

## BUILDING SYSTEMS ENGINEER II

### DESCRIPTION OF WORK

This is advanced professional engineering work in the preparation and review of electrical, mechanical, or structural plans and specifications for major new facilities or the inspection of major new construction or alterations of schools, hospitals, or other public buildings.

Employees prepare detailed plans and specifications for the new construction or renovation of buildings, hospitals, or utility systems; review plans and specifications submitted by commercial engineering and architectural firms to determine if structural design, mechanical and electrical systems, and general safety features meet required standards, building codes, and regulations; and inspect public buildings during construction and upon completion for conformance to approved specifications and building standards. Duties may include the supervision of lower-Level engineers in carrying out related work assignments. Work is performed under the general supervision of a higher-level engineer who reviews work for the interpretation and application of established building codes and regulations, and for adherence to sound engineering principles and practices.

### EXAMPLES OF DUTIES PERFORMED

Prepares plans and specifications for renovations of existing facilities at State institutions and agencies; assists department heads and other administrative personnel in preparing renovation proposals and drafts schematic layout based on such needs; computes cost of renovations based upon building materials and man-hours of labor.

Prepares plans and specifications for various structures such as storage sheds, garages, and other temporary buildings; computes construction costs and inspects construction of such facilities when constructed by institutional personnel.

Reviews plans and specifications submitted by architects and engineers for construction of various public facilities to determine compliance with codes, policies, and regulations; detects errors, discrepancies, and omissions, and refers such oversights to the architects for necessary revision; confers with higher-level engineers to obtain assistance in resolving problems concerning interpretations of codes, policies and regulations applicable to the plans and specifications under review.

Inspects construction projects to determine if work is being performed according to plans and accepted construction practices; reports variations of specifications to the consulting architect or contractor for correction; performs final inspections of construction projects to determine if workmanship is acceptable under the provisions of the contract; reports construction errors and equipment malfunctions to superior engineers for further investigation.

Confers with consulting architects, engineers, and other administrative officials concerning plans and specifications submitted for review and approval; advises them on code and safety requirements; recommends changes in building plans, material specifications, and utility systems to meet requirements.

Maintains complete sets of building plans and specifications including layout of utility and electrical systems for maintenance purposes; assists maintenance personnel in resolving maintenance problems by redesigning water supplies, electrical, or sewage systems.

Performs related duties as required.

### RECRUITMENT STANDARDS

#### Knowledges, Skills and Abilities

Considerable knowledge of principles and practices of electrical, structural, or mechanical engineering as applied to the construction and maintenance of facilities.

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Considerable knowledge of modern methods and techniques of building construction, materials, and equipment.

Considerable knowledge of building laws, codes, and ordinances.

Working knowledge of general architectural principles, practices, and techniques.

Skill in drawing architectural plans and making technical computations.

Ability to prepare and review plans, specifications, and cost estimates for construction projects.

Ability to establish and maintain effective working relationships with architects, engineers, institutional officials, and others contacted in work operations.

#### Minimum Education and Experience

Graduation from a four-year college or university with a major in civil, mechanical construction, or electrical engineering and three years of experience in mechanical, electrical, or structural engineering work; or an equivalent combination of education and experience.