

# Senior Engineering Technician

## GENERAL PURPOSE

Under general supervision, provides advanced technical and paraprofessional engineering-related office and field support to engineering project managers in the planning, design and construction management of Engineering, Community Development, Public Works and Utilities projects; and performs related duties as assigned. Performs complex technical work in the construction, installation, operation, and maintenance of the City's traffic signal system; does related work as required.

## DISTINGUISHING CHARACTERISTICS

This is the advanced journey-level class in the Technician series, a series of engineering/building support classes. Incumbents lead and participate in the work of lower-level technical personnel and perform the more difficult analysis, drafting, plan checking, activities in support of the permit issuance and tracking process and other related technical duties in the assigned unit. Assignments require the application of knowledge, experience and independent judgment. Completed work is reviewed in terms of compatibility with requirements, effectiveness and expected results. Senior Engineering Technician is distinguished from Engineering Technician in that incumbents in the former class may provide lead supervision to other engineering/building support staff and perform the more difficult and responsible work.

## ESSENTIAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of duties does not exclude them from the position if the work is similar, related or a logical assignment for this class. Provides day-to-day leadership and works with assigned staff to ensure a high-performance, customer service-oriented work environment that support achieving the Department's and the City's mission, strategic plan, objectives and values. Leads and participates in the work of personnel engaged in the performance of technical, paraprofessional civil engineering and administrative work; plans, schedules, oversees and reviews the work of assigned staff. Incumbent may be assigned one of three major functional areas:

1. Senior Engineering Technician (General):

Confers with representatives from consulting engineers, developers, property owners, contractors, and other City department and external agencies, on technical matters to verify data, coordinate various stages of work and/or explain the City's procedures and standards. Computes fees and cost estimates. Prepares plans utilizing computer-aided drafting and Geographic Information System; prepares miscellaneous illustrative materials. Reviews and evaluates studies, designs, reports and records generated by other departments and outside entities. Conducts field surveys; prepares legal descriptions and sketches drawings for the acquisition of easements and rights-of-way. Uses a computer to generate a variety of special and recurring reports and models depending on assigned duties. Reviews specifications and/or drawings prior to the start of construction and makes recommendation for change or approval; confers with supervisors, engineers, consultants and contractors regarding interpretation of documents. Prepares a variety of

technical reports, specifications, graphs, charts and correspondence; designs, prepares and updates a variety of forms and charts throughout the department; writes periodic progress reports on construction and expansion projects. Prepares reports and maintains time, material, and equipment; requisition supplies and materials. Participates in emergency situations; coordinates emergency and special assignments with other City departments, divisions, and outside agencies and organizations. Participates in budget preparation; prepares cost estimates; submit justifications for expenditures. Performs related duties, as assigned

2. Senior Engineering Technician (Traffic):

Reviews and approves traffic control plans; reviews signing and pavement marking plans; inspect the installation of signs and pavement marking; conducts traffic counts and other traffic studies; prepares traffic volume reports and provides assistance with annual traffic flow map. Assists in coordination of and field work for traffic calming measures, assists in various traffic safety education programs and projects.

Compiles and analyzes traffic data for signal warrants, multi-way stop studies, speed studies and crash analysis. Investigates reported traffic concerns and reviews field conditions and prepares draft condition reports. Reviews historical data and determines the need for additional traffic data. Generates computer reports from the data collected and provides input and recommendations on observations during study for circulation and safety enhancement projects. Prepares condition diagrams and construction drawings using manual and computer aided methods for various traffic projects and improvements.

Works as part of a team with the Traffic Engineering staff; providing information and data; making recommendations; and conveying observations to the team for more thorough analysis, if necessary.

Performs related duties, as assigned.

3. Senior Engineering Technician (Building/Engineering Permitting Review):

Computes fees and cost estimates. Reviews and evaluates plans, studies, designs, reports for compliance with applicable codes and standards Sets appropriate work load priorities for counter staff is assigned area. Prepares clear, accurate and concise correspondence and other written materials to construction industry professionals and owners relating to required plan check corrections Interprets and applies state and local codes and regulations Interprets construction plans for inspectors. Assists and makes

recommendations for updating codes, standards, regulations, and plan check procedures.

