



## MAINE TURNPIKE AUTHORITY Job Description

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**Job Title:** Engineering Technician I  
**Department:** Engineering & Building Maintenance  
**Reports To:** Construction Program Manager  
**FLSA Status:** Non-Exempt

### **Summary**

This is skilled technical work in engineering activities at a sub-professional level.

Employees in this class perform moderately difficult technical duties in field and office engineering specialties indicated by the class title. Work may occasionally involve the supervision of a small group of unskilled or semi-skilled personnel in the performance of routine tasks. Assignments are usually made in detail and work is periodically checked during process and reviewed upon completion by professional superiors.

### **Essential Duties and Responsibilities**

(Any one position may not include all of the duties listed, nor do the listed examples include all tasks, which may be found in positions of this class.)

- Inspects contractor traffic control. Sets up, understands, and uses the Manual of Uniform Traffic Control Devices (MUTCD), as necessary, in conjunction with Resident Engineer.
- Samples and tests field aggregates for sieve analysis and compaction control requirements on construction projects. Prepares samples of construction materials for shipment to the laboratory.
- Responsible for specialized test equipment for operations such as determination of Young's Modulus, basic electronic repair, operations of servomechanism, nuclear moisture density gauges, and other related tests.
- Tests extractions and gradations on stockpile and hot bins in asphalt plant. Observes the batching operation of the mixing platform, the weighing of empty or loaded trucks and other related plant operations.
- For paving projects, checks yield computations, checking crown and cross slopes, longitudinal and transverse joints, roller pattern and operations, paving operation including screed and tamping bar conditions.
- Inspects embankments for moisture and density control.
- Performs survey of existing conditions in construction areas including paved slopes.
- Provides electronic data using either MS Excel or MS Access for import into the GIS system.
- Works as part of a construction inspector team, understands appropriate decision making hierarchy in the construction inspection process.
- Prepares sketches for program documentations. Uses "swing ties" or other means to provide graphical information.
- Assists in researching country layouts and assists in plotting of the layouts.

- Abstracts and plots all information pertaining to right-of-way from highway construction plans and documents, and details same on right of way maps.
- Assists in the computation of right-of-way boundary line distances and the preparation of right-of-way monuments lists.
- Edits and compiles data concerning pavement marking or highway signs into a form suitable for analysis. Uses a digital camera and applicable software to update and manage Sign Asset database for use with GIS.
- Acts as instrument man in a survey party, operates transit and level in performance of his duties.
- Performs drafting work such as detailed mapping, drafting, lettering and tracing, in pencil or in ink, interprets and plots from field notes of surveys, borings, construction and right-of-way master plans, progress and record maps, and makes and/or checks construction details of small simple structures and utilities.
- Computes quantities of various construction materials in order to prepare and/or verify contractor payment estimates on MTA projects. Understands unit price bids.
- Acts as checker of construction details performing inspectional duties on the grade, surfacing, and construction phases of the project as regards to the workmanship, materials, moisture content, concrete mixtures, and amounts used, prepares samples of construction materials for laboratory testing.
- Assists in inspecting water and waste treatment facilities.
- Assists in maintaining hazardous waste generated at highway project sites and being qualified to sign a Uniform Hazardous Waste Manifest to properly manifest hazardous waste offsite for proper disposal.
- Performs related work as required.

### **Supervisory Responsibilities**

Occasionally supervises small group of unskilled or semi-skilled personnel in the performance of routine tasks.

### **Required Knowledge, Skills and Abilities**

Working knowledge of engineering principles, techniques, procedures, instrument and equipment of the engineering specialty assigned use in all standard applications.

Working knowledge of highway, building or structural materials and their application to particular projects.

Skill in the use of engineering, testing or drafting instruments, including experience with computers and some formal training in word processing and spreadsheet applications.

Ability to read and interpret specifications, maps and technical drawings.

Ability to supervise unskilled and semi-skilled personnel.

Working knowledge of paving operations including paver setup, paving practices, milling operations, rolling patterns, and traffic control.

Must pass a Pulmonary Function Test and be medically approved to wear a respirator. Must be clean shaven at all times for proper fitting of a respirator if at such time their job requires the use of a respirator.

Must be trained, or have the ability to be trained (as a competent person), in hazardous waste management within 6 months of taking this classification and receive annual refresher training.

### **Education and/or Experience**

Minimum of a high school diploma or equivalent (GED).

Two full years of progressively responsible experience in construction inspection/engineering related duties/surveying preferred

Computer Aided Design and Drafting (CADD) preferred.

Some experience in a supervisory capacity preferred

Two years of post-secondary education in Civil Engineering or related field (i.e. Associates degree in Construction Management) preferred.

### **Certificates, Licenses and Registrations**

Ability to receive Certification and license required to operate Nuclear Testing Equipment (i.e. Troxler Nuclear density gauge) within 2 years.

Ability to obtain New England Transportation Technician Certification Program (NCETP) Certification for paving within 2 years.

A valid Maine Class C drivers license is required for this position.

### **Special Requirements**

The use of protective footwear meeting ANSI-Z41 standard is required for this position. Shoes, sneakers or other types of footwear are unacceptable.

### **Language Skills**

Ability to read and understand documents such as policies, safety rules and procedure manuals. Ability to write basic correspondence. Ability to speak effectively and to accurately convey information to staff, patrons, state and local government, and the general public in a concise and courteous manner.

### **Mathematical Skills**

Ability to apply basic mathematical and algebraic concepts such as whole numbers and fractions. Ability to calculate figures and amounts such as discounts and percentages.

### **Reasoning Ability**

Ability to apply common sense understanding to carry out instructions in written, oral or diagram form. Ability to deal with problems involving concrete variables in standardized situations. Applies good judgment in a variety of settings including stressful situations. Ability to know when to ask questions and how to find information when needed.

### **Physical Demands**

Sufficient physical stamina to work long hours under occasional adverse weather conditions.

While performing the duties of this job, the employee is frequently required to stand and communicate through speaking and listen intently. The employee is occasionally required to walk, sit, use hands to manipulate, handle or feel, reach with hands and arms, and stoop, kneel, crouch or crawl. The employee must regularly lift and/or move up to 50 pounds and occasionally lift and/or move up to 100 pounds.

Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, ability to adjust focus and ability to drive at night.

The physical requirements and working conditions described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform essential functions.

**Pay Range**

Range 14, Maintenance & Operations Unit

**Working Hours**

As required.

**Work Environment**

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently exposed to outside weather conditions. The employee is occasionally exposed to wet and/or humid conditions, moving mechanical parts, fumes or airborne particles and frequently exposed to the dangers of moving vehicles of all sizes and types. There is frequent exposure to maintenance and construction activities where the noise level is usually very loud. The employee may be required to work a non-standard workweek and occasionally asked to travel.

**Approved By:** \_\_\_\_\_

**Approved Date:** \_\_\_\_\_