

Summary of Duties : Assigns, reviews, checks and evaluates the work of drafting technicians engaged in the preparation of civil and structural engineering drawings, plans or record maps; or performs technical subprofessional engineering work in preparing designs, plans, specifications and estimates; may apply supervisory principles and techniques in building and maintaining an effective work force; fulfills affirmative action responsibilities; and does related work.

Distinguishing Features : The work performed by an employee of this class is subprofessional engineering and may include supervising a small group of drafting technicians, or performing minor design work where principles and department procedures are well established. Finished work is checked against instructions for accuracy and for conformance to good design principles and practices. While some drafting work comparable to that done by Civil Engineering Drafting Technicians may be performed by Senior Civil Engineering Drafting Technicians, the latter receive the more difficult and complex projects. In addition, the latter may check the work of, and exercise supervision over, the former. The ability to instruct drafting technicians and to schedule and coordinate work for the best utilization of their skills and resources is essential. Some incumbents in the class of Senior Civil Engineering Drafting Technicians, when functioning as bona fide supervisors, are distinguished from lead workers in that they are responsible for the full range of supervisory activities including application of discipline, processing and resolution of grievances, evaluation of performance, and approval of time-off requests.

Examples of Duties : Assigns, coordinates, reviews, checks, and evaluates the manual drafting or Computer Aided Drafting (CAD) work of a small group of drafting technicians engaged in the preparation and maintenance of plans, drawings, charts, graphs, and plot and record maps of drainage and sewer systems, street lighting systems, traffic signals and striping, water and power transmission and distribution systems, easements, boundaries, tracts, paving and grading, sewage treatment plants, power generating, distributing, commercial and service facilities, and other public works projects; instructs drafting technicians, individually or as a group, on the sources of engineering information, in the analysis of engineering and surveying instructions, field notes, sketches and documents, and in various drafting procedures, techniques and work processes; reviews drawings for correctness, completeness, and neatness; uses calculators, computers, trigonometric tables, or planimeters to review mathematical computations of drafting technicians for accuracy; checks electrical, mechanical, and structural drawings to determine conformance to City, County, State, and Federal codes and standards; reports unworkable circumstances and suggests corrections where necessary; confers with contractors, engineers, surveyors, City employees and the public to obtain data, interpretation and clarification of facts, and decisions on views, elevations and profiles desired, clearer scaling, and use of

applicable lines; compares and checks finished design drawings with sketches, instructions, requirements, and standards; may make field trips to project sites, occasionally with subordinates, to obtain data and observe conditions pertaining to particular assignments; participates in, or directs, the research and analysis of maps, records, ordinances, legal descriptions, technical manuals, and other documents to obtain engineering, financial, legal, or historical data;

Assists in the preparation of drafting standards and procedures for simplification of drafting methods, procedures, and processes; designs minor portions of major projects that conform to well-established principles; prepares and advises in the preparation of the more difficult and complex drawings, including determining the proper scale for drawings and preparing isometric and orthographic projections, cross sections, elevation drawings, and materials lists; makes the more difficult mathematical computations using calculators, computers, and other devices for determining alignment, grade, slope, elevation, bearings, distances, areas, tangent lines, horizontal and vertical curve data, and structural dimensions; may act as a liaison with customers, City departments, the public, and others in handling the more difficult problems and in providing information regarding public works projects; may plot new subdivisions and assign street address numbers; may review contract drawings and coordinate utility relocation as necessary; develops and maintains project schedules and progress reports; makes decisions on reproduction processes to be used; participates in the maintenance of computer-stored and microfilm records; prepares memos as needed to communicate with others; prepares, or assists in the preparation of standard and narrative reports; communicates equal employment/affirmative action information to employees; applies or assists in the application of job-related criteria in selecting, orienting, assigning, training, counseling, evaluating, and disciplining subordinates; assists employees in preparing for promotion as described in the City's Affirmative Action Program; and may be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications: A good knowledge of the principles, techniques, materials, equipment, and nomenclature used in civil and structural engineering drafting; a good knowledge of algebra, plane geometry, and trigonometry, particularly as applied to the computation of distances, angles, areas, and traverses in the reduction of survey notes; a good knowledge of the scope and interpretation of various City, County, State, and Federal codes and standards; a good knowledge of the sources of engineering information; a good knowledge of safety principles and practices; a good knowledge of supervisory principles and practices including planning, delegating and controlling the work of subordinates; a good knowledge of techniques of training, instructing and evaluating subordinate work performance; a good knowledge of techniques for counseling, disciplining, and motivating subordinate personnel; a good knowledge of the procedures for grievance handling; a good knowledge of supervisory responsibility for EEO/AA as set forth in the City's Affirmative Action Program; a

working knowledge of the characteristics of printing and reproduction processes; a working knowledge of the laws and regulations related to equal employment opportunity and affirmative action; a working knowledge of memoranda of understanding as they apply to subordinate personnel; a working knowledge of the principles and practices of civil engineering; a general knowledge of the principles and practices of land surveying; a general knowledge of Computer Aided Drafting (CAD); a general knowledge of City personnel rules, policies and procedures;

The ability to analyze drafting problems and present practical solutions; the ability to use trigonometric, and curve data tables; the ability to use drafting tools and equipment, planimeters, and calculators and computers efficiently; the ability to do machine and free hand lettering; the ability to prepare and interpret the more complex and difficult maps, plans, detail drawings, charts, graphs, tables, and technical and legal descriptions; the ability to give clear and concise oral and written instructions to drafting personnel on a variety of civil and structural engineering drafting procedures, techniques, and work processes; the ability to deal tactfully and persuasively with contractors, engineers, surveyors, City employees, and the public; the ability to communicate effectively both orally and in writing; the ability to prepare clear and accurate standard and narrative reports; the ability to maintain a work environment to enhance both employee morale and productivity; the ability to apply supervisory principles and techniques; the ability to fulfill supervisory affirmative action responsibilities as indicated in the City's Affirmative Action Program; and the ability to supervise a small group of drafting technicians.

Three years of full-time paid civil engineering drafting experience as a Civil Engineering Drafting Technician or in a class which is at least at that level is required for Senior Civil Engineering Drafting Technician.

License: A valid California driver's license and a good driving record may be required.

Physical Requirements: Strength to perform average lifting of less than 5 pounds and occasionally over 15 pounds; good speaking and hearing ability; and good eyesight.

Persons with medical limitations may, with reasonable accommodations,

be capable of performing the duties of some of the positions in this class. Such determination must be on an individual basis in light of the person's limitations, the requirements of the position, and the appointing authority's ability to effect reasonable accommodations to the person's limitations.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what the duties and responsibilities of any position shall be.