SENIOR ENGINEER (MECHANICAL)

DISTINGUISHING FEATURES OF THE CLASS: Under general supervision, incumbents function as fully competent, licensed Professional Engineers in all conventional aspects of the area of assignment. An incumbent independently performs assignments with instructions as to the general results expected. On a project basis, the Senior Engineer plans and conducts work requiring judgment in the evaluation, selection, adaptation and modification of standard techniques, procedures and criteria. The incumbent serves as project leader in design work or as a resident engineer on a major design or construction job concerned primarily with planning, inspection or testing of all mechanical installations. Senior Engineers give direction to, review and inspect the work of sub-professional engineers, construction coordinators, draftsman, technicians and others who assist on specific assignments. This level differs from the Associate Engineer in that the Associate is responsible for the administrative supervision of a unit. It differs from the Assistant Engineer level in the greater responsibility, complexity of assignments, supervision of technical staff and in the requirement of a license to practice as a Professional Engineer. (Factors determining complexity include dollar value of contract, location, phasing, project coordination requirements, time constraints, variety of design criteria, and project sensitivity). Does related work as required.

EXAMPLES OF WORK: (Illustrative Only)

Reviews and consults on plans, specifications and estimates for mechanical installations;

Prepares mechanical design details;

Prepares plans, cost estimates and specifications for heating, air conditioning, plumbing, electrical and elevator installations in buildings;

Makes field inspections of mechanical installations for conformance to specifications and makes final inspection and capacity tests;

Computes and compares estimates of payment to contractors both partial and final, and prepares progress reports;

Represents the County and Department of Public Works at various meetings;

Inspects existing buildings to ascertain feasibility of proposed innovations;

May seal and sign plans, working drawings and specifications as a licensed Professional Engineer as defined in Article 145 of the New York State Education Law;

Prepares technical reports and recommendations;

Uses computer applications or other automated systems such as spreadsheets, word processing, calendar, e-mail, and database software in performing work assignments;

May perform other incidental tasks, as needed.

REQUIRED KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES: Thorough knowledge of the principles and practices of mechanical engineering; thorough knowledge of the engineering problems involved in the design, utilization and installation of mechanical equipment; thorough knowledge of construction estimates, including relative cost of materials related to useful life; thorough knowledge of the practices of specification writing; good knowledge of the legal principles of contract preparation; good knowledge of computer assisted design, CAD; knowledge of the design and analysis of structures; skill in complex engineering computations; ability to lay out and supervise the work of professional and sub-professional engineers; ability to get along well with others and to deal effectively with contractors; ability to read, write, speak, understand, and communicate in English sufficiently to perform the essential duties of the position; ability to use computer applications such as spreadsheets, word processing, e-mail and database software; accuracy; reliability; resourcefulness; sound professional judgment; and physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: Possession of valid license to practice as a Professional Engineer in the State of New York and either (a) a Bachelor's Degree* in mechanical engineering and six years work experience where the primary function of the position was in field and office experience in mechanical engineering, one of which must have been in the design of construction projects and one of which must have been in construction administration; or (b) a Bachelor's Degree* in mechanical technology and seven years work experience where the primary function of the position was in field and office experience in mechanical engineering including the specialized experience described in (a).

SUBSTITUTION: A Master’s Degree* in Mechanical Engineering may substitute for one year of the field and office experience in mechanical engineering. There is no substitute for the one year of experience in design construction projects or the one year of experience in construction administration.

*SPECIAL NOTE: Education beyond the secondary level must be from an institution recognized or accredited by the Board of Regents of the New York State Education Department as a post-secondary, degree-granting institution.

NOTE: Unless otherwise noted, only experience gained after attaining the minimum education level indicated in the minimum qualifications will be considered in evaluating experience.