ASSISTANT ENGINEER (00518)

DEFINITION:

Under direction, in one or more branches of engineering, performs routine field and office engineering work involved in the design, maintenance, and construction of structures and/or systems; may conduct field inspections of a variety of public work construction projects; does other related duties as required.

NOTE: The examples of work for this title are for illustrative purposes only. A particular position using this title may not perform all duties listed in this job specification. Conversely, all duties performed on the job may not be listed.

EXAMPLES OF WORK:

Performs routine field and office engineering work involved in the design, maintenance, and construction of highways, roads, streets, bridges, culverts, storm drainage systems, sanitary sewer systems, waste water treatment facilities, buildings, public grounds, mechanical systems, heating systems, cooling systems, electrical power delivery systems, electrical power generation systems, traffic control systems, interior/exterior lighting and wiring systems, water distribution/management or supply systems, environmental remediation systems and processes, and/or some other branch of engineering.

Performs routine calculations.

Prepares simple graphs, tables, and curves.

Records data of tests and visual observations.

Performs drafting and minor detail design.

May operate surveying instruments to stake out locations and plot alignments and grades.

Reviews and compiles information from technical engineering manuals and reports.

Prepares layouts and detailed drawings on routine projects from specific instructions, notes, or sketches.

Visits construction sites to obtain information.

Assists in the design/development, repair and maintenance of water management equipment and systems.

Assists with flood control projects and helps map out drainage systems for dealing with water flow.

Reviews contractor’s drawings/sketches for adherence to contract

specifications; notifies supervisor of deviations.

May conduct field inspections of all outside public works and public utilities construction such as curbs, roads, culverts, water lines, sanitary sewer lines, sidewalks, storm drain lines, pole lines, electric power lines, substations and generating stations.

Maintains essential records and files.

Will be required to learn how to utilize various types of electronic and/or manual recording information systems used by the agency, office or related unit.

REQUIREMENTS:

Graduation from an accredited college or university with a Bachelor's degree in Civil, Mechanical, Chemical or Electrical Engineering.

NOTE: A Bachelor of Science degree in Engineering Technology (BSET) in a field related to Civil, Mechanical, Chemical or Electrical Engineering from an accredited college or university having a curriculum approved by the Accreditation Board of Engineering Technology (ABET) may substitute for the above education requirement.

NOTE: Possession of a Professional Engineers (PE) License or an Engineer-in-Training Certificate issued by the New Jersey State Board of Professional Engineers and Land Surveyors may be substituted for the college degree.

EXPERIENCE:

One (1) year of related experience in Civil, Electrical, Chemical or Mechanical Engineering.

NOTE: A Master's degree in Civil, Electrical, Chemical or Mechanical Engineering, or a Master of Science in Engineering Technology (MSET) in a field related to Civil, Electrical, Chemical or Mechanical Engineering may be substituted for the required experience.

LICENSE:

Appointees will be required to possess a driver's license valid in New Jersey only if the operation of a vehicle, rather than employee mobility, is necessary to perform essential duties of the position.

KNOWLEDGE AND ABILITIES:

Knowledge of the principles of engineering.

Knowledge of mathematical, physical, and engineering sciences.

Knowledge of the engineering problems involved in the design, maintenance, and construction of structures and/or systems.

Knowledge of public works inspection practices and procedures.

Knowledge of safety procedures involved in working with hazardous chemicals.

Ability to apply engineering concepts, theories, and practices.

Ability to prepare graphs, tables and curves.

Ability to analyze and evaluate data to resolve engineering problems.

Ability to inspect materials, workmanship, and construction and installation of various public works and/or public utilities to specific cases may be required.

Ability to observe prescribed inspection procedures may be required.

Ability to determine the safety of products for consumers and the environment.

Ability to utilize computer models and other processes to test the efficacy of products.

Ability to maintain records and files.

Ability to prepare clear, accurate, and informative reports containing findings, conclusions, and recommendations.

Ability to learn how to utilize various types of electronic and/or manual recording information systems used by the agency, office or related units.

Ability to read, write, speak, understand, or communicate in English sufficiently to perform the duties of this position. American Sign Language or Braille may also be considered as acceptable forms of communication.

Persons with mental or physical disabilities are eligible if they can perform essential functions of the job with or without reasonable accommodation. If the accommodation cannot be made because it would cause the employer undue hardship, such persons may not be eligible.