

TRANSPORTATION SYSTEM TECHNOLOGIST

NATURE OF WORK: This is a highly skilled technical position involving performance of difficult and specialized electrical/electronic maintenance, repair and installation operations. Work involves computer systems, communication systems, computer networking, system integration, traffic signal systems, electronics and other areas related to intelligent transportation systems. Duties would include maintaining traffic signal systems databases, updating controller timings, repairing traffic controller and other microprocessor based electronic equipment, system equipment testing and calibration, extensive record keeping and filling in for other related positions within the St. Cloud Electrical Services Division. Work includes traffic signal maintenance and utility locates under a Joint Powers Agreement (JPA) with Stearns County. The Work is performed under general supervision and is reviewed through evaluation of system performance, written reports, and inspection of work.

EXAMPLES OF WORK: (Any one of this class may not include all duties listed, nor do listed examples include all duties that may be found in positions of this class).

Install, repair, and maintain electro-mechanical and electronic traffic signal control devices; make modifications to existing equipment when necessary; fabricate unavailable parts and circuitry where possible; test, splices and cables;

Check timing of signal intervals and performs complex and delicate adjustments to equipment; Install, test and repair electrical switches, relays and solid state traffic control equipment;

Prepare reports and assist in maintenance of department records;

Prepares preventive maintenance programs for all system functions; Maintain digital system information logs and files; Update traffic signal timings and plans;

Repair traffic controllers and related equipment; Test conflict monitors and Malfunction Management Units (MMU's);

Work with Ethernet and other digital communication systems; Develop and work with databases and other computer and communication equipment;

Set up and work with video detection and traffic monitoring systems;

Assist the Traffic Signal Manager and the Electrical Services Electrician or Technician when required;

When assigned, build traffic control cabinets per specification as directed;

Install, maintain, repair and rebuild a variety of electrical/electronic and computerized traffic signal controllers, electronic control devices and associated equipment; Determine faults in traffic signal systems, and related equipment and take corrective action; Time traffic signals from timing diagrams via computer networks utilizing lap top and desk top computers;

Assist other divisions in electronic and processing equipment; Work with contractors and utility companies in coordinating construction, maintenance work and location of utilities, primarily in signalized and roadway lighting areas;

Operate boom trucks;

Available after normal working hours for response to related traffic signal and street light failures. Also available for power outages and snow removal duties as directed. Performs traffic signal maintenance and utility locates under the JPA (Joint Powers Agreement with Stearns County).

MINIMUM REQUIREMENTS: High School Diploma, two years college in a technology related field and a minimum of four years experience in a field involving Intelligent Transportation Systems. Must also have experience in performing various skilled and semi-skilled manual and equipment operation work. Valid Drivers license with capability to acquire a Class "B".

SPECIAL REQUIREMENT: Understanding of Autoscope Video Detection, Aries and ICONs Traffic Controls Systems; Certificates or Licenses in Traffic Signal Technician, Traffic Signal Maintenance, International Municipal Signal Association Course Certificates e.g. but not limited to the following; Roadway Lighting, Microprocessor, Work Zone Safety. Understands and practices "Manual of Uniform Traffic Control Devices" code; Knowledge in the Municipal Electrical Code.

DESIRABLE EDUCATION AND EXPERIENCE: Knowledge of the equipment, methods, and materials used in maintaining and repairing traffic and parking control signs. Knowledge of the occupational hazards and standard safety precautions of the work; Knowledge of word processing, spreadsheets and database computer applications; Ability to establish and maintain effective working relationships with other employees and the general public; Skill in use of various electronic test equipment, and related tools; Ability to diagnose operating defects in complex electrical systems and components.

ESSENTIAL JOB FUNCTIONS:

Ability to perform tasks under extended periods in varying weather conditions; Must be able to perform physical work including lifting up to 50 lbs. and occasionally up to 75 lbs.

Ability to read, write and speak English at a sufficient level to complete all required testing, to take direction from supervisors, to give direction to subordinates, to recognize appropriate materials, and to communicate with the general public;

Must have normal range of hearing, with or without correction in order to communicate using a two-way radio;

Must possess considerable dexterity in order to use and care for tools and equipment; Must be able to recognize, identify and operate standard tools and equipment required for the job;

Must possess the interpersonal skills necessary to accomplish supervision with a wide range of personalities; Must be able to establish and maintain

effective working relationships with work groups, peers, the general public, supervisor and other governmental agencies;

Must have sound practical judgement in order to work independently, lead assisting staff and deal effectively with unexpected situations;

Must be able to work in changing and stressful situations: The position is subject to extreme cold (below zero F) for periods of up to 4 hours and extreme heat (above 100 degrees F) for up to one hour: Responds to emergency calls during normal working hours and non-normal working hours. Knowledge in Signs and Highway Marking helpful. Performs traffic signal maintenance and utility locates of a Joint Powers Agreement with Stearns County.

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