

# Career Opportunities for Engineering Professionals

The Commonwealth of Pennsylvania offers a variety of employment opportunities in engineering. Recent college graduates can find various entry-level opportunities, while seasoned professionals may pursue positions with higher levels of responsibility. Trainee positions learn under the charge of a professional engineer. Multiple agencies in the Commonwealth utilize engineers, including the Departments of Conservation and Natural Resources, Environmental Protection, General Services, Human Services, and Transportation; as well as the Pennsylvania Emergency Management Agency, the Fish and Boat Commission, and the Public Utility Commission.



Some of the many rewarding engineering careers available with the Commonwealth of Pennsylvania include:

**Air Quality Engineer Trainees, Engineers, and Specialists** perform environmental air quality engineering work to protect the environment and public health and safety. **Trainees** participate in an on-the-job training program that involves duties such as planning approvals, permitting, stack testing, ambient air monitoring, risk assessment, and emissions monitoring.

**Civil Engineer Trainees** participate in a structured on-the-job training program that may include introductory assignments in conducting preliminary feasibility studies; analyzing field conditions; or designing and/or constructing roads, bridges, buildings, dams, flood control facilities, etc.

**Civil Engineers (General or specializing in Bridge, Hydraulic, or Transportation)** review plans to ensure compliance with laws and regulations; prepare designs, plans, and specifications for various projects such as bridges, dams, roads, fish hatcheries, mine reclamation, subsidence control, and recreational facilities; ensure conformance with specifications; and ensure structural integrity.

**Civil Engineer Managers and Consultants (General or specializing in Bridge or Hydraulic)** perform professional civil engineer duties in a consultative capacity. Some specialize in soils engineering, or mine reclamation; however, many generalists work on a variety of projects such as bridges, buildings, roads, dams, marinas, trails, sewage and water treatment systems, campgrounds, etc.

**Electrical Engineers** work in electrical distribution systems, conversion to a total electrical base, tunnel and highway interchange lighting and signaling, intelligent transportation systems, security systems, fire detection systems, electro-mechanical controls for HVAC and elevators, building or highway management systems, and installation of electrical equipment in and around deep bituminous coal mines.

**Engineering Technicians** participate in an on-the-job training program designed to develop technical skills in construction and materials inspection, highway or bridge/structural drafting and design, right-of-way determination, surveying, and traffic control/planning.

**Environmental Trainees and Engineers** design or review designs for environmental facilities; develop or review contracts, plans, and specifications; conduct field studies and surveys; inspect the operation of facilities; recommend action on permit applications; prepare technical reports; and develop regulations, standards, and procedures for the design, construction, operation, or maintenance of environmental engineering facilities. **Trainees** learn to develop proficiency in air pollution, solid waste, water quality, radiation, mining, sewage planning, or sanitation.



**Mechanical Engineers and Consultants** perform professional engineering work in the design, cost estimating, construction, and inspection of mechanical systems and equipment. Employees work in water supply and sewage systems; plumbing; heating, including steam generation; air conditioning and ventilation; refrigeration; automatic temperature controls; pumps and filtration systems; and/or air pollution control systems.

**Mining Engineer Trainees and Specialists** review the mining engineering aspects of permit applications, mine plans, and/or mine site restoration plans; investigate subsidence damage to determine validity of claims and method of repair; prepare technical reports, calculations, and drawings; and design components of mine related projects. **Specialists** investigate complaints of mining hazards, mining accidents, and other mine emergencies; and participate in public meetings to explain applicable laws, regulations, policies, and procedures.

**Benefits:**

As the second largest employer in Pennsylvania, the Commonwealth offers unparalleled opportunities for training, development, and career advancement statewide. Most permanent, full-time employees also enjoy benefits such as:

- Exceptional medical benefits (including vision, dental, and prescription drug benefits)
- Generous vacation, sick, personal, and holiday leave
- Outstanding retirement options
- Cost-effective optional benefits, such as: Pre-tax savings for dependent care, group life/auto/home insurance programs, State Employees Assistance Program for employees and family members, and membership in the Pennsylvania State Employees Credit Union

For information on currently available positions, please visit the Commonwealth's employment website at [www.employment.pa.gov](http://www.employment.pa.gov). Visitors to the website may also subscribe to receive Job Alerts to be informed via email each time a new position is available. To subscribe, go to the Open Jobs page, click on "Subscribe to Job Alerts," and then select the Engineering category.

**Visit or call us at:**

**HARRISBURG**  
2<sup>nd</sup> Level, Strawberry Square Complex  
320 Market Street  
Harrisburg, PA 17108  
(717) 783-3058\*

**PHILADELPHIA**  
110 North 8th Street, Suite 503  
Philadelphia, PA 19107  
(215) 560-2253\*

**PITTSBURGH**  
411 7th Avenue  
Room 410  
Pittsburgh, PA 15219  
(412) 565-7666\*

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