

## **COMPETENCY MODEL FOR AQUEDUCT AND RESERVOIR KEEPER (5813)**

The following competencies have been identified as those that best separate superior from satisfactory job performance in the class of **AQUEDUCT AND RESERVOIR KEEPER**. (Numbers refers to the order of the competencies in the Competency Bank.)

- 2. Reading Comprehension
- 3. Judgment and Decision Making
- 7. Self Management
- 8. Safety Focus
- 10. Physical Capability
- 20. Job Knowledge
- 43. Follow Oral Directions
- 47. Written Communication

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

**2. MATHEMATICS** – Performs arithmetic or higher-level mathematical computations accurately.

Level of Competency Required by Job:

Level 1: Perform arithmetic computations (add, subtract, multiply, divide, ratios, percentages).

**Level 2: Use algebra (substitute numbers for letters in a formula), geometry (angles, distances, area), and/or descriptive statistics (mean/median/mode, standard deviation, range).**

Level 3: Apply and interpret calculus, inferential statistics (t-tests, correlations, ANOVA, multiple regression) or other very high level mathematics.

Examples of Behavioral Indicators:

- Quickly and accurately performs arithmetic computations.
- Appropriately selects and applies formulas for stated purpose.
- Correctly identifies an appropriate analysis for a specific purpose and selects the appropriate computer program for computation.
- Accurately interprets and presents results of mathematical/statistical computations.

Performance Levels:

Satisfactory

Knows mathematical requirements of the job and performs them correctly. Verifies work to ensure accuracy.

Superior

Identifies additional opportunities for the application of mathematics in work. Answers questions/trains others to assist them in their use of mathematics.

## **Mathematics Areas**

1. Knowledge of basic and intermediate mathematics, such as addition, subtraction, multiplication, division, and algebra, sufficient to perform calculations, including computing a volume given a flow rate and time.
2. Knowledge of measurement and unit conversions, including the applications of and relationships between hydraulic measurements and concepts, such as cubic feet per second (ft<sup>3</sup>/s) and pounds per square inch (psi, lb/in<sup>2</sup>), sufficient to properly and accurately convert one unit of measurement to another.

**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.

**7. SELF MANAGEMENT** – Organizes and plans for task accomplishment; manages time and works diligently to complete assigned work/fulfill responsibilities.

Level of Competency Required by Job:

Level 1: Order tasks for efficient performance; maintain awareness of time allotted and deadlines in order to ensure they are met.

**Level 2: Plan and perform work in a way that maximizes efficient performance; establish and adjust priorities to ensure timely completion of most critical assignments.**

Level 3: Allot time to responsibilities proportional to their prominence, priority, and impact.

Examples of Behavioral Indicators:

- Performs only work activities during work hours.
- Alters means of performing work when original approach proves to waste time.
- Keeps a “to do” list (with indication of priority and deadlines, if necessary).
- Requests assistance as necessary when it becomes clear that work will not be completed on time.
- Demonstrates a record of progress with respect to all assignments/responsibilities.
- Uses optimal means of communication for efficiency and effectiveness.

Performance Levels:

Satisfactory

Conducts self while at work in a manner that ensures work will be completed as scheduled, or provides explanation or secures assistance or adjustment of schedule if it will not be.

Superior

Seeks efficiencies in doing work to maximize productivity. Plans work carefully and follows the plan or makes adjustments if it is disrupted. Maintains personal responsibility for all work accomplishment.

**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 Areas**

1. Knowledge of pertinent safety regulations and requirements, including the use and maintenance of equipment, fall protection, the use of personal protective equipment (PPE), and lock out tag out procedures in order to ensure compliance with the Department of Water and Power policies and procedures and California Occupational Safety and Health Administration (Cal/OSHA) requirements.
2. Knowledge of emergency and non-emergency safety procedures, practices, and techniques used when performing work around aqueducts, reservoirs, dams, canals, and other Department of Water and Power property, such as safe driving and boating techniques, firefighting techniques, first aid procedures, and cardiopulmonary resuscitation (CPR), sufficient to perform work safely and effectively respond to a variety of situations.
3. Knowledge of the content and purpose of Material Safety Data Sheets (MSDS), including information regarding safety hazards and precautions to take when working around chemicals, such as paint thinners, rodenticides, herbicides, and preparatory and disinfectant chemicals, sufficient to minimize risk of injury and contamination.
4. Knowledge of the safety precautions to take before entering confined spaces, such as checking for toxic gas and insufficient oxygen, in order to safely enter a confined space and prevent illness, injury, or death.
5. Knowledge of traffic safety precautions necessary when performing work in streets, such as wearing traffic vests and use of proper signage and lights, sufficient to provide and maintain a safe working zone.
6. Knowledge of the hazards and appropriate safety precautions relevant to working in hot, cold, and/or natural areas, such as dangerous snakes and symptoms/signs of sun stroke, hypothermia, and hyperthermia, sufficient to perform work safely and avoid injury or illness.

