



**JULY 2016**  
**FLSA: NON-EXEMPT**

## **WATER QUALITY SPECIALIST**

### **DEFINITION**

Under general direction, performs a variety of complex chemical, physical, biological, and bacteriological analyses involved in the testing of City water quality; performs a variety of technical duties involved in the testing and inspection of backflow and/or cross-connection devices for the water distribution system to control exposure to recycled water; performs a variety of technical tasks relative to conducting and interpreting standard to complex laboratory analyses; ensures that City's water system complies with department of health services regulation regarding water quality; and performs related work as required.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from assigned supervisory or management personnel. Exercises technical and functional supervision over and provides training to lower-level staff and contractors.

### **CLASS CHARACTERISTICS**

This is a journey-level class responsible for performing the full range of duties required to ensure that the quality of water supplied by the City provides the highest level of safety for public use and complies with all Federal, State, and local regulations through performance of water microbiological, chemical, and physical testing and analysis and a cross-connection control. Incumbents are expected to work independently and exercise judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This class is distinguished from the Water System Supervisor in that the latter is the full supervisory-level class in the division, acts as the Chief Operator, and is responsible for organizing, assigning, supervising, and reviewing the work of assigned staff involved in water quality and maintenance operations and activities.

### **EXAMPLES OF TYPICAL 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 and interprets chemical, biochemical, biological, bacteriological, and physical analyses of samples related to the quality control and distribution of potable water following standard procedures and guidelines.
- Collects samples at various sites throughout the water distribution system for testing to determine the effectiveness of each stage of the process.
- Analyzes and interprets laboratory results, recognizing problems that may be occurring during the treatment process.
- Sets up, calibrates, operates, and performs minor maintenance and repair to a variety of laboratory instruments and equipment.
- Maintains quality control and quality assurance and follows safe work procedures.
- Monitors operations and activities of the laboratory; recommends improvements and modifications and prepares various reports on operations and activities.

- Monitors the Supervisory Control and Data Acquisition (SCADA) system to ensure reserves of water and pumps are operational.
- Prepares standard chemical solutions and reagents; safely disposes of outdated materials; cleans glassware and equipment; ensures that the laboratory is maintained in a clean and orderly condition.
- Handles customer complaints and inquiries regarding water quality issues, which may require home/business visits to ascertain problems; records and documents customer complaints, the course of action taken in responding to them, and how they were resolved.
- Manages City fire flow; responds or coordinates response for customer fire flow requests; enters and tracks fire flow data; manages fire flow program in conjunction with fire hydrant maintenance program; maintains, repairs, and replaces City fire hydrants as needed.
- Locates underground water lines as part of Underground Service Alert (USA) to inform contractors, agencies and City employees doing construction, excavation or digging work.
- Ensures compliance with applicable regulatory requirements, including compiling and preparing various reports and records related to water quality regulatory monitoring in addition to processing control requirements.
- Assists in keeping records pertaining to cross-connection program, sending and receiving routine correspondences regarding backflow prevention device testing, and other program details.
- Receives, reviews, and processes various reports and records including bacteriological analysis data, physical analysis data, backflow test reports, water pressure complaints and water quality complaints.
- Installs, inspects, tests, calibrates, and repairs backflow prevention devices and water meters to ensure compliance with all laws and ordinances.
- Participates in capital improvement projects related to the water quality program, and coordinates with operating departments during implementation.
- Maintains an inventory of laboratory supplies, chemicals and equipment.
- Implements various water quality and public education programs as required.
- Represents the City on program related interactions with other City departments, divisions, the public and outside agencies.
- Develops, implements and manages the flushing programs.
- Enters data into and retrieves data from an automated data control systems.
- May act as Shift Operator in the absence of the Chief Operator.
- Responds to after-hours emergencies.
- Performs other duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of**

- Chemical, biological and physical characteristics of water.
- Principles, practices, equipment, and materials required for the chemical, biochemical, biological, bacteriological, and physical analysis of samples of potable water.
- Practices, methods, equipment, tools, and materials used in the assembly, repair, installation, and testing of backflow and cross-connection devices.
- Sampling techniques and related statistical analysis techniques.
- Laboratory safety procedures and equipment.
- Principles of water distribution systems.
- Applicable Federal, State and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
- Practices, methods, equipment, and tools used in locating utilities underground.

- Technical report writing practices and procedures.
- Principles and procedures of record-keeping.
- Modern office practices, methods, and computer equipment and applications related to the work.
- English usage, spelling, vocabulary, grammar and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors and City staff.

**Ability to**

- Perform chemical, biochemical, biological, bacteriological, and physical analyses of water and analyze the results of such tests and make appropriate recommendations for plant operations.
- Inspect and oversee work performed by others on City water systems.
- Use and perform calibration and minor maintenance and repair on a variety of laboratory equipment.
- Maintain an inventory of supplies and equipment required for the performance of necessary analyses.
- Interpret, apply, explain and ensure compliance with Federal, State and local policies, procedures, laws and regulations.
- Prepare and maintain clear and concise reports and accurate records and files.
- Follow department policies and procedures related to assigned duties.
- Give, as well as understand and follow, oral and written instructions.
- Utilize computer and specialized software programs relevant to work performed.
- Organize own work, set priorities and meet critical time deadlines.
- Use English effectively to communicate in person, over the telephone and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

**EDUCATION AND EXPERIENCE**

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

- Equivalent to a two-year degree from an accredited college or university, with major coursework in chemistry, biology, natural sciences, or a related field.
- Four (4) years of increasingly responsible experience performing water quality testing in a laboratory environment, underground construction management, and/or water treatment.

**LICENSES AND CERTIFICATIONS**

- Possession of, or ability to obtain, a valid California Driver's License by time of appointment.
- Possession of, or ability to obtain, a valid Backflow Device Tester Certificate issued by the American Water Works Association (AWWA) within six (6) months of appointment.
- Possession of, or ability to obtain, a valid Grade III Water Distribution Operator Certificate issued by the Certificate issued by the California State Water Resources Control Board (SWRCB) within one (1) year of appointment.
- Possession of, or ability to obtain, a valid Grade II Water Treatment Operator Certificate issued by the SWCRB may be required if treating water.

**PHYSICAL DEMANDS**

Must possess mobility to work in a water quality laboratory; operate varied hand and power tools and equipment; to operate a motor vehicle and visit various City sites; vision to read printed materials and a computer screen; color vision to identify chemical and biological solvents and substances; and hearing and speech to communicate in person and over the telephone. The job involves work indoors and out in the field, requiring frequent walking in operational areas to identify problems or hazards. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to handle laboratory equipment. Positions in this classification bend, stoop, kneel, reach, and climb to perform work and inspect work sites. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 50 pounds.

**ENVIRONMENTAL ELEMENTS**

Employees work indoors and outdoors, and are occasionally exposed to loud noise levels, 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, and contractors in interpreting and enforcing departmental policies and procedures.

**WORKING CONDITIONS**

Required to be on-call and to work various shifts or emergencies on evenings, weekends, and/or holidays.