



Madera Irrigation District Job Description

JOB TITLE: ENGINEERING TECHNICIAN I, II
DEPARTMENT: OPERATIONS & MAINTENANCE
SUPERVISOR: ENGINEERING TECH SUPERVISOR
FLSA STATUS: Exempt Non-Exempt At-Will

PURPOSE

Under general direction of the Engineering Technician Supervisor for the non-professional technical work involved in the installation and maintenance of irrigation systems. Provides technical support such as drafting, surveying, determining rights of way; measurement of water flow and storage in the District's canals, reservoirs, streams and pipelines; maintains local weather stations and records data; performs a variety of hydrographic studies; and performs other related duties as required. Assists the Meter Technician and fills in when Meter Technician is absent. Assists the Operations and Maintenance Department in other related departmental duties and activities.

CLASS CHARACTERISTICS

ENGINEERING TECHNICIAN I

This is the journey level position. Employees perform both skilled and semi-skilled duties, but remain in a learning status under moderate supervision for the higher-level duties. Fully competent and qualified in all aspects of a body of work and given broad/general guidance. Employees can complete work assignments to standard and more often need to make general decisions.

ENGINEERING TECHNICIAN II

This is a senior journey level position. At this level employees are expected to proficiently perform the full scope of skilled work which requires the consistent application of advanced knowledge and requires a skilled and experienced practitioner to function independently. Senior-level work includes devising methods and processes to resolve complex or difficult issues that have broad potential impact. May also coordinate the work of subordinates.

ESSENTIAL FUNCTIONS (*Duties may include, but are not limited to, the following*):

- Performs water measurements relating to reservoirs, rivers, open channels, and pipelines
- Maintains flow measurement stations, gauges, and sensors on canals and basins
- Maintains weir charts, water delivery and flow records

- Recommends water measurement methods and equipment and develops maintenance requirements
- Measure canal inflow and outflow for seepage records
- Setting and maintaining diversions at mountain gauging stations
- Maintains records and file reports for Statements of Water Diversion and Use
- Exchanges water related data with other agencies
- Performs groundwater measurements and database entry
- Maintains weather stations
- Performs related engineering duties including USAs, GPS facilities, assisting with topographic surveys, and sensor installations
- Performs routine and technical maintenance of SCADA gates/meters and radios
- Updates, investigates, tests, resolves, calibrates, and troubleshoots SCADA applications at SCADA sites
- Maintains and plans SCADA software and hardware, and conducts training as needed
- Participates in the evaluation of network protocols, hardware, and software to determine their applicability to District needs
- Coordinates the installation and maintenance of District computers, laptops, tablets, and other network devices and troubleshoots any issues
- Acts as liaison to District IT consultants
- Performs related duties as needed

ESSENTIAL RESPONSIBILITIES

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

1. **General Knowledge** – Basic math; English grammar, spelling and punctuation, reading and writing, and general science.
2. **Specialized Knowledge** – Geometry, algebra, and trigonometry; hydraulic, hydrologic, and hydrographic principles, procedures, and techniques; water measurement principles, procedures, and techniques; field and office procedures related to hydrography. Knowledge of engineering principles, survey and drafting methods, and basic computer skills.
3. **Resources** – District’s supplies and equipment used or available for use during employment such as: MID vehicle, cellphone, keys, gas card, and reports. Meters; gauges; weather stations; and pumps.
4. **Communication** – Ability to communicate clearly with all District personnel, customers, general public, clients, and stakeholders of the District. Channels of communication may include mobile radio, phone, literary instructions, computer, and may also include the use of oral, written, auditory, and visual senses. Employee will display the ability to communicate with respect even in times of difficult matters

5. **Safety** – Ability to work safely, following all District safety procedures and rules. Identify potential hazards and communicate them to authorized District safety representative. Pay close attention to working conditions and make every attempt to mitigate risk. Safely working around other employees, irate growers and when encountering illegal activity. Working around moving heavy equipment, road hazards, dense fog, and rough or slippery canal banks.

WORKING CONDITIONS

The work environment characteristics described here are representative of those an employee may encounter while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Exposure to the sun: 50% to 100% work time spent outside a building and exposed to the sun
- Work below floor level: Some work done in small, confined spaces
- High Temp: Some outdoor work time in temperatures between approximately 80 to 110 + degrees
- Humidity: Work in areas with unusually high humidity
- Noise: Occasionally there are unusually loud sounds
- Slippery surfaces: Occasional work on unusually slippery surfaces, water hazards in canals, rivers and streams
- Driving on rural roads, highways, unpaved mountain roads, and canal banks
- Oil: Some parts of the body in contact with oil or grease occasionally
- Dust: Works in or around areas with minor amounts of dust

PHYSICAL REQUIREMENTS

To perform this job effectively, there are physical demands that are required of the employee. The following items are examples of physical abilities that will be necessary to perform the essential functions of this position:

- Walking on uneven ground, snow, and steep terrain
- Operates District vehicles and equipment during construction, maintenance, and repair work
- Must be able to carry, push, pull, reach, and lift equipment and parts weighing up to 50 pounds
- Stands and walks for extended time periods
- Regularly uses a telephone for communication
- Use office equipment such as computers, copiers, and FAX machines
- Sits for extended time periods
- Hearing and vision within normal ranges with or without correction
- Stoops, kneels, crouches, crawls, and climbs during field maintenance and repair work
- Works in an environment with exposure to dust, dirt, and significant temperature changes between cold and heat

QUALIFICATIONS

ENGINEERING TECHNICIAN I

Any combination of applicable 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:

Education – Graduation from high school

Experience – One year of experience in gathering and analyzing data using computerized field and office systems, on-the-job, or external training. Computer skills including Excel, Access, GIS/GPS, AutoCAD, ArcGIS a plus.

ENGINEERING TECHNICIAN II

Any combination of applicable 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:

Education – Graduation from high school. College level course work relating to information technology and engineering principles desired.

Experience – Two years of experience in gathering and analyzing data using computerized field and office systems, on-the-job, or external training. Knowledge of SCADA, GIS, IT, and AutoCAD required.

Licenses, Registrations, Accreditation, etc.: Possession of a valid California Class C Driver's License will be required at the time of appointment. Failure to obtain or maintain such required license(s) may be cause for disciplinary action. Employees who do not meet this requirement due to a physical disability will be considered for accommodation on a case-by-case basis. Possession and proof of a driving record free of multiple or serious traffic violations or accidents for two (2) consecutive years.

I have reviewed this Job Description and agree with its contents.

Employee Signature

Date

Supervisor Signature

Date

This job description may be edited or changed as management deems necessary and new responsibilities and tasks may be included.