

**COMPETENCY MODEL FOR
WATERWORKS ENGINEER
CLASS CODE 7248**

The following competencies have been identified as those that best separate superior from satisfactory job performance in the class of **WATERWORKS ENGINEER**. (Numbers refer to the order of competencies in the Competency Bank.)

- 3. Judgment and Decision Making
- 8. Safety Focus
- 20. Job Knowledge
- 28. Supervision
- 30. Fiscal Management
- 33. Interpersonal Skills
- 47. Written Communication
- 49. Project Management

On the following pages are descriptions of each competency, including a definition, the level of the competency required for the class (bold, italicized, and underlined), examples of behavioral indicators, and satisfactory and superior performance levels.

3. JUDGMENT AND DECISION MAKING – Accurately assesses situations, seeks new information if necessary, and applies all available information to reach sound conclusions/formulate effective response.

Level of Competency Required by Job:

Level 1: Training and guidelines needed to respond to immediate situations within very specific function are provided (or supervisor available to assist).

Level 2: **General information and guidance to assist in responding to a variety of situations across a range of circumstances are provided.**

Level 3: Little guidance available for responding to a wide range of complex situations with far-reaching and/or enduring consequences.

Examples of Behavioral Indicators:

- Effectively responds to atypical situations.
- Asks questions or otherwise obtains additional relevant information to make a decision.
- Formulates a decision and necessary actions based on available facts.
- Correctly infers appropriate response based on information provided and existing policies, personal experience, and/or consultation with others.
- Discusses conclusions/possible responses with others before taking action as necessary.
- Considers impact of decisions on all affected parties.

Performance Levels:

Satisfactory

Correctly assesses routine and unusual situations and reaches appropriate conclusions for actions needed. Obtains additional information and/or consults with others as necessary.

Superior

Evaluates new situations accurately to establish an appropriate response or plan of action. Recognizes the impact on all affected parties, as well as the possible ramifications and/or repercussions of setting a precedent.

8. SAFETY FOCUS – Performs work in a way that minimizes risk of injury to self or others.

Level of Competency Required by Job:

Level 1: Maintain awareness of unsafe conditions and actions to avoid injury.

Level 2: Follow safety rules/procedures; avoid known hazards in the work environment.

Level 3: Carefully follow safety rules and procedures and consistently use all necessary safety equipment.

Examples of Behavioral Indicators:

- Wears seat belt.
- Ensures safe physical work environment by taking actions such as eliminating unstable stacks of materials, closing drawers so filing cabinets will not tip over, and keeping pathways clear of tripping hazards.
- Reviews safety procedures before beginning each job with known hazards.
- Follows safety procedures while performing work even when it takes more time.
- Uses safety equipment such as goggles, gloves, and earplugs as required or warranted.
- Frequently checks safety equipment for proper condition and operation.

Performance Levels:

Satisfactory

Maintains awareness of personal safety to avoid injury or property damage during all work activities.

Superior

“Safety first.” Places avoidance of injury or property damage above all other job requirements. Mentions the need to follow safe work practices to co-workers. Actively seeks ways to avoid injury.

Safety Focus Area

1. Knowledge of safety practices related to the work performed in the Department of Water and Power Water System, including Cal/OSHA regulations, sufficient to ensure a safe working environment during the planning, construction, maintenance and operation of waterworks facilities.

20. JOB KNOWLEDGE – Knows information required to perform a specific job. Includes both widely available courses of study (for example, chemistry, human resources management, graphic arts) and City-specific information (parking regulation and ticketing practices; purchasing procedures; provisions of the City Charter).

Level of Competency Required by Job:

Level 1: Knowledge is concrete, factual, and/or procedural and may be defined by the organization. Situations in which it is applied are quite consistent.

Level 2: **Knowledge is substantive and may be defined by an external trade, field, or profession. Situations in which it is applied vary and, as such, require breadth and depth of understanding.**

Level 3: Knowledge is abstract, conceptual, and/or complex and may be supported by a well-defined academic discipline or authoritative sources (e.g., laws, ordinances, government guidelines/regulations/codes). Situations in which it is applied may vary greatly or be novel.

Examples of Behavioral Indicators:

- Performs work correctly/avoids technical (job content related) errors.
- Answers technical questions about work accurately.
- Asks few technical questions about the performance of routine work activities.
- Offers advice (“coaching”) to new employees regarding their work.
- Develops training programs for other employees.
- Sought out as a source of information by others.

Performance Levels:

Satisfactory

Sufficient job knowledge to perform work correctly independently. Answers technical questions about work correctly.

Superior

Expertise in technical job information sufficient to serve as a resource to others. May develop training manuals/ programs and/or give internal and/or external presentations related to work.

