



## Career Service Authority

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# Computer Aided Drafting Technician

### GENERAL STATEMENT OF CLASS DUTIES

Performs full performance computer aided drafting (CAD) assignments to create and modify maps and drawings that are spatially accurate and represent technically correct depictions of city projects and infrastructure.

### DISTINGUISHING CHARACTERISTICS

This class performs full performance computer aided drafting assignments. This class is distinguished from the Senior Engineering Associate class that performs a variety of professional assignments that support engineering operations and functions and applies technical engineering knowledge and principles to an area(s) of responsibility.

#### ***Guidelines, Difficulty and Decision Making Level:***

Guidelines are generally but not always clearly applicable, requiring the employee to exercise judgment in selecting the most pertinent guideline, interpret precedents, adapt standard practices to differing situations, and recommend alternative actions in situations without precedent.

Duties assigned are generally complex and may be of substantial intricacy. Work assignment is performed within an established framework under general instructions but requires simultaneous coordination of assigned functions or projects in various stages of completion.

Employee is responsible for determining time, place, and sequence of actions to be taken. Unusual problems or proposed deviations from guidelines, practices, or precedents may be discussed with the supervisor before being initiated.

#### ***Level of Supervision Received and Quality Review:***

Under general supervision, the employee receives assignments and is expected to carry them through to completion with substantial independence. Work is reviewed for adherence to instructions, accuracy, completeness, and conformance to standard practice or precedent. Recurring work clearly covered by guidelines may or may not be reviewed.

#### ***Interpersonal Communications and Purpose:***

Contacts with the public or employees where explanatory or interpretive information is exchanged, defended, and gathered and discretion and judgment are required within the parameters of the job function.

***Level of Supervision Exercised:***

By position, may perform lead work.

**ESSENTIAL DUTIES**

Operates CAD software to create, update, and maintain technical, electronic drawings and maps of sewer and storm water systems, transportation infrastructure, and facilities including precise maps and plans.

Creates a variety of engineering drawings using specifications provided by engineers and other available data, prepares detailed drawings for the construction and/or alteration of city infrastructure including evaluating and interpreting survey grading and drainage data, preparing cross-sections, profiles, visual displays, maps, and charts, and combines maps on one scale. .

Obtains record information from a variety of agencies and utilities, researches files, drawings, maps of facilities, and other related information, checks assessor's maps, survey maps, and parcel information for various data, gathers measurements and field notes, and verifies incomplete data in order to complete drawings.

Updates originally recorded engineering drawings, maps, profiles, and plans with new as-built data and edits existing drawings to reflect as-built conditions.

Makes engineering calculations involving elevations and angles related to sewer and sanitary pipe placement to other utility lines.

Supports engineering staff by assisting engineers with research, field inspections, analysis and verification of legal description, and other support duties.

Imports and exports data to and from GIS records.

Organizes and archives old drawings and updates and maintains database records and files.

Creates a variety of custom maps, graphics, and other information.

Performs other related duties as assigned.

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Any one position may not include all of the duties listed. However, the allocation of positions will be determined by the amount of time spent in performing the essential duties listed above.

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**MINIMUM QUALIFICATIONS**

***Competencies, Knowledge, & Skills:***

**Cartography** – Knowledge of the concepts, principals, theories, and methods related to the research, design, development, or revision of maps, charts, and related cartographic products and photogrammetric and cartographic processing.

**Geography** – Knowledge of the concepts, principles, theories, and methods for describing the location and distribution of land, sea, and air masses including their physical locations, relationships, characteristics, and what the land supports.

**Spatial Orientation** – Knows one's location in relation to the environment, determines where other objects are in relation to one's self (for example, when using a map).

**Surveying** – Knowledge of the concepts, principles, theories, and methods used in the measurement or determination of land boundaries, distances, elevations, areas, angles, and other features of the earth's surface.

**Creative Thinking** – Uses imagination to develop new insights into situations and applies innovative solutions to problems and designs new methods where established methods and procedures are inapplicable or unavailable.

**Technology Application** – Uses machines, tools, instruments, and/or equipment effectively and uses computer applications to analyze and communicate information in the appropriate format.

