

## **MECHANICAL ENGINEERING ASSISTANT**

Code No: 5-05-008  
COMPETITIVE

**DISTINGUISHING FEATURES OF THE CLASS:** This is an entry level mechanical engineering position responsible for performing general mechanical design and other engineering tasks associated with areas such as construction, building maintenance, energy management, and treatment plant processes. Duties involve applying the principles of science and mathematics to work on power-producing machines, power-using machines, water, heating, ventilating, electrical and other types of systems as well as evaluating designs to improve energy efficiency and performance and/or environmental impact. The employee reports directly to, and works under the general supervision of the Supervisor of Mechanical Maintenance-Water Authority or other higher level staff member. Does related work as required.

**TYPICAL WORK ACTIVITIES:** (All need not be performed in a given position. Other related activities may be performed although not listed.)

Drafts project technical specifications and drawings for construction;

Designs or assists in the design and development of specifications for mechanical system components of water supply systems;

Assists with maintaining infrastructure related to areas such as water and wastewater operations;

Reviews plumbing layouts, heating and electrical services, and components of these services;

Assesses project requirements;

Measures the performance of mechanical components, devices, and engines;

Participates in survey parties and performs field investigations, evaluations and engineering design in support of mechanical systems projects and field measurements;

Writes reports;

Develops contract specifications and administers procurements;

Analyzes and interprets data and provides technical advice;

Produces and implements designs and test procedures and presents designs to managers;

Prepares cost estimates and computes quantities of required materials;

Utilizes a variety of specialist computer applications, simulation software, and computer-aided design/modelling software;

Inspects contractors' and vendors' performance to determine conformance with plans and specifications and resolves supplier issues;

Applies mechanical engineering principles for system maintenance via computerized maintenance management and asset management;

Maintains and modifies equipment to ensure its' safety, reliability, and efficiency;

Reviews, analyzes, and prepares preventative maintenance directives;

Maintains preventative maintenance rosters and records and produces studies, reports and other documentation;

Collects field data for incorporation in project designs;

Monitors and adjusts building energy usage through a micro-computer system.

**FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS:**

Good knowledge of general construction materials and construction methods; good knowledge of mathematical principles; good knowledge of drafting and mechanical engineering analysis; good knowledge of mechanical equipment, operation and mechanical drawings; good knowledge of preventative maintenance of various systems such as plumbing, electrical, heating and ventilating, and water systems; working knowledge of environmental impact and issues; ability to utilize related software; ability to conduct field surveys and field measurements; ability to read and interpret plans, specifications and technical bulletins; ability to make material takeoffs and prepare cost estimates; ability to create project technical specifications and construction drawings; ability to act as a construction inspector; ability to establish and maintain effective working relationships with others; good judgment; physical condition commensurate with the demands of the position.

**MINIMUM QUALIFICATIONS:** Graduation from high school or possession of an equivalency diploma, plus EITHER:

- (A) Graduation from a regionally accredited or New York State registered college or university with a Bachelor's degree in Mechanical Engineering, Mechanical Engineering Technology or a closely related field; OR,
- (B) Graduation from a regionally accredited or New York State registered college or university with an Associate's degree in one of the fields mentioned in (A) above plus two (2) years paid full-time or its part-time equivalent experience in mechanical design, mechanical engineering or mechanical engineering projects; OR,
- (C) An equivalent combination of education and experience as defined by the limits of (A) and (B) above.

**SPECIAL REQUIREMENTS:** If you are appointed, you will be required to have a valid license to operate a motor vehicle in New York State or otherwise demonstrate your capacity to meet the transportation needs of the position.

**ADOPTED:** December 20, 1984

**REVISED:** July 10, 2017