

CIVIL ENGINEERING DESIGNER

DEFINITION

Prepares civil engineering drawings and cost and quantity estimates and has limited responsibility for design work.

TYPICAL DUTIES

Prepares construction drawings for the grading, paving, and drainage of school property and adjacent public streets, including parking lots, athletic fields, walks, stairs, curbs, gutters, catch basins, culverts, storm drains, and sewer connections.

Prepares plans, profiles, and cross sections for retaining walls, using design information furnished by the Structural Engineering Unit.

Prepares preliminary studies and sketches for approval by supervisory personnel.

Makes calculations for such needs as the determination of runoff, low impact development designs, capacity of conduit, and economic balancing of cuts and fills.

Prepares detailed cost estimates of assigned projects and makes cost and feasibility studies for site development of new sites.

Coordinates work during the design stage of each project with designers in the Architectural Unit and other engineering units.

Reviews information on file, visits project sites to obtain information on existing conditions and study civil engineering problems, and requests the collection of additional survey data as needed.

Confers with personnel in other branches and other public agencies concerning details of site and public street improvements.

Responds to requests for clarification from contractors and requests for information from inspectors when interpreting plans and specifications.

Prepares drawings for minor landscaping details associated with civil engineering projects.

May check drawings for completeness and accuracy.

May prepare tract maps, legal descriptions, and related calculations for official city and county records.

Performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS AMONG RELATED CLASSES

A Civil Engineering Designer drafts the civil engineering phases of school building projects, assists in the design of larger projects, and designs smaller projects.

An Assistant Civil Engineer supervises and participates in the preparation of designs, plans, cost estimates, and specifications for ground improvements, streets, storm drains, and sanitary sewer systems.

A Civil Engineering Drafting Technician performs skilled civil engineering drafting from approved preliminary sketches and field surveyors' notes, under the immediate supervision of higher-level civil engineering personnel but is not responsible for civil engineering design.

SUPERVISION

General supervision is received from an Assistant Civil Engineer or higher level staff. Work direction may be exercised over Civil Engineering Drafting Technicians and Engineering Aides.

CLASS QUALIFICATIONS

Knowledge of:

- Terminology, symbols, and sources of civil engineering design and drafting information
- Civil engineering customs and practices in expressing ideas, designs, and data in drawings
- Applicable State and local building codes and ordinances, such as low impact development
- Design principles and mathematics for the solution of civil engineering problems
- Principles and methods of plane surveying
- Building construction practices as they relate to civil engineering work
- AutoCAD or other recognized major computer-aided design software system

Ability to:

- Interpret architectural and engineering plans and specifications
- Work effectively and cooperatively with District personnel
- Effectively utilize AutoCAD software to create and update civil engineering plans and designs

ENTRANCE QUALIFICATIONS

Graduation from a recognized college or university with a major in civil engineering which included completion of at least one course in a recognized major computer-aided drafting and design software system,

or

Possession of an Engineer-in-Training Certificate issued by the State Board of Registration for Civil and Professional Engineers and, one year in the usage of a computer-aided drafting and design software system

or

Two years of civil engineering design experience that included one year experience in the usage of a recognized major computer-aided drafting and design software system.

Special:

- A valid California Driver License.
- Use of an automobile.

This class description is not a complete statement of essential functions, responsibilities, or requirements. Entrance requirements are representative of the minimum level of knowledge, skill, and/or abilities. To the extent permitted by law, management retains the discretion to add or change typical duties of a position at any time, as long as such addition or change is reasonably related to existing duties.

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