**10. PHYSICAL CAPABILITY** – Strength, endurance, flexibility, and/or coordination.

Level of Competency Required by Job:

Level 1: Sitting and/or standing for extended periods of time.

**Level 2: Awkward body position and/or precise motions required; and/or repeated lifting, carrying, and/or manipulation of objects; and/or walking for extended periods of time.**

Level 3: Continuous or extreme exertion of physical effort.

Examples of Behavioral Indicators:

- Sits and may occasionally stand or walk for entire workday (except breaks).
- Walks for the duration of the workday.
- Repetitive motion required to perform task.
- Repeatedly lifts and carries heavy objects.
- Exerts maximal effort for extended periods of time.

Performance Levels:

Satisfactory

Performs tasks requiring physical capability satisfactorily and without undue physical stress or harm.

Superior

Performs tasks requiring physical capability correctly with relative ease. May be asked to perform the most physically demanding tasks or be sought by co-workers for assistance.

**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.

## **Job Knowledge Areas**

1. Knowledge of the operation, function, and nomenclature of equipment, including gates, screen systems, pumps, drainage systems, irrigation systems, tower gates, valves, and related water control structures, sufficient to effectively operate such equipment and obtain desired operational levels and flows.
2. Knowledge of the methods, procedures, tools and materials used to make minor repairs to the aqueduct/reservoir system and department facilities, such as repairing and replacing small valves, performing concrete repairs during aqueduct shutdown, and replacing damaged irrigation equipment using a variety of hand or power tools, sufficient to preserve the function of the facility.
3. Knowledge of the procedures used in routine vegetation removal and ground maintenance work, including brush cutting, weed control, tree removal, fence repair, and road maintenance, sufficient to ensure the safety of dams, preserve the function of water conveyance conduits, and reduce fire hazards and water conveyance losses.
4. Knowledge of elementary hydraulics theory involving the flow and storage of water, and the techniques for measuring water flow, pressure, stage, and capacity, sufficient to determine adjustments needed to maintain desirable operational levels and flows of water.
5. Knowledge of the procedures for reading and interpreting various instruments and measurement devices, such as flow meters, manometers, staff gauges, pressure gauges, needle valves, and miscellaneous weather gauges, sufficient to measure and record water flow, level, and pressure accurately.
6. Knowledge of prints used for piping systems, including standardized symbols for valve, tee, backflow preventer, and flow meters, sufficient to read and interpret prints and diagrams.
7. Knowledge of flow measurement structures, such as weirs (e.g., V-notch, Cippoletti, broad-crested) and flumes (e.g., Parshall or ramp flume), and their components, such as stilling wells, shaft encoders, data loggers, floats, and weights sufficient to accurately measure, calculate, and record water flow rates.
8. Knowledge of the operating procedures for spreading grounds, such as water table recharge and percolation, sufficient to determine if corrective action such as turning the dirt, building embankments, or adjusting inflow is necessary for more efficient water absorption at facilities.
9. Knowledge of the purpose and characteristics of a test hole, toe-of-dam, and French drain sufficient to accurately convey the groundwater status of a drain and its seepage.

**43. FOLLOW ORAL DIRECTIONS** – Performs work accurately as directed orally.

Level of Competency Required by Job:

Level 1: Receive specific, complete oral directions daily or by individual task assignment throughout the day.

**Level 2: Receive general instructions orally that span across days or for entire assignments.**

Level 3: Receive general instructions/assignments orally regarding long-term objectives/responsibilities.

Examples of Behavioral Indicators:

- Does work assigned orally properly and on time.
- Asks pertinent questions for clarification of assignments.
- Performs work correctly when instructions were given orally.
- Explains assignments to others who received the same instructions.
- Performs work in accordance with general outline provided orally.
- Correctly infers details of assignments given only in general terms.

Performance Levels:

Satisfactory

Properly performs work when concrete, specific instructions are given orally. Asks pertinent questions when parts of the instructions are unclear or omitted.

Superior

Properly performs work assigned orally. Answers questions or explains work to others. Correctly infers details or portions of instructions that were omitted.

## 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.