

**CITY OF SANTA CLARA, CALIFORNIA  
CLASS SPECIFICATION**

**TITLE: PRINCIPAL ENGINEERING ~~AIDE~~TECHNICIAN (CIVIL) (JOB CODE 670A)**

<u>DEPARTMENT</u>	<u>ACCOUNTABLE TO</u>	<u>FLSA STATUS</u>
<u>Various</u>	<u>Various</u>	<u>Non-Exempt</u>

**CLASS SUMMARY**

The Principal Engineering Technician (Civil) This is an the advanced level classclassification in the paraprofessional Engineering Aide Technician sSeries. Incumbents in this classification perform duties involving design work and the performance of the highest level of paraprofessional engineering work for the Department of Public Works and/or the Water & Sewer Utilities Department. Work is performed under the general supervision of a professional engineer who makes assignments and inspects work to ensure that it is conducted according to instructions and in conformity with accepted engineering standards. This classification differs from the lower class of Senior Engineering Aide in that the incumbent is required to possess a high degree of experience and skill, and have the ability to produce complex paraprofessional work products that are complete and thorough with limited supervision. Performs related duties as assigned.

**DISTINGUISHING CHARACTERISTICS**

Positions at this level are distinguished from other classes within the series by the level of responsibility assumed and the complexity of duties assigned. Employees perform the most difficult and responsible types of duties assigned to this series, including preparation of the most complex exhibits, plans, engineering calculations and cost estimates. Employees at this level are required to be fully trained in all the procedures related to assigned area of responsibility. This classification differs from the lower level class of Senior Engineering TechnicianAide in that the incumbent is required to possess a high degree of experience and skill, andskill and have the ability to produce complex paraprofessional work products that are complete and thorough with limited supervision.

**MINIMUM QUALIFICATIONS**

**EDUCATION AND EXPERIENCE**

- Possession of Graduation from an accredited college with an Associate’s of Science (A.S.) degree or higher in Eengineering or related fieldits equivalent, with satisfactory completion of courses in algebra, geometry, trigonometry, mechanical drawing, engineering, land surveying, AutoCAD, and related subjects; and
- Three (3) Four (4) years of paraprofessional engineering experience, including experience with Computer Aided Design (CAD) and Geographic Information Systems (GIS) applications.

**ACCEPTABLE SUBSTITUTION**

**Possible Substitutions:**

- Graduation from high school with three (3) additional years of paid full-time paraprofessional experience in surveying, drafting using AutoCAD; or preparing plats

## **PRINCIPAL ENGINEERING TECHNICIAN AIDE (CIVIL) (670A)**

~~and legal descriptions~~ An additional two (2) years of paraprofessional engineering experience may be substituted for the ~~degree education~~ requirement, on a year for year basis.

~~One (1) year or more of paid, full-time paraprofessional experience as a draftsman, AutoCAD operator, field surveyor, or equivalent may be substituted for the required mechanical drawing, AutoCAD, or surveying courses respectively.~~

### **DESIRABLE QUALIFICATIONS**

~~Desirable Qualifications:~~

- ~~• Advanced experience in using CAD AutoCAD 2013 or higher and GIS applications is desirable.~~
- Experience using Supervisory Control and Data Acquisition (SCADA) systems
- Experience Computerized Maintenance Management Systems (CMMS)
- Supervisory experience

### **LICENSE/LICENSES/CERTIFICATIONS**

Possession of a valid California Class C driver's license is required at the time of appointment and for the duration of employment.

### **OTHER REQUIREMENTS**

Must be able to perform all ~~of~~ the essential functions of the job assignment, with or without reasonable accommodation.

### **TYPICAL DUTIES**

This description may not include all the duties listed below, nor do the examples cover all duties that may be performed.

