

**COMPETENCY MODEL FOR
LAND SURVEYING ASSISTANT
CLASS CODE 7283**

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

1. Reading Comprehension
2. Mathematics
8. Safety Focus
20. Job Knowledge
21. Technology Application
23. Equipment Operation
33. Interpersonal Skills
43. Follow Oral Directions

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.

1. READING COMPREHENSION -

Comprehends and correctly applies information presented in written form. Makes correct inferences; draws accurate conclusions.

Level of Competency Required by Job:

- Level 1: Concrete, specific job-related information (work orders; instructions; material/equipment labels)
- Level 2: General information related to field of work and assignments; (articles in trade publications; technical/instructional manuals; memos; letters; e-mails; reports)
- Level 3: Abstract/complex information (highly technical articles/ reports in specialized area; legal or other regulatory material)

Examples of Behavioral Indicators:

- Follows written instructions correctly.
- Learns information presented in writing.
- Identifies relevant written information.
- Interprets written legal regulatory material accurately.

Performance Levels:

Satisfactory

Reads instructions correctly. Learns from manual and other printed material.

Superior

Learns from manual and may answer others' questions. Explains information presented in written form to others,

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

Performance Levels:

Satisfactory

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

Superior

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

6. 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 property damage above all other job requirements. Mentions the need to follow safe work practices to co-workers. Actively seeks ways to avoid injury.

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.

**LAND SURVEYING ASSISTANT
CLASS CODE 7283**

Job Knowledge Areas

1. Knowledge of the purpose, capabilities, and procedures for setting up, making adjustments to, and taking measurements with various surveying instruments, such as transits, automatic levels, hand levels, laser and echo sounders, electronic distance measuring devices (EDMs), GPS equipment, and data collectors, sufficient to ensure accurate and efficient surveying operations.
2. Knowledge of environmental and atmospheric effects on survey equipment sufficient to maintain precision in survey data under varying conditions.
3. Knowledge of using various types of leveling rods to measure the vertical distance between given points sufficient to accurately determine elevation differences essential for surveying tasks.
4. Knowledge of printing legibly and neatly in block letters and drawing clear and accurate sketches, drawings, and maps used to illustrate survey data sufficient to communicate survey findings effectively.
5. Knowledge of abbreviations and symbols commonly used in various written survey documents, such as field notes, prints, maps, logs, records, and plans, sufficient to produce and interpret survey documentation accurately.
6. Knowledge of algebra, plane and solid geometry, analytic geometry, and plane trigonometry as used to solve for unknown data such as points, distances, angles, volumes, areas, and standard deviations sufficient to address a wide range of mathematical challenges in surveying.
7. Knowledge of applying and converting between various systems of measurement used in survey-related data sufficient to ensure accuracy and consistency in measurements and calculations.
8. Knowledge of safety rules and regulations, such as CAL-OSHA, CALTRANS, and OSHA, related to survey activities, sufficient to ensure a safe working environment for all surveying personnel.
9. Knowledge of the procedures for calculating horizontal curves, vertical curves, volumes, areas, traverses, traverse adjustments, curvature and refraction corrections, and establishing horizontal and vertical control networks sufficient to perform comprehensive land and construction surveys.
10. Knowledge of using a scientific hand-held calculator for solving mathematical and statistical problems and equations sufficient to facilitate quick and accurate on-site calculations during survey operations.

11. Knowledge of properly loading and securing surveying equipment into transport vehicles used in survey-related activities sufficient to prevent damage to equipment and ensure its readiness for use.
12. Knowledge of driving a variety of survey vehicles, including 4-wheel drive vehicles, pick-up trucks, and vans in a variety of terrains or weather conditions, sufficient to safely and effectively reach and operate in diverse survey sites.
13. Knowledge of hand signals used to communicate between members of a survey crew while in the field sufficient to maintain effective and safe communication during surveying operations.
14. Knowledge of the Federal Communications Commission rules as they apply to radio operations used in surveying, including etiquette and language, sufficient to ensure compliant and effective communication over radio channels.
15. Knowledge of communicating orally with survey crews, supervisors, outside agencies, and the public, in person or to a group, to convey or obtain job-related information sufficient to foster clear and productive communication.
16. Knowledge of communicating orally with the public and other employees to promote good public relations sufficient to enhance the organization's image and facilitate cooperative interactions.
17. Knowledge of communicating in writing to survey crews, supervisors, the public, and outside agencies in the form of field notes, reports, logs, records, and memos to convey and document job-related information sufficient to ensure accurate and comprehensive communication of survey results.
18. Knowledge of reading, comprehending, and interpreting information, such as field notes, survey manuals, legal descriptions of real property, charts, maps, and plans, sufficient to accurately understand and apply survey data.
19. Knowledge of reading, comprehending, and interpreting information, such as field notes, survey manuals, legal descriptions of real property, charts, maps, and plans, sufficient to accurately understand and apply survey data.
20. Knowledge of recognizing and avoiding potentially hazardous situations which may occur when working in outlying areas, such as poison oak, venomous snakes and insects, and other wildlife, sufficient to ensure personal safety and the safety of the survey crew in various environments.

21. TECHNOLOGY APPLICATION-

Correctly applies technology as required on the job; conceptualizes improvements in work through introducing and/or enhancing use of technology.

Level of Competency Required by Job:

Level 1: *Expert in the use of technology required for own job. May identify additional applications for currently used technology to enhance*

Level 2: Identify additional technology to be applied to improve own work and/or work of others and/or enhanced use of current technology to improve the operations of an entire function or department.

Level 3: Identify new technology application to improve/enhance work of an entire function, department, or organization.

Examples of Behavioral Indicators:

- Demonstrates mastery of technical applications required for current work. Suggests additional applications of existing technology that improve productivity.
- Identifies new technology that can be applied to improve existing operations.
- Provides convincing justification for investment in new technology versus anticipated benefits.
- Presents compelling arguments to justify purchase of existing software (with or without modification) versus in-house development.

Performance Levels:

Satisfactory

Knows and correctly applies current technology as required on the job. Extends use of current technology to improve efficiency of accomplishing additional tasks.

Superior

Recognizes opportunities to apply technology to improve work processes in a function, department, or the entire organization. Identifies and justifies specific technology for specific uses.

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23. EQUIPMENT OPERATION-

Operates specialized equipment in performance of job duties.

Level of Competency Required by Job:

Level 1: Operate equipment based on on-the-job training.

Level 2: Operate equipment based on attendance at a training program and practice.

Level 3: Operate equipment for which in-depth, complex training was required and which may require certification.

Examples of Behavioral Indicators:

- Operates equipment proficiently.
- Operates equipment with strict adherence to safety procedures.
- Understands the operation of equipment used on the job and correctly answers questions about it.
- Willingly participates in any training necessary to maintain up-to-date knowledge of equipment operation.

Performance Levels:

Satisfactory

Operates equipment safely and with a high degree of proficiency.

Superior

Operates equipment with extreme proficiency and correctly answers questions about its operation. Trains and/or coaches others in the operation of equipment.

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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.

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.