

## BUILDING MECHANICAL ENGINEER, 7561

Summary of Duties : Prepares or supervises the preparation of plans, designs, specifications, estimates, and reports for building mechanical systems; supervises the checking of plans for feasibility and conformance to good engineering practices and code requirements; directs the enforcement of legal provisions related to mechanical equipment and installation of such systems; may be responsible for directing the operation of a section or division engaged in mechanical research and/or inspection related to building mechanical equipment and materials testing; and does related work.

Distinguishing Features : A Building Mechanical Engineer is in responsible charge of a unit or division engaged either in planning, checking, trouble shooting for new and existing mechanical systems or researching the mechanical design features of public buildings and plants, including plumbing, elevators, heating, ventilation, air conditioning, piping and fire sprinkler, and other mechanical systems, or in the enforcement of City ordinances and regulations relating to the installation of such systems in all buildings or structures within the City. When employed by the Department of Public Works, an employee of this class receives assignments in general terms and is responsible for the detailed design and specifications of mechanical features of buildings designed by the Bureau of Engineering and for supervising the preparation of mechanical designs and specifications by contract architects. When employed by the Department of Building and Safety, an employee of this class receives only general direction and is responsible for making administrative and technical decisions relating to the engineering and new materials and methods of construction research aspects of fire protection, plumbing, heating and refrigeration, and elevator inspection and plan checking activities. In either case, the work is in the field of mechanical engineering but requires considerable coordination with the architectural, electrical, fire protection, and structural aspects of building projects. The work of a Building Mechanical Engineer is distinguished from the work of a Mechanical Engineer in that the former performs professional engineering work which involves only building and premise mechanical systems and facilities.

Examples of Duties : Acts as engineering consultant in the establishment of mechanical requirements; submits field survey reports and recommendations on modifications of mechanical installations in existing buildings; supervises and may work with a small group of professional mechanical engineering employees in the preparation or checking of preliminary and completed designs, specifications, and layouts of all types of building mechanical systems; may supervise other Building Mechanical Engineers; reviews lists of mechanical materials, equipment, and shop drawings submitted by construction contractors for conformance to code or City specifications; verifies

that mechanical system plans conform to pertinent code requirements and City standards;

Assists City or contract architects' specification writers in preparing specifications for proper materials and techniques of mechanical installations; prepares preliminary designs and cost estimates; attends design conferences of contract architects concerning the preparation of preliminary, progressive, and final plans, cost estimates, and specifications for prospective mechanical systems; advises architects and contract engineers concerning the preparation of the mechanical features in working drawings for construction use; assists the contractor and/or City construction forces in troubleshooting new and existing mechanical systems;

Makes administrative and technical decisions affecting fire sprinkler, and elevator and pressure vessel inspection activities; coordinates such activities and their legal bases with those of other inspection divisions; directs mechanical testing laboratory, mechanical engineering plan checking, research of new materials and methods of construction activities, and the preparation and revision of codes pertaining to building and premise mechanical systems; confers with consulting engineers on difficult technical problems; fulfills supervisory affirmative action responsibilities as set forth in the City's Affirmative Action Program; and may occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications : A good knowledge of mechanical engineering as applied to the design, layout, construction, installation, maintenance, alteration, and repair of plumbing, heating, ventilation, refrigeration, air conditioning, piping and fire sprinkler, control systems, and elevator, boiler and pressure vessels as used in major buildings; a good knowledge of the materials and equipment used in various types of building mechanical systems; a good knowledge of current plumbing, heating, air conditioning, and other mechanical trades, practices, ordinances, and established installation standards as related to architectural and structural building design requirements; a good knowledge of combustion, thermodynamics, hydraulics, and pollution controls as they relate to the design of plumbing, heating, ventilating, refrigeration, air conditioning, and pressure vessel systems; a good knowledge of mathematics, physics, chemistry, metallurgy, and electricity normally included in the field of mechanical engineering; a good knowledge of safety standards in the field of mechanical engineering as required by the City of Los Angeles Municipal Code and the California Occupational Safety and Health Act; a good knowledge of the laws and regulations related to equal employment opportunity and affirmative action; a good knowledge of memoranda of understanding as they apply to subordinate personnel; a general knowledge of Civil Service Commission Rules; the ability to apply mechanical engineering knowledge to the solution of specific problems; the ability to plan, direct, and review the work of a group of subordinate professional and inspection employees; the ability to

deal tactfully and effectively with architects, contractors, and their engineers; the ability to interpret and analyze architectural and structural plans and to recommend modifications required for the installation of mechanical equipment; the ability to modify and correct written specifications and to analyze shop drawings; and the ability to maintain records and prepare reports.

Two years of professional engineering experience in building mechanical systems design, construction, and maintenance or in enforcement of legal provisions related to the equipment and installation of building mechanical systems at the level of Building Mechanical Engineering Associate is required.

Registration : Registration as a Mechanical Engineer with the California State Board of Registration for Professional Engineers is required.

License : A California driver's license 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 made 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 all of the duties and responsibilities of any individual position shall be.