

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

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

DEPARTMENT	ACCOUNTABLE TO	FLSA STATUS
Various	Various	Non-Exempt

CLASS SUMMARY

The Principal Engineering Technician (Civil) is an advanced level classification in the paraprofessional Engineering Technician series. 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. 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 Technician 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.

MINIMUM QUALIFICATIONS

EDUCATION AND EXPERIENCE

- Possession of an Associate’s degree or higher in Engineering or related field; and
- Three (3) years of paraprofessional engineering experience, including experience with Computer Aided Design (CAD) and Geographic Information Systems (GIS) applications.

ACCEPTABLE SUBSTITUTION

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

DESIRABLE QUALIFICATIONS

- Advanced experience in using CAD and GIS applications
- Experience using Supervisory Control and Data Acquisition (SCADA) systems
- Experience Computerized Maintenance Management Systems (CMMS)
- Supervisory experience

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.

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OTHER REQUIREMENTS

Must be able to perform all 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:

- Prepare standard property agreements for execution by property owners and prepare exhibits to accompany agreements
- Respond to requests for technical engineering inquiries from citizens, contractors, and developers wanting property information, including property line information, easement locations, etc.
- Issue Encroachment Permits, and calculate and collect Encroachment Permit fees
- Prepare plats and legal descriptions of property easement requests and rights-of-way from subdivision maps, official records, and survey notes
- Maintain master map files, including such records of block maps, right-of-way maps, subdivision maps, record-of-survey maps, and other maps
- Prepare agenda reports for City Council approval
- Collect and interpret engineering data such as, but not limited to, legal descriptions, plats, survey notes, graphs, subdivision maps, traverses, and as-built drawing documents
- Act as instrument person on survey party and perform computing and drafting operations involved in checking and reducing land survey notes
- Make field checks of existing facilities for construction purposes
- Write replies, review permit requests, determine and collect development fees, review and comment 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
- Prepare project cost estimates
- Investigate public complaints and conducts field traffic studies to determine traffic volume, speed, effectiveness of signals, adequacy of lighting, and other factors influencing traffic conditions
- Perform field investigations of existing improvements
- Prepare drawings for construction of water distribution facilities; prepares precision drawings of construction or preliminary plans from sketches or rough copies
- Draft 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
- Maintain records of as-builts and updates existing City maps and records; reduces as-built information to record
- Collect a variety of water samples and performs elementary laboratory procedures for water quality determination and responds to water quality complaints
- Maintain records of water production and well water levels

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- Act as department liaison to the Information Technology (IT) Department for coordination of activities, as applicable
- Set up, adjust, and operate 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
- Prepare drawings of proposed signal installations or other control devices using CAD
- Prepare cost estimates of materials, equipment, and incidentals needed for installation
- Check 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
- Perform other related duties as assigned

KNOWLEDGE, SKILLS, & ABILITIES

Knowledge of:

- Mathematics, including algebra, geometry, and trigonometry
- Basic engineering practices, including simple engineering computations
- 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 public
- Deal tactfully and courteously with others
- Respond appropriately to conflicts, complaints, and management escalations from other City departments and the 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.

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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