Associate Engineer

Purpose of the role:

Under direction, performs complex professional engineering work in the research, design and construction of public works, traffic, water and wastewater utility projects; prepares complex engineering designs, plans and specifications; reviews proposed construction plans; and performs related duties as assigned.

This is a broad classification and individual duties will vary depending on area of assignment.

Distinguishing Characteristics:

This is the full journey level class in the Engineer series. Positions at this level are distinguished from the Senior Engineer in that the latter assumes project management and lead supervisory responsibility over complex engineering projects. Positions at the Associate level receive only occasional instruction or assistance as new or unusual situations arise, and are fully aware of the operating procedures and policies of the work unit. Work is normally reviewed only on completion and for overall results.

Essential Duties and Responsibilities:

The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.

- Prepares plans and specifications for the construction of water and wastewater utility and public works engineering projects; researches and identifies project design requirements; performs complex calculations and prepares estimates of time and material costs.
- Participates in the selection and supervision of private professional engineers for the development of plans and specifications, studies and reports.
- Prepares estimates and feasibility reports for new or modified services and structures; administers contracts for construction projects; issues construction permits; reviews plans for private developments and ensures that they meet all City-imposed requirements.
- Participates in the review and examination of construction documents for residential, commercial and industrial building construction and alterations; ensures that plans, structural calculations and specifications comply with building codes and regulations; confers with homeowners, builders, contractors, engineers and architects to give and obtain information and interpret building codes and regulations.

- Establishes occupant loads, building types, and fire hazards to determine kinds of materials, stresses, loads, and degree of inspection required; advises Building Inspectors on structural and other building-related problems arising in the field during construction.

- Prepares correspondence to architects, engineers and contractors relating to the correction of plans and engineering detail; recommends necessary changes to obtain compliance with applicable codes and regulations; initiates action to enforce code compliance.

- Provides advice and technical assistance to City staff, commissions, committees, and the public on traffic and transportation matters; confers with a variety of public and private officials on traffic engineering issues and serves as the City's representative to other government agencies.

- Performs surveys and analyses of traffic conditions, traffic volume, accidents, traffic hazards, parking, signing, channelization and signal coordination; participates in planning of improvements and makes recommendations concerning street lighting, parking leading zones, and on- and off-street parking.

- Reviews traffic and transportation elements of environmental impact reports; conducts studies and prepares reports on traffic issues; monitors developments in the traffic control field and recommends policy and procedure improvements.

- Evaluates utilities system operations and processes; recommends solutions to problems; assesses utilities system response to growth; writes and updates manuals to facilitate utilities system operations and define working procedures.

- Develops revised design and construction standards for public works and water and sewer utility structures and appurtenances; coordinates public works or water and wastewater utility activities with other departments and outside agencies.

- Investigates field problems affecting property owners, contractors and maintenance operations.

- Prepares special engineering studies and reports.

- Performs related duties as required.

The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.

Knowledge of:

- Principles and practices of civil engineering as applied to the public works, water, wastewater, building construction and/or traffic engineering methods.
- Theory, principles and practices of civil, structural and/or traffic engineering design and construction.

- Modern methods and techniques used in the design, construction, and maintenance of a wide variety of public works or water and wastewater utility projects.
- Principles, modern techniques and equipment used in design, construction and maintenance of various projects.
- Operation and maintenance of traffic control devices and equipment.
- Modern developments, current literature, and sources of information regarding the assigned area of engineering.
- Occupational hazards and standard safety practices.
- Pertinent federal, state, and local laws, codes, and regulations.
- Principles and practices of contract administration and project management and evaluation.

Desired Minimum Qualifications:

Ability to:

- Perform difficult technical research and analyze complex engineering and mathematical problems, evaluate alternatives and recommend or adopt effective courses of action.
- Understand, interpret, explain, and apply applicable federal, state, and local policies, laws, and regulations.
- Make complex engineering computations.
- Develop plans, specifications, estimates and work orders for the construction of public works, wastewater and water utility and traffic engineering projects.
- Read and interpret a variety of complex engineering and construction designs, specifications and plans.
- Provide technical assistance to other division, department and City staff regarding assigned engineering issues and problems.
- Prepare clear and concise reports, drawings, maps, notes, correspondence and other written materials.
- Utilize standard office equipment including computers and related software applications.
- Prepare clear and concise reports.
- Understand and follow oral and written instructions.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted in the course of work.
- Respond and perform assigned duties in the event of a City-declared emergency.

Competencies:

- Effective Communicator
- Team Builder
- Strategic Thinker
- Accountable
- Problem Solver and Decision Maker
- Planner and Organizer
- Technically Knowledgeable

Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Education and Experience Guidelines:

Education/Training:
A Bachelor's degree from an accredited college or university with major course work in civil engineering or a related field.

Experience:
Three years of responsible professional engineering experience, including experience in municipal public works, traffic or building design and construction activities.

Licenses; Certificates; Special Requirements:
A valid class C California driver's license.

A valid certificate of registration as a Professional Engineer issued by the California Board for Professional Engineers and Land Surveyors.

Except for the Traffic Division, a Civil Engineering registration is required. Positions in the Traffic Division may require registration as a Traffic Engineer or Civil Engineer.

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

Physical and Environmental Conditions:

Physical: Sufficient physical ability to work in an office setting; sit, stand, walk, reach, twist, turn, kneel, bend, squat, and/or stoop for prolonged periods of time; perform duties requiring grasping, repetitive hand movement, and fine coordination; and operate office equipment. **Vision:** See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents and to operate office equipment. **Hearing:** Hear in the normal audio range with or without correction.

Environment: Standard office setting; occasionally required to work outside, with exposure to inclement weather conditions or elevated noise levels; interaction with officials and the public.

Formerly Associate Civil Engineer

Incorporated language to include more specific information on traffic engineering, including registration requirements. 5/1/06

*Class specifications are only intended to present a descriptive summary of the range of duties and responsibilities associated with specified positions. Therefore, specifications **may not include all** duties performed by individuals within a classification. In addition, specifications are intended to outline the **minimum** qualifications necessary for entry into the class and do not necessarily convey the final qualifications of incumbents within the position.*

Pursuant to California Government Code Section 3100, all public employees are required to serve as disaster service workers subject to such disaster service activities as may be assigned to them by their supervisor or by law.

Date Adopted: 7/2/03
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