**Teamwork** – Encourages and facilitates cooperation, pride, trust, and group identity, fosters commitment and team spirit, and works with others to achieve goals.

**Integrity/Honesty** - Contributes to maintaining the integrity of an organization, displays high standards of ethical conduct, understands the impact of violating these standards on an organization, self, and others, and is trustworthy.

**Eye-Hand Coordination** – Accurately coordinates one's eyes with one's fingers, wrist, or arms to perform job-related tasks (for example, to move, carry, or manipulate objects).

**Attention to Detail** – Is thorough when performing work and conscientious about attending to detail.

**Information Management** – Identifies a need for and knows where or how to gather information and organizes and maintains information or information management systems.

**Mathematical Reasoning** – Solves practical problems by choosing appropriately from a variety of mathematical and statistical techniques.

**Diversity** – Is sensitive to cultural diversity, race, gender, and other individual differences in the workforce.

**Reading** - Understands and interprets written material including technical material, rules, regulations, instructions, reports, charts, graphs, or tables and applies what is learned from written material to specific situations.

**Writing** – Uses correct English grammar, punctuation, and spelling to communicate thoughts, ideas information, and messages in writing.

**Oral Communication** - Expresses ideas and facts to individuals or groups effectively, makes clear and convincing oral presentations, listens to others, and facilitates an open exchange of ideas.

**Technical Competence** – Uses knowledge that is acquired through formal training and extensive on-the-job experience to perform one's job, works with, understands, and evaluates technical information related to the job, and advises others on technical issues.

**Problem Solving** – Identifies problems, determines accuracy and relevance of information, uses sound judgment to generate and evaluate alternatives, and makes recommendations.

**Decision Making** - Makes sound, well-informed, and objective decisions, perceives the impact and implications of decisions, commits to action even in uncertain situations to accomplish goals, and causes change.

**Customer Service** - Works with customers to assess needs, provide assistance, resolves problems, and satisfy expectations, knows products and services, and is committed to providing quality products and services.

**Oral Communication** - Expresses ideas and facts to individuals or groups effectively, makes clear and convincing oral presentations, listens to others, and facilitates an open exchange of ideas.

**Interpersonal Skills** - Considers and responds appropriately to the needs, feelings, and capabilities of others, and adjusts approaches to suit different people and situations.

**Self Management** - Sets well-defined and realistic personal goals, displays a high level of initiative, effort, and commitment towards completing assignments in a timely manner, works with minimal supervision, is motivated to achieve, and demonstrates responsible behavior.

**Decision Making** - Specifies goals and obstacles to achieving those goals, generates alternatives, considers risks, and evaluates and chooses the best alternative in order to make a determination, draw conclusions, or solve a problem.

**Physical Demands** (Physical Demands are a general guide and specific positions will vary based on working conditions, locations, and agency/department needs):

Sitting: remaining in the normal seated position.

Handling: seizing, holding, grasping, or otherwise working with hands.

Fingering: picking, pinching, or otherwise working with fingers.

Talking: expressing or exchanging ideas by means of spoken words.

Hearing: perceiving the nature of sounds by the ear.

Repetitive motions: making frequent movements with a part of the body.

Eye/hand/foot coordination: performing work through using two or more.

Near acuity: ability to see clearly at 20 inches or less.

Depth Perception: ability to judge distance and space relationships.

Field of Vision: ability to see peripherally.

Accommodation: ability to adjust vision to bring objects into focus.

Color Vision: ability to distinguish and identify different colors.

**Education Requirement:**

Associate's Degree in drafting or a related field.

**Experience Requirement:**

Two years of experience in engineering drafting including experience with computer aided drafting.

***Education/Experience Equivalency:***

Additional appropriate experience may be substituted for the minimum education requirement.

***Licensure and/or Certification:***

By position, possession of a valid driver's license.

**CLASS DETAIL**

***FLSA CODE:*** Non-Exempt

***ESTABLISHED DATE:*** 09/16/1995

***REVISED DATE:*** 04/04/2010

***REVISED BY:*** Patricia Anderson

***CLASS HISTORY*** 4/2010 - This class was revised and updated as part of the Technical Engineering Study.