

INTELLIGENT TRANSPORTATION SYSTEMS (ITS) TECHNICIAN II

JOB DESCRIPTION

Classification Responsibilities: Under general supervision, an Intelligent Transportation Systems (ITS) Technician II performs highly skilled advanced level work in the installation, maintenance, operation, and repair of electrical and electronic traffic signal control devices, various communication devices, and the ITS components. The ITS Technician II will function in a lead capacity to the ITS Technician Trainee and the ITS Technician I. This position performs related duties, as required.

Distinguishing Features: This class is distinguished from the ITS Technician I class by level of experience, ability to work independently, handling a wider range of technician duties, and acting in a lead capacity. An employee in this class is expected to independently maintain, monitor, troubleshoot and repair current and future ITS infrastructures and interfaces such as CCTV cameras; various vehicle detection systems, fiber optic and microwave communications systems and devices; traffic control devices, and dynamic message signs; install and maintain communication systems (wireless, fiber, 2-wire and 4-wire); perform preventive maintenance on ITS equipment such as control cabinets, video cameras and subsystems, interconnect, and electrical wiring. An employee in this class is expected to exercise considerable initiative and independent judgment in responding to daily operations and works as a lead over lower level Technicians. The incumbent uses a personal computer (PC) for recordkeeping and diagnostic troubleshooting of signal operations. Supervision is received from the ITS Operations Foreman who reviews work through observation, conferences, reports, and results achieved. The incumbent will be required to work irregular shifts, weekends, evenings, and holidays. Work is subject to call-out during off-duty hours. This class is FLSA nonexempt.

QUALIFICATIONS

Minimum Qualification(s) Required. Graduation from high school or GED. Any combination of training, education, and experience equivalent to considerable (3 - 5 years) traffic signal maintenance experience including experience in maintaining microprocessor-based instruments, TS1 and TS2 controller cabinets, optical pre-empt devices, and telemetry equipment or an Associate's in Applied Science Degree in Electronics Engineering Technology and two years of traffic signal maintenance experience. Must have basic knowledge of PC operations.

Special Requirement(s). 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 or promotion 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 and Level II Traffic Signal Technician Certification (Electronic or Electrical) required. Must possess an IMSA Traffic Signal Inspection 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 Qualification(s). None.

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 call 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, (FHWA/Manual on Uniform Traffic Control Devices), 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 Electrical 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 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 or a pickup truck requiring a standard Arizona Driver's License to travel off-site to install, remove, or replace ITS devices. 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 personal computer (PC) for record keeping and diagnostic troubleshooting of signal operations. Performs physical inventories of traffic signal cabinets. 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 areas. 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 and assigns work to personnel. Resolves procedural, operational, and other work-related problems such as malfunctions in traffic signal equipment by troubleshooting. Programs controllers, emergency vehicle pre-emption systems, malfunction management units, and various vehicle detection systems. Comprehends and makes inferences from written material including department/division 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.

Knowledge and Abilities:

Knowledge of:

function and operation of major ITS components and basic circuits in the traffic signal control cabinet; hazards and necessary safety precautions involved in working with electricity in and alongside traffic; MUTCD, and 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; working procedures and practices used in the Blue Stake Utility Locating Program; and operation and maintenance of pre-emption devices, Dynamic Message Signs (DMS), vehicle detection systems, and CCTV cameras.

Ability to:

diagnose and repair defects in electrical systems and sophisticated electronic ITS, traffic signal control, and communications equipment;
read and work from electrical and electronic schematics;
work outdoors in temperature extremes (over 100°F) for extended periods of time;
effectively use various testing instruments such as an amp meter and volt-ohm meter;
diagnose and correct problems while working under extreme weather and 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 to add Substance Abuse Testing Section 8/11

PG/la

CS4753.DOC

PAY RANGE: 47

EEO-Tech

SH-02

NDOT Safety-Yes

Security-No

NDOT Random-No

DOT Safety-Yes

CDL-Yes

RESP-No

IND-5506

JOB FCTN-TEC

SWORN-No

PAY STEPS-1-7