

**CLASS SPECIFICATION**  
**Computer Aided Drafting Technician III**

FLSA Status: Covered  
Union Representation: Professional and Technical Employees (PTE)

**GENERAL PURPOSE**

Under general direction, performs advanced specialized work in the development and use of computer aided drafting software (CAD); provides lead direction to other Computer Aided Drafting Technicians and coordinates large, multiple and/or complex CAD projects including developing time lines, schedules and budgets; and performs related duties as assigned.

**DISTINGUISHING CHARACTERISTICS**

Computer Aided Drafting Technicians III are responsible for performing advanced and complex CAD assignments. Incumbents are responsible for coordinating large, multiple or complex CAD projects and leading the work of subordinate Computer Aided Drafting Technicians.

Computer Aided Drafting Technician III is distinguished from Mapping and GIS Supervisor in that incumbents in the latter class are responsible for supervising a unit of professional and technical staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES**

Any one position in this class may not perform all the duties listed below, nor do the listed examples of duties include all similar and related duties that may be assigned to this class.

1. Plans, organizes, assigns and provides lead work direction to a mapping, records and CAD work group; develops and implements standards, policies and procedures; monitors the work group budget; prioritizes, plans and schedules projects and processes and checks work; manages work flow and monitors adherence to project budgets; and communicates project information and requirements to consultants.
2. Operates CAD software to create and maintain complex electronic water, sewer, stormwater, transportation, street systems and other easement, infrastructure and facility maps, including plans, detail drawings, site plans, cross sections, and/or drawings for alterations for buildings, utilities, or structures; database records, microfiche and electronic files.
3. Creates drawings of construction plans using base maps and other available data; prepares detailed drawings for the construction and alteration of buildings, utilities, structures, street, pedestrian and other improvements; makes onsite visits to check base map accuracy, resolves discrepancies and missing data and ensures no conflicts with construction plans; collects and analyses field data.
4. Manipulates raster images for electronic mapping.

5. Researches GIS and CAD drafting and mapping techniques, identifies sound methodologies and implements or recommends the implementation of new tools and techniques.
6. Provides technical support on CAD software; serves as technical resource for other staff on difficult CAD database and application issues; coordinates and leads data conversion and process improvement initiatives; troubleshoots and configures mapping software.
7. Provides training and ongoing education to bureau and work group staff in CAD application usage, mapping, work order and as-built interpretation, records processes and process improvements or changes. Coordinates and leads data conversion and process improvement initiatives.
8. Performs complex spatial analysis; designs, creates implements and maintains databases.
9. Develops programs to improve production and accuracy of drawings and information gathering.
10. Represents the bureau on special projects and/or committees.

#### **OTHER DUTIES**

1. Archives and organizes old drawings; maintains and updates records for future reference.
2. Explains policies, procedures and progress of pending and past projects to contractors, government agencies and the public.
3. Attends bureau, City, agency and professional and user group meetings and prepares notes or meeting minutes; prepares work group at meetings.
4. Performs special projects as assigned.

#### **MINIMUM QUALIFICATIONS**

##### **Knowledge of:**

1. Terminology, methods, practices, techniques and nomenclature of civil, mechanical and/or electrical engineering drafting by hand and using computers.
2. Principles and techniques used in the management and direction of work, including goals and objectives development and work planning and organization.
3. Principles and practices of project management and evaluation.
4. Uses and operations of advanced CAD software systems, tools, techniques and methods.
5. Basic principles of computer operating systems as applicable to assigned responsibilities.
6. Modern drafting and mapping procedures.

7. Algebra, geometry and trigonometry as applied to drafting formulas.
8. City operating policies and departmental work procedures and quality standards.
9. Methods and procedures for archiving and retrieving map and drawing information.
10. Basic database and system administration techniques as required to move data and files between applications and repositories and perform database queries.
11. Basic GIS concepts and processes.
12. Surveying practices and results.
13. Basic engineering design practices and methods.
14. Terminology, methods and techniques used in engineering maps and records.
15. Data-gathering and research skills.
16. Use of word processing, spreadsheet and database software.
17. Operating system fundamentals and procedures for the use of computer systems and related equipment.

**Ability to:**

1. Utilize a variety of computer-aided drafting applications graphics and other applications to carry out complex work responsibilities.
2. Review, organize and provide lead work direction to a work group; motivate assigned staff and provide for their training and professional development.
3. Independently perform advanced CAD assignments with initiative and creativity.
4. Perform difficult technical research and analyze complex CAD related problems, evaluating alternatives and recommending or adopting effective courses of action.
5. Properly use and care for drafting equipment, instruments, hardware and software.
6. Create engineering designs in accordance with sound engineering principles and design parameters.
7. Understand, interpret and apply field notes, survey data, symbols and legends; identify and resolve discrepancies in field information, errors in legal descriptions and missing detail.
8. Perform basic engineering computations.

9. Prepare detailed and complex maps, plans and records.
10. Clearly present technical information in oral, written, graphic or other forms.
11. Establish and maintain effective working relationships with bureau management and staff, contractors and others encountered in the course of work.

**Training and Experience:**

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from high school, trade school or vocational school, or G.E.D. equivalent, supplemented by courses in mechanical drawing, engineering drafting and computer-assisted drafting; and five years of progressively responsible engineering drafting experience, including experience in serving as project manager for CAD projects; or an equivalent combination of training and experience. Experience in a public agency is preferred.

**Licenses; Certificates; Special Requirements:**

A valid state driver’s license may be required for certain assignments.

**PHYSICAL AND MENTAL DEMANDS**

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to disability and the ability of the hiring bureau to accommodate the limitation.

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**Class History:**

- Adopted: 12-08-95 Engineering Technician III (3109) – CADD Specialty created.
- Revised: 07-01-01 Spec revised as part of the COPPEA Classification and Compensation study. CAD Technician III (6033) class created from the following COPPEA classes: 3109 Technician III (CAD Specialty)
- Revised: 08-01-06 Spec history revised to reflect pre-2001 COPPEA Study history. Spec formatting modified.
- Revised: 08-07-06 Revised FLSA status from “Non-exempt” to “Covered.”
- June 2009 - Change Job Class number from 6033 to 30000330, due to system change.
- July 2017 – Updated union name from COPPEA to PTE