Advise construction industry professionals on plan review processes, timelines, impact and applicable fees and submittal requirements. Act as a liaison between customers of assigned area and the plan reviewers across departments. Provide technical assistance to the general public and construction industry professionals throughout the construction process

Participates in budget preparation; prepares cost estimates; submit justifications for expenditures. Conducts advanced administrative analysis related to the activities or operation of permits issued by the assigned Department/Division in accordance with general guidance provided related to expected results; uses appropriate analytical techniques and data-gathering processes to obtain required information

Assist in evaluating appropriateness of all plan review, buy-in fee and repayment zone fees and permit fees for applications submitted; Performs plan review of small to medium size projects for compliance with applicable City codes and standards; Assists the general public, contractors, developers, engineers, and City personnel with the interpretation of City development codes and standards. Interpret, understand and apply State and local codes and ordinances, regulations as applicable to the assigned area of responsibility

Prepares and analyzes monthly, annual and fiscal statistical reports and recommends improvements to the plan review process. Performs related duties, as assigned

## KNOWLEDGE, SKILLS AND ABILITIES

### 1. Senior Engineering Technician (General):

Technical procedures and standards involved in design , construction, and specification development of assigned area; City operating policies and procedures applicable to plan check ; drafting techniques, terminology and equipment, including computer-aided drafting; nomenclature, symbols and techniques of mapping and surveying; engineering mathematics, including trigonometry; applicable ordinances and laws; lay out, review and supervising the work of others. Participate in work involving a variety of technical engineering applications; precisely follow written and oral instructions; perform detailed work thoroughly, neatly and accurately; organize and maintain accurate files and records; coordinate work assignments with other divisions, departments or agencies; establish and maintain effective working relationships with staff, consulting engineers, developers, property owners and others encountered during the course of work.

2. Senior Engineering Technician (Traffic):

Technical procedures and standards involved in design and construction engineering and specification development; City operating policies and procedures applicable to checking plans for approval; State laws related to signal installations and operations. Manual on Uniform Traffic Control Devices (MUTCD). Procedures and standards of traffic signal and sign warrants. Underground wiring and blue print reading. Participate in work involving a variety of technical engineering applications; precisely follow written and oral instructions; perform detailed work thoroughly, neatly and accurately; organize and maintain accurate files and records; coordinate work assignments with other divisions, departments or agencies; establish and maintain effective working relationships with staff, consulting engineers, developers, property owners and others encountered during the course of work. Interpret and work from plans, schematics, and blueprints. Use personal computers for functions related to traffic signal operations and coordination. Establish and maintain effective working relationships with those contacted in the course of work.

3. Senior Engineering Technician (Building/Engineering Permitting Review):

High School Diploma or equivalent and completion of two years major college course work in architecture, construction management, or engineering; and two years of increasingly responsible experience as an inspector, permit specialist or construction plan checker; or an equivalent combination of training and experience. A valid Arizona driver's license and Combination Dwelling Inspector license or a NICET Level I certification are preferred at time of hire.

**REQUIRED QUALIFICATIONS:**

High School diploma or GED and five years of related experience in traffic engineering; para-professional engineering, building trade, drafting, and/or field survey experience as applicable for area of hire; or an equivalent combination of training and experience. Possession of, or ability to obtain, an appropriate, valid Arizona driver's license within one month of hire.

Incumbent with the Traffic Engineering Division are required to have their five years experience in the field of traffic engineering. Knowledge of principles, practices and methods used in civil and traffic engineering, including: laws, symbols, technology, traffic data collection techniques and statistical survey procedures. Valid Arizona Driver's License within one month of hire.

**DESIRED QUALIFICATIONS:**

An Associate of Arts degree with major course work in civil engineering, building trade, or closely related field is desirable.

Engineering Incumbents (General and Sr. Engineering Permit Specialist) are desired to have knowledge of the theory, principles and practices of civil engineering design and construction; principles of physics and mathematics applicable to civil engineering; principles and techniques. Uses of construction materials; legal guidelines for public works engineering; public relations; micro-computer applications pertaining to the work, including word processing, and spreadsheet analysis.

**PHYSICAL AND MENTAL DEMANDS**

The physical and mental demands described here are representative of those that must be met by employees to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. Employees must use proper safety precautions, anticipate unsafe circumstances, and act accordingly to prevent accidents. Responsibility for the safety of self, others, materials, and equipment is a responsibility of all employees. Use of all required safety equipment is required.

#### Physical Demands

While performing the duties of this class, employees are regularly required to walk, stand and sit; talk and hear, both in person and by telephone; use hands to finger, handle, feel or operate standard office equipment; and reach with hands and arms. Specific vision abilities required by this job include close vision, color vision and the ability to adjust focus.

#### Mental Demands

While performing the duties of this class, employees are regularly required to use written and oral communication skills; read and interpret information and documents; analyze and solve problems; observe and interpret situations; perform highly detailed work on multiple, concurrent tasks; work with constant interruptions; and interact with officials and the public.

#### WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The employee may work under typical office conditions where the noise level is quiet and/or occasionally. Employees may occasionally be required to work in outside conditions, exposed to hot or wet conditions, where the noise level may be loud. Employees may occasionally work near moving equipment and be exposed to heavy traffic.

FLSA Status: Non Exempt

Revised: 06/07

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DURING THE SELECTION PROCESS, ANY APPLICANT REQUIRING ACCOMMODATION FOR A DISABILITY SHOULD ADVISE THE HUMAN RESOURCES DEPARTMENT.

Employment Hotline (Voice Only): 623-773-7105  
Human Resources (Voice/TDD): 623-773-7100

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