ITS (INTELLIGENT TRANSPORTATION SYSTEMS) TECHNICIAN I

JOB DESCRIPTION

Classification Responsibilities: Under general supervision, an ITS (Intelligent Transportation Systems) Technician I performs skilled work in the installation, maintenance, operation, and repair of electrical and electronic traffic signal control devices, various communication devices, and the ITS components. This position performs related duties, as required.

Distinguishing Features: An ITS Technician I performs skilled electrical installations of various ITS components such as: Closed Circuit Television (CCTV) cameras, vehicle detection systems, dynamic message signs, and traffic signal control devices. Work includes troubleshooting malfunctions and responding to trouble calls. The incumbent performs construction of traffic signals and inspects the work of contractors to verify their work meets City of Mesa and other standards. This position performs scheduled periodic maintenance functions and maintains written logs of work performed. The incumbent uses a personal computer (PC) for recordkeeping and diagnostic troubleshooting of signal operations. The incumbent will be required to work irregular shifts, weekends, evenings, and holidays. Work is subject to call-out during off-duty hours. Guidance is received by the ITS Technician II and is supervised by the ITS Operations Foreman who reviews work through observation, conferences, reports, and results achieved. Employees may progress to this classification by non-competitive promotion upon meeting the specific criteria-based promotion requirements of performance and coursework. This class is FLSA nonexempt.

QUALIFICATIONS

Minimum Qualifications Required. Graduation from high school or GED. Any combination of training, education, and experience equivalent to 2 - 3 years’ traffic signal cabinet maintenance experience, or graduation from an accredited college or university with an Associate’s Degree in Applied Science (Electronics Engineering Technology), and at least one year of traffic signal cabinet maintenance experience.

Special Requirements. Must possess a valid Arizona Class B Commercial Driver's License (CDL) Instructional Permit by hire date. The skills demonstration portion of the CDL test must be completed within 120 days of hire date and will be administered by a City of Mesa Third Party Tester. An International Municipal Signal Association (IMSA) Level I Traffic Signal Technician Certification required. Must possess an IMSA Level II Traffic Signal Technician Certification (Electronic or Electrical) and an IMSA Traffic Signal Inspector Certification within one year after date of employment. Must live within a fifteen-mile radius of the intersection of Main Street and Greenfield Road within one year after date of employment.

Substance Abuse Testing. This class is subject to DOT Federal Motor Carrier Safety Administration (FMCSA) drug and alcohol testing as outlined in 49 Code of Federal Regulations (CFR) Part 382.

Preferred/Desirable Qualifications. Experience in maintaining microprocessor-based instruments, TSI and TSII Type I and II controllers, basic knowledge of PC operations, and optical pre-empt devices, including telemetry equipment, is preferred.
ESSENTIAL FUNCTIONS

Communication: Communicates with the general public, other City employees, vendors, management, and contractors to distribute information and facilitate proper job performance. Prepares written documents such as trouble logs, trouble calls, and maintenance documents with clearly organized thoughts and with proper sentence structure, punctuation, and grammar in order to prepare written records, history, and related maintenance and repair documentation.

Manual/Physical: Reviews the work products of others to ensure compliance with standard operating procedures, federal regulations, Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), state regulations, Arizona Department of Transportation (ADOT), Road and Bridge Construction and Traffic Signal and Lighting Standards, National Electrical Manufacturer’s Association (NEMA), TS1 and TS2 Standards, National Electric Codes (NEC), and City of Mesa Standard Details and Specifications. Inspects, monitors, and evaluates information, work-related conditions, or objects such as traffic signal equipment and construction material to determine compliance with prescribed operating and safety regulations. Distinguishes colors to maintain proper continuity of wires in cabinet and field wires, and to differentiate traffic signal lenses. Detects traffic sounds when working near moving traffic and backup warning devices when working around moving equipment. Operates a motor vehicle or piece of equipment (boom/auger or platform truck) requiring a valid Arizona Class B CDL to drive on City streets, and to maintain and construct traffic signals. Operates a motor vehicle such as a bucket truck and pickup truck requiring a standard Arizona Driver's License to travel off-site to install, remove, or replace ITS devices. Operates power-driven machinery such as a jackhammer or tamper to dig trenches and backfills. Uses hand tools such as: a multimeter, amp meter, graphical multimeter, data logger, and telephone test set to maintain and repair equipment. Enters data into a PC for recordkeeping and diagnostic troubleshooting of signal operations. Prepares intersection as-builts. Performs physical inventories of intersection hardware. Moves material such as: cabinets, poles, mastarms, and debris from one place to another using a forklift, bucket truck, or a crane. Digs up ground using: a pick, shovel, spade, jackhammer, prybar, trencher, and auger truck to dig trenches and pole/cabinet bases. Move objects up to 60 pounds a distance of 60 feet with the assistance of an aid. Cleans work area and equipment including: trucks, shop, and storage yard. Works with cleaning fluids and agents, chemicals, and paints using routine protective equipment. Sets up barricades and traffic cones to route traffic past work area. Works in a variety of weather conditions while performing normal job duties and responding to emergency calls. Works in small, cramped areas while performing system maintenance. Works at elevated levels up to 60 feet in a bucket truck while performing duties. Meets scheduling and attendance requirements.

Mental: Prioritizes own work. Comprehends and makes inferences from written material including department policies and procedures, safety manuals, and operation manuals to ensure conformance. Understands blueprints, schematic drawings, and layouts to troubleshoot or install equipment as needed. Learns job-related material through attendance at training seminars, participation in electronic courses, and on-the-job training regarding technical traffic signal information, vendors, equipment suppliers, and computer usage.
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Knowledge and Abilities:

Knowledge of:

function and operation of major ITS component and basic circuits in the traffic signal control cabinet;
hazards and necessary safety precautions involved in working with electricity in and alongside traffic;
MUTCD, National Electrical Manufacturer's Association (NEMA) and National Electrical Codes (NEC) standards for signal equipment;
possible defects and faults in electrical wiring and ITS and signal control equipment, and effective corrective measures; and
working procedures and practices used in the Blue Stake Utility Locating Program.

Ability to:

read and work from electrical and electronic schematics;
perform moderate- to heavy-manual labor (example: traffic signal installation or modification) outdoors in temperature extremes (over 100°F) for extended periods of time;
effectively and safely operate various types of construction and maintenance equipment such as bucket truck, platform truck, auger/winch trucks, and pole trailers;
effectively use various testing instruments such as megohmmeter and volt-ohm meter;
diagnose and correct problems while working under extreme weather conditions and saturated traffic conditions;
maintain a high volume of work output with minimal supervision; and
establish and maintain effective working relationships with management and coworkers.

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 the job change.

Revised 8/14
PN/ep/pa
CS4573.DOCX
EEO-Tech
NDOT SAFETY-N/A
NDOT RANDOM-No
DOT SAFETY-FMCSA
RESP-No
JOB FCTN-TEC
INCREMENTS 81-200

PAY GRADE: 45
SECURITY-N/A
CDL-Yes
IND-5506
SWORN-No