

ENGINEER I

DEFINITION

Under close supervision, performs pre-professional civil, mechanical, structural, or traffic engineering work in the field or office; assists in such projects as design, surveys, construction, research, review of construction documents for compliance to State and Local codes and regulation, and development of a wide variety of engineering projects.

SUPERVISION RECEIVED/EXERCISED

Receives supervision from a Division Manager or designee. This class does not exercise supervision.

DISTINGUISHING CHARACTERISTICS

Engineer I is the unregistered, entry level class in the Engineer series. Incumbents perform pre-professional civil, mechanical, structural, electrical, or traffic engineering work on a variety of engineering projects. This class differs from Engineer II in that the latter is the journey level class in the series.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

May include, but not limited to, the following:

Performs moderately difficult engineering and cost computations; prepares plans and specifications under supervision or from pre-determined standards; and prepares sketches and exhibits.

Performs cost estimates and fee calculations relative to entitlements.

Performs on-site posting of legal notices.

Prepares routine drawings from field notes; and plots and checks plan views, profiles and cross sections.

Assists in reviews of special permits and construction plans for off-site street improvements and parking geometrics.

Assists in the preparation of development agreements.

Prepares and reviews legal descriptions under the responsible charge of a professional engineer licensed to perform land surveying in the State of California.

Makes as-built drawings; reduces survey notes; prepares and maintains maps; and plots land divisions from written property descriptions.

Assists with estimates and compilation of costs and requirements for water and sewer line

extensions, streets, and other public improvements.

Provides traffic engineering input to the various development entitlement processes.

Prepares engineering sketches, or geometric requirements for public and private roadways, parking lots, traffic signals and street lighting.

Reviews subdivision maps for code compliance and completion as related to vehicular access points, street layout, circulation, safety and convenience.

Provides primary review of construction projects, specifications, traffic flow, and work site control.

Confers with technical groups and/or community groups on traffic problems.

Analyzes traffic accident tabulations and makes recommendations for accident prevention.

Conducts traffic studies including origin and destination, travel time, accidents, transit, volume, capacity, parking, and pedestrian surveys for operational or planning applications.

Performs engineering work in checking plans and specifications of buildings and structures for compliance with the Mechanical or Building Codes, Noise Ordinance, Fire Code, and accepted engineering practices.

Reviews and approves working drawings for buildings; consults with architects, engineers, building designers, and contractors on code compliance issues.

Maintains records of all plans and buildings evaluated, examined, and approved, including time and cost records.

Prepares proposed policy statements and code change recommendations regarding engineering and architectural problems, or mechanical and fire suppression provisions.

Prepares comprehensive reports and makes recommendations on engineering and architectural problems, or mechanical engineering and fire suppression problems.

Provides information to the public related to assigned projects.

Checks subdivision and parcel maps.

Performs related duties as required.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Knowledge of:

The principles and practices of engineering and surveying.

Modern methods and techniques in the design, construction, and remodeling of public works facilities and projects.

Applicable building codes, regulations, local ordinances, and State laws as related to residential and commercial and industrial buildings.

Architectural, electrical, plumbing and mechanical system requirements for fire, life, health, and safety principles and practices related to the preparation and evaluation of plans and specifications for a variety of public and private construction projects.

Principles and practices of architectural, electrical, plumbing, and mechanical engineering drafting.

Land division processes and records.

Data processing and equipment and formatting.

Ability to:

Perform moderately difficult civil, mechanical, structural, electrical, or traffic, and technical engineering work.

Perform precise engineering computations and skilled drafting and reduce field notes.

Interpret and work from oral and written instructions and sketches.

Interpret and write property descriptions.

Establish and maintain effective working relationships with fellow employees, representatives of other agencies, and the public.

Prepare technical reports.

Effectively communicate both orally and in writing.

