

## SENIOR ENGINEER (CIVIL)

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. Incumbents may specialize in a discipline of civil engineering such as roads, structures, stream control, site-work, etc., or be a generalist. Incumbents independently perform assignments with instructions as to the general results expected. 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. An incumbent reviews the daily work of sub-professional engineers, construction coordinators, drafters, technicians and others. This level differs from the Associate Engineer in that the Associate is responsible for the supervision of a unit, delegating project assignments, and providing oversight for all code-compliant designs. This level differs from the Assistant Engineer in the complexity of design assignments, the responsibility for performing compliance functions or overseeing assigned code-compliant designs, supervision of technical staff, and in the requirement of a license to practice as a Professional Engineer. Does related work as required.

### EXAMPLES OF WORK: (Illustrative Only)

Prepares designs, budget estimates and specifications for engineering projects such as roads, bridges, buildings, structures, etc., and participates in location and site aspects of such projects, using judgment and engineering standards;

Prepares and provides review and oversight in the preparation of design documents prepared by others including plans, specifications, cost estimates, etc.

Supervises non-professional employees in the preparation, planning and estimating of engineering projects, reviewing their work to ensure it meets needs and adheres to standards;

Develops and provides oversight and review in the development of design details developed by others

Evaluates problems and complaints and resolves problems concerning County facilities with corrective action;

Reviews and comments on Contractor's shop-drawings to ensure compliance with contract documents;

Performs and provides review and oversight in the performance of technical analyses for code-compliant designs performed by others

Confers with supervisors concerning project progress and recommends changes and modifications in design, specification, estimates, etc., based on field investigations to solve problems in a timely manner;

Makes hydrologic and hydraulic investigations and studies to prepare designs for storm-water management and erosion control;

Reviews and evaluates applications for permits such as County Stream Control permits and building approvals, making recommendations for approval or approving the permit;

EXAMPLES OF WORK: (Illustrative Only) (cont'd.)

Represents the County on various boards and agencies and at various meetings and hearings, depending on expertise;

Develops and implements computer programs, such as a computer assisted design and other drafting software and a Bidder's File, and trains others in use to enhance the engineering capabilities, efficiency and accuracy;

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 progress reports on projects;

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.

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES:

Thorough knowledge of the principles and practices of civil engineering; thorough knowledge of the practices of specification writing; thorough knowledge of construction estimating, including relative cost of materials related to useful life; good knowledge of the legal principles and practices of contract preparation; good knowledge of computer assisted design (CAD); knowledge of the design and analysis of structures; knowledge of computers and computer programs used in design and record keeping; 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 tasks of the position; ability to effectively use computer applications such as spreadsheets, word processing, e-mail and database software; accuracy; reliability; resourcefulness; sound professional judgment; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: Possession of a license to practice as a Professional Engineer in New York State and either: (a) a Bachelor's Degree\* in Civil Engineering and three years of experience in Civil Engineering; or (b) a Bachelor's Degree\* in Civil Engineering Technology and four years of experience in Civil Engineering.

SUBSTITUTION: Satisfactory completion of a Master's Degree\* in Civil Engineering may be substituted for one year of the experience described above,

\*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.