

Code: **6314**

Operation and Construction Service
Engineering, Designing, and Structural Group
Collective Bargaining Series

CLASS TITLE: Engineering Technician IV

CHARACTERISTICS OF THE CLASS: Under direction, performs progressive and responsible engineering work on a variety of engineering projects in the field, office, and laboratory, and performs related duties as required.

EXAMPLES OF DUTIES: Supervises field survey parties on a variety of engineering surveys; assists resident engineers on major projects or serves as resident engineer on less complex projects; checks plans and construction practices for highways, air conditioning systems, filtration plants, pumping stations, tunnels, viaducts, airport runways, bridges, buildings, incinerators, boilers, plumbing and electrical work; develops original engineering designs, evaluates contractor's shop drawings; prepares preliminary specifications for proposed construction projects; prepares mathematical calculations of dimensions, elevations and stress; develops quantity and cost estimates for a variety of construction projects; instructs and trains subordinate personnel in good engineering practices and procedures; supervises a truck crew in testing for water leaks and measuring water main efficiency: monitors water pipes with aquaphone and sound level meter; performs fire flow and pitometer tests; develops original geometric designs for a variety of street improvements; conducts field observations of traffic conditions for driveway permits; assists in the preparation of contracts, estimates and proposals for curb, gutter and street restoration projects; reviews contract status reports and cost records and supervises quality control technicians at concrete plants.

Correlates, supervises and assists technical and field personnel in phases of construction insuring proper work performance is complying with City specifications and construction standards; drafts the essential sketches and prepares the cost estimates from job site surveys; evaluates and interprets contract plans for street and roadway improvement projects from sketches and other data sources including field survey notes; investigates sewer complaints by checking the conditions of the local sewer and drainage structures conducting dye tests, or by entering the sewers and inspecting them either by lamping or by walking through the larger sewers; recommends various courses of action to correct problems and eliminate complaints; prepares complex layout and design of mechanical systems involving dewatering pumps and piping; conducts surveys for adjustment and maintenance of street lighting, traffic signals, and fire alarm and police telegraph system to clear driveways and other private and utility changes; computes quantities of material and prepares cost estimates, accompanies engineers in the field to prepare sketches of

CLASS TITLE: Engineering Technician IV (cont'd)

existing conditions and take measurements; contacts suppliers of equipment to collect design information.

DESIRABLE MINIMUM QUALIFICATIONS:

Training and Experience. Three years of progressively responsible para-professional engineering experience; or an equivalent combination of training and experience.

Knowledge, Abilities and Skill. General knowledge of the theory and practice of engineering design, construction, and surveying. Knowledge of the operation, care and adjustment of surveying instruments.

Ability to prepare and check designs, details, estimates, plans and specifications for engineering projects. Ability to instruct and train subordinate personnel. Ability to test and measure water main efficiency.

Skill in the use of surveying and drafting instruments and in the application of engineering theory to field and office problems

December, 1987