



## **ENGINEERING TECHNICIAN 1/11**

**DEFINITION:** To perform a variety of paraprofessional engineering work on engineering projects and County facilities; perform drafting, simple design, and computations on engineering projects; and perform related duties as assigned.

**ESSENTIAL JOB DUTIES:** Under supervision, perform computer-aided drafting and design in preparing maps, cross-sections, profiles, and improvement plans; prepare engineering reports; prepare plans, specifications, and estimates for construction projects; perform traffic counts and prepare and submit findings; perform all aspects of pavement management; perform duties related to various lighting districts; obtain bids for purchasing and services; assist and support department staff with job related duties; and perform inspection and quality control monitoring of construction projects.

### **OTHER EXAMPLES OF DUTIES:**

- Perform design calculations for determining alignment, quantities, and other engineering parameters
- May be assigned to construction projects to perform various duties such as inspection of work for compliance to plans and specifications, quality control of construction materials and methods
- Preparing records and reports for contract administration and other functions of the position
- Acquire and maintain software and hardware in relation to the collection of data for conducting traffic studies and other duties of the position
- Enter data into automated systems
- Obtain permits needed to perform Department operations
- Maintain positive working relationships with internal and external partners/agencies
- Research projects and equipment used by the Department, obtain specifications, quantities and cost information
- Oversee and make repairs as needed for various lighting districts
- Identify and maintain timelines for projects
- Other duties as assigned.

**PHYSICAL JOB FACTORS:** Frequent standing, walking, and driving; occasional lifting, shoveling, carrying, bending, and fine finger and hand dexterity. Ability to lift and carry 50 pounds.

**ENVIRONMENTAL JOB FACTORS:** Work in the road right of way under traffic conditions; work around moving machinery; exposure to fumes and dust; exposure to excessive noises created by moving heavy equipment; exposure to slippery or uneven walking surfaces. The worker is subject to ambient weather conditions that include a high of 120 degrees and a low of -10 degrees Fahrenheit.

### **EMPLOYMENT STANDARDS**

**Education/Experience:** Tech I - High school graduate or equivalent with two years of paraprofessional engineering office and field experience. Successful completion of 30 college semester units in drafting or

engineering may be substituted for one year of the required experience. **Tech II** - Additional year of experience required .

**Knowledge of:**

- Principles and uses of algebra, geometry, and trigonometry
- Drafting and engineering principles used in the design and preparation of engineering plans
- Engineering and surveying principles used in property location and topographic survey work
- Properties and uses of materials employed in road and drainage construction, maintenance, and related engineering projects

**Ability to:**

- Use drafting and surveying equipment
- Prepare maps, plans, cross-sections, and profiles
- Use computer and specialized programs, software and hardware
- Make complete and accurate field notes and to prepare clear and concise reports
- Learn principles and practices of civil engineering as applied to road and drainage construction, including quality control testing and closely related construction activities
- Use proper grammar and spelling in both written and verbal communication
- Work cooperatively with those contacted in the course of work.

**Special requirements:** You may be required to drive a motor vehicle in the course of employment and must possess a valid operator' s license issued by the State Department of Motor Vehicles. Must successfully complete a pre-employment background investigation and physical examination. Your position may be required to serve as a Disaster Service Worker during a County emergency.