



CLASSIFICATION NO. 302
Revised: 2/80, 11/90, 7/20, 3/23
FLSA: Non-Exempt
EEO: 3

ENGINEERING TECHNICIAN 1

CLASS CHARACTERISTICS

Under close supervision, to perform entry-level technical engineering duties in the field or office; and to do other work as required.

DISTINGUISHING CHARACTERISTICS

The Engineering Technician series is primarily oriented to performing technical engineering and surveying functions to assist in the design, construction and maintenance of public works projects such as roads, bridges, traffic control, street lighting, land monuments, storm drains, sanitary sewer systems and treatment facilities. Positions in this series work under the supervision or direction of an advanced level technician, supervisor, or Professional Engineer or Professional Land Surveyor. Individual assignments generally engineering knowledge and skills gained through work experience or training programs.

This series is distinguished from professional engineering or land surveying classifications which require professional certification, registration or licensure, as well as broad general professional knowledge of engineering or surveying principles and practices applicable to a variety of complex projects or areas.

The Engineering Technician 1 is the first working level in the series. Incumbents perform the more routine and prescribed technical duties and work is well defined and more process oriented. Incumbents are assigned discrete, process-oriented portions of a larger project, and exercise basic problem-solving skills where a higher level technician is available for guidance and review of the incumbent's work during assigned tasks.

This classification differs from the higher level Engineering Technician 2 which performs journey-level duties of a more complex nature.

TYPICAL TASKS

Duties may include but are not limited to the following:

1. As a member of a field survey crew, assists in measuring and leveling duties to establish or check line, grade and cross section; learns to operate prism pole, level rod, GNSS receivers, and other survey equipment; marks and drives stakes for grades and lines; clears brush and other obstacles from transit line; assists in monument recovery and restoration; assists in the operation of electronic data collection equipment; performs simple computations; compiles field notes.

2. Performs simple manual or computer-aided drafting work from sketches, field notes, and verbal instructions; plots profiles and cross sections; prepares construction and improvement plans; performs simple drafting on maps, charts and graphs.
3. Inspects minor projects and assists in the inspection of larger projects for adherence to established standards and specifications for grading, utility installations, surfacing, paving, drainage installations, bridges and other structures under construction or improvement; assists in the performance of routine tests on construction materials; compiles data for preparing or adjusting contract specifications, construction expenditures, field reports, and cost estimates; performs simple statistical studies and short-term research projects as needed.
4. Assists in checking survey calculations and field notes; coordinates simple grades and curves; assists in checking plat maps against field-measured distances and angles; performs simple research of records and other office work that assists in the survey of land, determining rights-of-way, easements and annexations, and preparing legal property descriptions.
5. Assists in field studies of traffic movements, vehicle usage and traffic distribution; assists in conducting highway inventories and road condition surveys; analyzes data and prepares reports.

REQUIRED KNOWLEDGE AND SKILLS

Some knowledge of: Fundamentals of algebra, geometry and trigonometry; basic principles and practices of civil engineering including hydrology, hydraulics, soils, water and sewer utility design, and basic structures; civil engineering symbols, terminology, computer-aided drafting techniques; principles and practices of land surveying; fundamentals of traffic engineering and conveyances; traffic signal maintenance; computer software relating to civil drafting; standard office practices and procedures for maintaining and setting up both manual and electronic files; basic methods and procedures for archiving and retrieving map and drawing information; data gathering and research techniques; English grammar and composition.

Skill to: Make mathematical calculations with speed and accuracy using the fundamentals of algebra, geometry and trigonometry; use survey equipment and computer aided drafting software to prepare plans, profiles, maps and other related drawings; learn to conduct title and property ownership research and prepare simple legal descriptions; read maps and construction plans; learn to execute computer applications in drafting and data collection; prepare and maintain accurate engineering records; perform moderately strenuous field work in a safe manner; establish and maintain effective working relationships with others, the public, contractors and County personnel; maintain records and write basic reports, communicate effectively, both orally and in writing.

WORKING CONDITIONS

Field activities involve moderately strenuous physical activities and incumbents may encounter adverse environmental conditions, inclement weather and traffic hazards.

Within the Department of Transportation and Development (DTD) County Surveyor's Office – Public Land Corner, duties in the field require frequent walking, stepping, squatting, kneeling, bending, twisting, digging, swinging, balancing, grasping, fine motor control, and the ability to lift and carry up to 90 pounds, including carrying 60 pounds on one shoulder. Duties also involve frequent exposure

to slippery and/or uneven surfaces including steep terrain, loud noises, vibration, exhaust fumes and dust, and adverse weather conditions.

Within some DTD Divisions (specific workgroups), duties require frequent standing, walking, squatting, bending, kneeling, reaching, digging, balancing, fine motor control, and the ability to lift and carry up to 60 pounds, push 50 pounds, and pull 70 pounds. Duties also involve frequent exposure to loud noises, vibration, slippery and/or uneven surfaces, exhaust fumes and dust, oil and chemicals, traffic hazards, and adverse weather conditions.

Within DTD's Forest and Timber Management Division, duties require frequent to continuous standing, walking, squatting, kneeling, bending, twisting, digging, balancing, climbing, forward/overhead reaching, grasping, fine motor control, and the ability to lift 75 pounds, carry up to 60 pounds, and push/pull 80 pounds. Duties also involve exposure to confined spaces, loud noises, vibration, slippery and/or uneven surfaces including steep terrain, exhaust fumes and dust, chemicals, and adverse weather conditions including extreme temperatures.

MINIMUM QUALIFICATIONS

Minimum qualifications are used as a guide for establishing the minimum experience, education, licensure, and/or certifications required for employment in the classification. The following minimum qualifications are established for this classification. Additional minimum qualifications and special conditions may apply to a specific position within this classification and will be stated on the job announcement.

Experience: None required.

Licenses/Certifications: None required.

PRE-EMPLOYMENT REQUIREMENTS

Some positions must successfully pass a criminal history check which may include national or state fingerprint records check.

Within some DTD Divisions (specific workgroups), including DTD's County Surveyor's Office – Public Land Corner, and Forest and Timber Management Division, employment is contingent upon passing a post-offer physical assessment. Accommodation requests will be reviewed on an individual basis in compliance with State and Federal legislation.

Within DTD's Forest and Timber Management Division, must pass a pre-employment drug test.

Driving may be necessary for County business. For position(s) with occasional/incidental driving, incumbents must possess a valid driver's license. Accommodation requests for an acceptable alternative method of transportation will be reviewed on an individual basis in compliance with State and Federal legislation. For position(s) with regular driving, incumbent(s) must also possess and maintain an acceptable driving record throughout the course of employment.