is generally reviewed as assignments are completed. Opportunities exist for learning the use of specialized equipment and developing various engineering technical skills.

This class is distinguished from the intermediate-level Engineering Technician II class by the routine nature and limited complexity of work assignments and the closer level of supervision received. The Engineering Technician I and II classifications are flexibly staffed. Incumbents in this classification normally advance to an Engineering Technician II after two (2) years at entry level and upon recommendation of the immediate supervisor and approval by the department manager after gaining experience and achieving proficiency that meets the Engineering Technician II requirements

**Engineering Technician II** is the intermediate level classification within the Engineering Technician series. Under general and periodic supervision within a framework of established policies and procedures, incumbents independently perform difficult technical engineering assignments with responsibility for several concurrent projects, or for an ongoing assignment requiring independent action and/or with significant impact on District relationships with the public and/or other governmental organizations. Assignments are generally reviewed upon completion; difficult and non-routine assignments may be reviewed while work is progressing. Initiative and good judgment are required.

This class is distinguished from the entry-level Engineering Technician I class by the complexity of work assignments, the potential impact of error, the level of independence with which assignments are performed and the level of supervision received. This class is distinguished from the advanced-level Engineering Technician III class which is the lead level class in the series responsible for performing the most difficult technical engineering assignments and coordinating the work of others.

## **TYPICAL DUTIES**

### **TYPICAL EXAMPLES OF DUTIES MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:**

- Performs field engineering activities such as: measures and records distances and dimensions in the field; takes water well level and surface water measurements; collects water samples and performs field analysis; collects field test data; assists with specific capacity tests; locates wells; performs stream gauging; conducts fire flow tests and prepares related correspondence; and assists with corrosion control field surveys.
- Collects, summarizes and reduces data; performs simple to complex engineering calculations; performs minor engineering design; prepares drawings from engineering sketches and/or oral instruction; takes measurements and prepares project documentation and drawings; performs standard drafting and mapping; updates distribution system maps and drawings; and uses a computer to enter data into an engineering database system.
- Updates and creates datasets; performs geospatial analysis; ensures the integrity of GIS data; reviews data input for accuracy and compliance with system standards; and prepares maps, reports, figures and exhibits as needed from multiple layers of data.
- Performs customer job order preparation and estimation for District work; coordinates construction and related activities with District Operations Department, developers, external contractors and other public agencies; and may review the work of other Technicians.
- Effectively provides service to customers and responds to a variety of customer inquiries.
- Reviews elements of engineering drawings and improvement plans submitted by developers, external engineers and other agencies for conformance with District Standards to facilitate design; confers and coordinates with vendors, contractors and/or outside agencies in response to questions; oversees and coordinates work and helps to resolve problems and disputes.
- Maintains engineering files and logs; monitors development project costs and status; maintains procedures for development processes and related work; collects, organizes, files, maintains, retrieves, reproduces and transmits drawings, maps, logs, reports and other documents and records as needed; maintains records for District facilities, easements, deeds, annexations, customer job orders and District projects.
- Prepares and reviews easements, property and easement descriptions; prepares utility permits and associated plans and documentation; prepares temporary water service agreements; performs simple research and develops and presents reports; and prepares and maintains routine correspondence.
- Performs and/or assists in soil gradation-sieve analysis; operates particle counter; performs and/or assists with materials and equipment tests; performs and/or assists with facility performance testing.
- Performs other related work as required.

## **REQUIREMENTS**

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

### **Education and Experience:**

Possession of an Associate Degree or equivalent in engineering or closely related field, and

**Engineering Technician I:** No experience required.

**Engineering Technician II:** Two (2) years of technical experience equivalent to an Engineering Technician I with the District.

### **Knowledge, Skills and Abilities:**

**General to Working knowledge of:** engineering mathematics including trigonometry; drafting principles, practices, techniques and equipment; engineering surveying principles and equipment; office methods and procedures, including recordkeeping and filing; software applications related to work assignments; detailing practices and standard presentation formats; and applicable codes, guidelines and regulations.

**Skill and Ability to:** work on projects alone or cooperatively with others; set priorities and coordinate several concurrent projects under time pressures and deadlines; perform routine to difficult mathematical calculations with speed and accuracy; use drafting materials, tools and techniques to complete assignments; prepare neat, accurate and legible drawings; letter neatly and clearly and take accurate and legible notes; read and interpret plans, specifications, maps, legal property descriptions, construction drawings and related engineering documents; learn and effectively use a variety of technical engineering software applications including the CADD (Computer Aided Drafting and Design) and GIS (Geographic Information System); effectively use a computer, calculator and other standard office equipment; communicate effectively both orally and in writing; maintain detailed, complete and accurate records; establish and maintain effective working relationships with those contacted in the course of the work; and perform the essential functions of the job without causing harm to self or others

### **Additional Requirements:**

- Must possess a valid California driver's license and have a satisfactory driving record

### **Engineering Technician I:**

- Must obtain a Grade I Water Distribution certificate within 18 months of appointment, when assigned to the Development Services Division only.

### **Engineering Technician II:**

- Must possess a Grade I Water Distribution certificate within 18 months of appointment, when assigned to the Development Services Division only.

### **Working Conditions/Physical Requirements:**

The essential functions of the job require the ability to: sit for extended periods of time when performing office tasks; finger dexterity to operate a computer; and speak and hear in person and on the phone. Field activities require the ability to: work outdoors on a year-round basis

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under a variety of climatic and geographic conditions in an environment with exposure to loud noise, chemicals, fumes and other environmental substances; traverse uneven terrain; stand for long periods of time; bend, squat and/or climb; grasp, hold and reach; work long or unusual hours as situations demand; and frequently lift, carry and/or maneuver objects weighing up to 55 pounds and occasionally up to 90 pounds.

Revised: 10/15

Approved:   
Human Resources/Risk Manager