

ASSOCIATE MECHANICAL ENGINEER

DEFINITION

Prepares mechanical engineering drawings, specifications, and cost estimates for school buildings and grounds, and supervises lower-level employees as assigned.

TYPICAL DUTIES

Determines the type of mechanical installation and computes sizes and capacities of equipment and piping for heating, ventilating, air-conditioning, plumbing, water, refrigeration, and sewer systems.

Prepares preliminary designs and layout sketches for projects involving major alterations to mechanical installations.

Prepares specifications, cost estimates, and material lists for large projects and reviews those prepared by others for small projects.

Reviews and checks working drawings for conformity to sound engineering practice, District mechanical engineering standards, and applicable codes and ordinances.

Coordinates projects with personnel in other design units and checks finished work for conflicts with other engineering and architectural features.

Checks information on file and visits project sites to analyze existing conditions and to study mechanical engineering problems.

Confers with personnel in other branches and divisions, public agencies, and utility companies concerning details of mechanical engineering projects.

Confers with commissioned mechanical engineers and manufacturers' representatives concerning District requirements for mechanical systems and their installation.

Checks and approves factory shop drawings and lists of mechanical equipment submitted by contractors for conformance to contract plans and specifications.

Represents the District on assigned projects in negotiations with contractors relative to change orders, contract time extensions, and payment requests, and in verifying final compliance with construction plans.

Determines design and performance characteristics of mechanical equipment and assists in preparing and revising District mechanical engineering guides.

May provides technical supervision on mechanical engineering construction work.

Performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS AMONG RELATED CLASSES

An Associate Mechanical Engineer performs and supervises mechanical engineering design work for District structures and provides technical advice to engineering personnel.

A Mechanical Engineer performs mechanical engineering planning and design work; provides technical direction to District engineering personnel, commissioned architects, and consulting engineers; and signs drawings and specifications as a registered engineer.

An Assistant Mechanical Engineer performs mechanical engineering design work for structures under the supervision of a higher-level mechanical engineer, and assists in the review of the work of commissioned architects and engineers.

SUPERVISION

General supervision is received from the Supervising Mechanical Engineer and/or Mechanical Engineer. Supervision is exercised over lower-level employees as assigned.

CLASS QUALIFICATIONS

Knowledge of:

- Terminology, symbols, and sources of mechanical engineering drafting and design information pertaining to building construction
- Mechanical engineering principles and practices in expressing ideas, designs, and data in drawings
- State and local codes pertaining to mechanical engineering features of building construction
- Design principles, mathematics, and construction industry practices relative to mechanical engineering problems
- Mechanical engineering design standards of the District
- AutoCAD or other recognized major computer-aided design software system

Ability to:

- Analyze mechanical engineering problems and formulate solutions
- Effectively utilize AutoCAD software to create and update mechanical engineering plans and designs
- Make accurate calculations in determining proper size and capacity of mechanical equipment
- Interpret architectural and engineering plans and specifications
- Identify problems in designs prepared by others
- Work effectively with public officials, commissioned architects and engineers, and District personnel
- Supervise effectively

Special Physical Requirement:

Ability to climb ladders and scaffolds, walk on roofs, and move safely in partially completed buildings and crawl spaces.

ENTRANCE QUALIFICATIONS

Graduation from a recognized college or university with a major in mechanical engineering that included completion of at least one course in a recognized, major computer-aided design software system, and three years of experience in planning, designing, and preparing working drawings and specifications for mechanical systems for large commercial, government, or school buildings that included the use of at least one recognized, major computer-aided design software system.

or

Possession of an Engineer-in-Training Certificate issued by the California State Board for Professional Engineers, Land Surveyors, and Geologists, and three years of experience in planning, designing, and preparing working drawings and specifications for mechanical systems for large commercial, government, or school buildings that included the use of at least one recognized, major computer-aided design software system.

Special:

A valid license as a Professional Engineer in Mechanical Engineering issued by the California Board for Professional Engineers, Land Surveyors , and Geologists is preferable.
A valid California Driver License.
Use of an automobile.

SPECIAL NOTE

Exempt from FLSA.

This class description is not a complete statement of essential functions, responsibilities, or requirements. Requirements are representative of the minimum level of knowledge, skill, and/or abilities. Management retains the discretion to add or change typical duties of a position at any time.

Revised
01-12-15
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District Notification Date: 12-12-2014
Union Notification Date: 12-19-2014