Under general direction, the incumbent will:

~~Duties may include, but are not limited to, the following:~~

- Prepares standard property agreements for execution by property owners and prepares exhibits to accompany agreements
- Responds to requests for technical engineering inquiries from citizens, contractors, and developers wanting property information, including property line information, easement locations, etc.
- Issues Encroachment Permits, and calculates and collects Encroachment Permit fees
- Prepares plats and legal descriptions of property easement requests and rights-of-way from subdivision maps, official records, and survey notes
- Maintains master map files, including such records of block maps, right-of-way maps, subdivision maps, record-of-survey maps, and other maps
- Prepares agenda reports for City Council approval
- Collects and interprets engineering data such as, but not limited to, legal descriptions,

## **PRINCIPAL ENGINEERING TECHNICIAN AIDE (CIVIL) (670A)**

plats, survey notes, graphs, subdivision maps, ~~and~~ traverses, and as-built drawing documents

- Acts as instrument person on survey party and performs computing and drafting operations involved in checking and reducing land survey notes
- Makes field checks of existing facilities for construction purposes
- Writes replies, reviews permit requests, determines and collects development fees, reviews and comments on developer public improvement plans, subdivision maps, and easement/right-of-way documents as generated by general public, contractors, developers, engineers, and other public agencies
- Prepares project cost estimates
- Investigates public complaints and conducts field traffic studies to determine traffic volume, speed, effectiveness of signals, adequacy of lighting, and other factors influencing traffic conditions
- Performs field investigations of existing improvements
- Prepares drawings for construction of water distribution facilities; prepares precision drawings of construction or preliminary plans from sketches or rough copies
- Drafts profiles, cross-sections, road and storm drainage alignment, right-of-way maps and topographical features; does limited design drafting on roadways, storm drainage, water and sanitary sewer facilities, buildings, and related structures following established criteria
- Maintains records of as-builts and updates existing City maps and records; reduces as-built information to record
- Collects a variety of water samples and performs elementary laboratory procedures for water quality determination and responds to water quality complaints
- Maintains records of water production and well water levels
- Act as department liaison to the Information Technology (IT) Department for coordination of activities, as applicable
- Sets up, adjusts, and operates a variety of survey instruments to establish or confirm lines, angles, distances, bearings, and elevations
- May be required to act as Chief of Party on routine assignments for brief periods of time
- Prepares drawings of proposed signal installations or other control devices using AutoCAD
- Prepares cost estimates of materials, equipment, and incidentals needed for installation
- Checks signal installations for conformance to established City specifications and standards
- May assist in inspection of construction work, gather samples of construction materials, and assist in running laboratory tests on materials
- Performs other related duties as assigned

## **KNOWLEDGE, SKILLS, & ABILITIES**

### Knowledge of:

- Mathematics, including algebra, geometry, and trigonometry
- Basic engineering practices, including simple engineering computations

## **PRINCIPAL ENGINEERING ~~TECHNICIAN AIDE~~ (CIVIL) (670A)**

- Principles, techniques, and terminology of civil engineering, surveying, engineering drafting and map drafting, traffic engineering, and water distribution system design
- Office safety practices, procedures and standards

### **Ability to:**

- Use available computer hardware and software to perform assigned duties, including but not limited to, computer aided drafting, GIS, spread sheets, and word processing
- Use surveying and computing instruments
- Understand and carry out written and oral instructions
- Read and interpret plans and specifications
- Communicate clearly and effectively, both orally and in writing
- Establish and maintain a cooperative working relationship with those contacted in the course of work, including the ~~general~~ public
- Deal tactfully and courteously with others
- Respond appropriately to conflicts, complaints, and management escalations from other City departments and the ~~general~~ public
- Work in a team based environment and achieve common goals
- Work independently, quickly, and efficiently
- Evaluate situations, identify problems, make logical decisions and follow through on resolution
- Effectively handle multiple priorities, organize workload, and meet strict deadlines
- Bend, stoop, reach, carry, climb and lift as necessary to perform assigned duties
- Walk or stand for extended periods of time

### **SUPERVISION RECEIVED**

Works under the direction of professional engineer(s) or other supervisor/manager as assigned.

### **SUPERVISION EXERCISED**

May supervise and/or train other professional or paraprofessional staff as assigned.

### **CLASSIFICATION HISTORY**

Established 9/1996; Revised 7/2017; [Revised 10/2024](#)