WATERWORKS ENGINEER (7248)
Job Knowledge Areas

1. Knowledge of City contract and bid procedures, including the preparation of construction material specifications, request for proposals (RFPs), and procurement of professional services, sufficient to support Water System operations.
2. Knowledge of drafting standards, including drafting conventions and symbols used in different types of drawings, sufficient to provide clear and appropriate information for the use in the planning, design, construction, operation, and maintenance of waterworks facilities.
3. Knowledge of water service rules and regulations, including Charter provisions, related to the Department of Water and Power Water System sufficient to ensure compliance.
4. Knowledge of the principles and practices of engineering as applied to the design, construction, maintenance, and operation of water systems sufficient to perform and supervise the work of waterworks systems and facilities.
5. Knowledge of standards, codes, and regulations related to the testing of soil and construction materials, including laboratory and field testing, sufficient to ensure quality control in the use and procurement of construction materials for waterworks facilities.
6. Knowledge of water treatment and distribution systems, including system capabilities and flexibility, sufficient to ensure compliance with regulations and to recommend revisions while promoting efficiency throughout the treatment process.
7. Knowledge of design criteria commonly applied to waterworks systems and facilities, including Department of Water and Power and American Waterworks Association standards, sufficient to ensure compliance and efficiency.
8. Knowledge of general surveying procedures, such as obtaining property information, existing elevation, and boundaries, sufficient to identify pipeline alignments and prepare site maps and as-built drawings.
9. Knowledge of water quality and composition of water sources and effluent water, including possible pollutants, sufficient to maintain quality and appropriately treat water.

10. Knowledge of water resources regulations, such as state water projects, Colorado River, water conservation, water recycling, groundwater and watershed management, and purchased water, sufficient to ensure compliance and a reliable supply of high quality water.
11. Knowledge of hydraulics as applied to transmission and distribution water systems sufficient to conduct hydraulic analyses and prepare appropriate reports, specifications, designs, and plans for waterworks facilities and structures.
12. Knowledge of engineering geology and soil mechanics as related to land site selection and development sufficient to conduct geological surveys, determine the geological hazards normally encountered in waterworks engineering projects, and design appropriate waterworks facilities.
13. Knowledge of hydrology principles and practices related to waterworks systems, facilities, and structures sufficient to prepare appropriate specifications, designs, and plans.
14. Knowledge of construction techniques and practices, such as construction sequencing, sufficient to develop and implement appropriate specifications for the construction of waterworks facilities.
15. Knowledge of instrumentation and control systems, such as control valves and programmable logic controllers, sufficient to appropriately design and operate waterworks facilities.
16. Knowledge of mechanical, electrical, and power feed systems used in waterworks facilities sufficient to appropriately design, construct, operate, and maintain the systems.
17. Knowledge of operational criteria and asset management principals, such as those related to water quality, pressure, and fire protection, in order to identify areas of needed improvement in Water System facilities.

28. SUPERVISION – Ability to assume direct responsibility for all aspects of the performance of a work group, which requires knowledge and/or ability in the areas of:

- Planning and goal setting
- Creating a safe and positive work environment
- Establishing standards and training employees
- Motivating employees and teambuilding
- Performance Management (assigning, monitoring, facilitating, reviewing and evaluating work, and providing feedback)
- Supporting and developing employees through delegation and participation
- Taking disciplinary action including progressive discipline
- Provisions of employees' MOU's and handling grievances
- Legal requirements including EEO, ADA, FLSA, FMLA, and Workers' Compensation provisions
- Civil Service Commission Rules and Policies related to the management of employees
- Administrative Code provisions related to the management of employees
- Budget processes sufficient to request and justify expenditures in a correct and timely manner

Level of Competency Required by Job:

- Level 1: Supervises small workgroup of employees performing the same or highly related work.
- Level 2: Supervises a larger workgroup of employees performing various types of work.
- Level 3: **Supervises employees including provision of coaching and advice to subordinate supervisors.**

Examples of Behavioral Indicators:

- Plans, assigns, and monitors work progress.
- Trains employees to do work.
- Evaluates work and gives positive and negative feedback.
- Displays knowledge of legal requirements including applicable Federal and State laws, Administrative Code provisions, Civil Service Commission Rules and Policies, and MOU provisions.

Performance Levels:

Satisfactory:

Proficiency in supervision sufficient to supervise a workgroup in terms of task orientation, interpersonal concerns, and personnel administration.

Superior:

Proficiency in supervision sufficient to serve as a resource to others and/or represent department position in a public forum.

30. FISCAL MANAGEMENT – Develops and justifies budget proposals in a way that garners support; monitors expenditures for compliance; systematically adjusts expenditures when warranted.

