

INSTRUMENT TECHNICIAN

JOB DESCRIPTION

Classification Responsibilities: An Instrument Technician is responsible for routinely performing technical civil engineering survey work in the field which includes the skilled use of surveying instruments, or working as a rod, chain, or instrument person. Field work involves the application of technical and practical knowledge and skill in conducting a variety of surveys. This class performs related duties as required.

Distinguishing Features: Work is often performed under hazardous conditions, such as working in road intersections, on the center line of heavily traveled streets or highways with no median for protection, or close to heavy equipment moving fast or operating under poor visibility (dusty) conditions. Considerable physical exertion may be required on a rotational basis (i.e., driving stakes or 60 penny nails into hard earth with a ten pound sledge hammer under hot [+100° F] and dusty conditions). Rotates with the Survey Aide class on a relief basis (includes hard physical labor staking utility projects, [i.e., sewer lines, storm drains, water lines, roads being paved, curb and gutter, retention basins, and parks]). May act as the Survey Party Chief in the Party Chief's absence. The Instrument Technician class is supervised by a Survey Party Chief. This class is FLSA nonexempt.

QUALIFICATIONS

Minimum Qualification(s) Required. At least one year of technical surveying experience.

Special Requirement(s). Must possess a valid Arizona Driver's License by hire date.

Substance Abuse Testing. Due to the safety and/or security sensitive nature of this classification, individuals shall be subject to pre-employment or pre-placement alcohol, drug and/or controlled substance testing as outlined in City policy and procedures.

Preferred/Desirable Qualification(s). Graduation from high school or GED preferred. Supplemental coursework in mathematics, engineering, or surveying is highly desirable. National Institute for Certification in Engineering Technologies (NICET) certification is also desirable.

ESSENTIAL FUNCTIONS

Communication: Communicates with the public, contractors, and other City employees in order to complete work assignments such as recording topographic levels, and as-builts for the design and/or drafting sections. Reads construction plans and specifications and interprets standard details and specifications to complete assignments.

Manual/Physical: Operates a motor vehicle such as crew cab pickup with utility boxes requiring a standard Arizona Driver's License to get to work site to perform assignments and transport materials. Enters data or information into a hand-held calculator in order to calculate curves, grades, and angles and uses Global Positioning System (GPS), Total Stations, and electronic levels to expedite survey work. Uses a level to locate elevations for a given location. Uses an electronic theodolite and GPS equipment

to measure vertical or horizontal angles and to produce straight lines and layout curves. Performs physical inventories of survey equipment and supplies. Digs up ground using a pick, shovel, spade or other tools (chisel or gad) to expose survey monuments, utility pipes, and valve and manhole covers. Cleans work area and/or equipment, survey truck, and survey instruments. Moves objects and lifts weights (100+ pounds using an aid to assist) such as manhole covers to take flow line elevations (i.e., bends, squats, stoops, and frequently uses a ten pound sledgehammer to pound stakes for an hour at a time). Sets up and/or removes barricades and traffic cones to help protect crews while working in street traffic or on construction sites. Works in a variety of weather conditions while performing surveying functions. Distinguishes colors to identify different utilities located by paint markings and grade stakes. Detects traffic sounds and backup warning devices while working in traffic or on construction sites. Meets scheduling and attendance requirements.

Mental: Records as-built information (i.e., length of sewer lines, water lines, and storm drains; station to sewer and water services; and tie downs [locations] of monuments and manholes) onto plans or information sheets. Records field information (i.e., elevation, distance, types of valves and drains, types of trees and buildings) into field books and/or benchmark books. Records location of water, gas, and sprinkler valves into valve books. Records precise location of property (i.e., township, section, quarter) for legal descriptions. Comprehends and makes inferences from written material such as work requests, legal descriptions, construction plans, and details and specifications to complete work assignments. Understands, interprets, and reads blueprints, schematic drawings, and layouts to accomplish work assignments. Recognizes and distinguishes various survey markers and stationing in the field. Interprets blue stake markings. Learns job-related materials through on-the-job training regarding proper surveying procedures and use of equipment. Learns job-related material in a classroom setting regarding higher mathematics, formulas, policies, and modern survey technology.

Knowledge/Skill/Abilities:

Knowledge of:

field survey methods and techniques; and
algebra, geometry, and trigonometry.

Skill in the use and care of basic hand tools, as well as surveying instruments and tools.

Ability to:

handle the physical requirements of the position (i.e. bending, squatting, stooping, removing manhole covers, and frequently using a ten pound sledgehammer to pound stakes for an hour at a time); and establish and maintain effective working relationships with supervisors and coworkers under unpleasant working conditions, such as when performing hard physical labor and having to redo physically demanding work in the heat, as well as in dusty conditions due to construction equipment.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included does not exclude them from the position if the work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the City as the needs of the City and requirements of this job change.

Revised 8/15

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PAY GRADE: 39

EEO-Tech

NDOT SAFETY-Yes

SECURITY-No

NDOT RANDOM-No

DOT SAFETY-No

CDL-No

RESP-No

IND-5506

JOB FCTN-TEC

SWORN-No

INCREMENTS 81-200