Level of Competency Required by Job:

Level 1: Identify equipment and services with demonstrable cost-effectiveness for improving operations and prepare detailed budget requests that provide ample justification for purchase. Ensure money is spent for intended purpose.

Level 2: **Identify staffing needs, needs for equipment and services, and other expenditures that are necessary to fulfill the mission of a function or segment of the organization. Provide ample, compelling justification. Ensures that money is spent for intended or highly related purpose.**

Level 3: Consider the mission of the entire organization and current priorities in determining which budget proposals to submit. Provide compelling arguments for the proposals submitted that include reference to proposals omitted. Use money for intended purpose unless priorities or other circumstances change.

Examples of Behavioral Indicators:

- Identifies expenditures that will be cost-effective in their contribution to accomplishing work.
- Conducts research to determine the best available option for purchase.
- Tailors justification for budget request to the specific need and current circumstances.
- Uses money for its intended purpose.
- Makes adjustments to expenditures in accordance with price increases, changing priorities, and City policy.

Performance Levels:

Satisfactory

Recognizes the critical role of the budget process in City functioning. Knows the budget cycle and makes timely submissions for all desired expenditures.

Superior

Provides convincing justifications that reflect essential organizational functions, demonstration of cost-effectiveness, and consideration of current political/economic/social climate.

33. INTERPERSONAL SKILLS – Interacts effectively and courteously with others.

Level of Competency Required by Job:

Level 1: Interact with members of the workgroup, supervision, and/or the public in a cordial, service-oriented manner.

Level 2: **Interact across department lines and with appointed City officials, and/or members of the public, at times under adversarial circumstances, in a cordial, respectful manner.**

Level 3: Interact with appointed and elected City officials, department heads, representatives of external organizations, and/or the media in a cordial, effective manner.

Examples of Behavioral Indicators:

- Works well with others toward mutual objectives.
- Does not arouse hostility in others.
- “Disagrees without being disagreeable.”
- Elicits acceptance/cooperation from others.
- Affords all individuals respect, regardless of their role or status.
- Effectively addresses concerns of politicians or others who may have their “own agenda.”

Performance Levels:

Satisfactory

Behaves in a courteous, respectful, cooperative manner toward co-workers, other City employees, and members of the public.

Superior

Facilitates positive interpersonal relations within/among workgroups and toward members of the public. Adept at finding similarities and grounds for cooperation/mutual benefit.

47. WRITTEN COMMUNICATION – Communicates effectively in writing.

Level of Competency Required by Job:

Level 1: Write notes/e-mails. Completes forms with some open-ended responses (sentences).

Level 2: Write letters, articles/reports, and/or detailed descriptions of activities/occurrences.

Level 3: Write lengthy reports, instruction manuals, in-depth analyses/reviews of complex issues and/or articles for publication. Reviews the written work of others.

Examples of Behavioral Indicators:

- Writing includes the necessary information to convey the intended message.
- Sufficiently few errors in spelling, punctuation, grammar to not interfere with the intended message or distract the reader.
- Little editing or re-writing needed to produce a final product.
- Composes materials efficiently.
- Information is presented in a well organized manner.
- Tone and degree of formality are appropriate to the purpose and audience.

Performance Levels:

Satisfactory

Writes Material that clearly communicates the necessary information; needs little editing.

Superior

Precisely uses words and organizes information in a way that enhances presentation of the message. Virtually no editing needed.

49. PROJECT MANAGEMENT – Anticipates and plans for all aspects of a multi-faceted, discrete endeavor to ensure resources are available and actions are taken at proper times for successful completion.

Level of Competency Required by Job:

Level 1: Plan, coordinate, and oversee accomplishment of multi-step projects involving other employees.

Level 2: **Design, plan, coordinate, and manage large, multi-faceted projects involving employees from various segments of the organization representing different perspectives.**

Level 3: Design, plan, secure approval and resources, and manages large-scale, complex projects involving many employees representing a large number of diverse segments of the organization and perspectives, which may at times be in conflict.

Examples of Behavioral Indicators:

- Establishes project plans that gain management acceptance.
- Establishes realistic timeline and estimates of resources needed.
- Assembles appropriate team with complementary skills to efficiently execute all portions of a project.
- Secures necessary resources for successful project completion.
- Clearly designates roles/responsibilities/accountability.
- Addresses failure to perform or other problems in a timely and effective manner to minimize negative impact.

Performance Levels:

Satisfactory

Establishes acceptable project plan; assembles team with required skills; establishes personal responsibility/accountability. Ensures the necessary time and resources are available.

Superior

Designs efficient project plan to maximize benefits and minimize use of resources. Designates precise mix of people to best accomplish the project. Completes on time, with resources allocated.