

Electrician Tompkins County

Department: Public Works, TC3, Town of Newfield
Classification: Non-competitive
Labor Grade: Blue Collar 13 for Tompkins County, TC3 Grade of K
Approved: 01/01/1969
Revised: 12/86; 01/91; 11/95; 03/02; 12/04; 12/15; 9/16
By: HH, Commissioner of Personnel

MINIMUM QUALIFICATIONS:

- a) Graduation from a regionally accredited or New York State registered two-year college, university, or technical school with an Associate's Degree or certificate in electrical technology, occupational studies (Construction/Maintenance Electrician), or a closely related field **AND** five (5) years of full-time paid experience in the installation, maintenance, repair, and troubleshooting of complex commercial, industrial, and/or institutional electrical, including three-phase lighting, emergency power, fire alarm, data and telecommunications cabling, security, and access control systems, six months of which must have been in a supervisory capacity; **OR**
- b) Graduation from high school or possession of a high school equivalency diploma plus completion of an apprenticeship program and possession of journeyman certification, **AND** a minimum of seven (7) years of full-time paid experience in the installation, maintenance, repair, and troubleshooting of complex commercial, industrial, and/or institutional electrical, including three-phase lighting, emergency power, fire alarm, data and telecommunications cabling, security, and access control systems, six months of which must have been in a supervisory capacity; **OR**
- c) Any combination of training and experience equal to or greater than that described in (a) and (b) above as determined by the Commissioner of Personnel.
- Tompkins County is Committed to Equity and Inclusion. We encourage those with similar values to apply.

SPECIAL REQUIREMENT:

The applicant must possess a valid NYS Driver's License and a good driving record at the time of application and maintain such license for the duration of employment.

NOTE: Five years of hands-on experience in the electrical field will be considered equivalent to the journey level of experience specified in (b) above. This means that an applicant who does not have Journey level certification must have at least 12 years of experience in the field, with at least six months of the experience being supervisory.

DISTINGUISHING FEATURES OF THE CLASS:

This is a highly skilled technical service position in which the incumbent applies the techniques of the electrical trade, in accordance with specifications and codes, to the planning, installation, maintenance, troubleshooting, and repair of electrical wiring, electrical fixtures, apparatus, control equipment, lighting, emergency power, fire alarm, data and telecommunications, security systems, access control, and all other building systems associated with the electrical trade. Employees of this class work on minor or major repairs, installations and maintenance projects. The work is performed under the general supervision of the Assistant Director of Facilities with considerable leeway allowed for independent judgment and decision-making. Direct supervision may be exercised over the work of maintenance personnel, cleaning personnel, laborers, contractors, or others in the accomplishment of electrical projects or related activities. The incumbent will also perform maintenance related work as required.

TYPICAL WORK ACTIVITIES:

- Tests continuity of circuits to ensure electrical compatibility and safety of components using such instruments as ohmmeters, oscilloscopes, voltmeters, continuity testers, and test lamps;
- Observes the functioning of newly installed equipment or systems to detect hazards and potential for adjustment or replacement;
- Observes the functioning of established equipment or systems to detect electrical malfunctions using test instruments such as ammeters, volt meters, ohmmeters, continuity testers, and test lamps;

- Draws sketches which illustrate location and sequence of wiring and ancillary equipment or follows diagnosis on prints drafted by engineers, architects, or contractors;
- Installs, repairs, maintains, and/or troubleshoots wiring, conduit, raceway, power, lighting, fire alarm, emergency power & lighting, security, access control, and panic alarm systems;
- Installs, repairs, and maintains or troubleshoots the following:
 - ◆ feeder and branch circuit raceways and conductors;
 - ◆ control and distribution apparatus, transformers and other electrical system components;
 - ◆ motors, motor controllers and associated electrical HVAC control devices;
 - ◆ telecommunication equipment, phone sets, cable, raceways, and conduits for telecommunication and data systems within and between buildings;
- Troubleshoots generator set transfer switches and control wiring;
- Inspects work performed by outside electrical contractors and participates in the development of deficiency list (punch lists);
- Assists in identifying, developing, and implementing ongoing energy conservation and demand reduction measures;
- Assists in planning, scheduling and implementing major preventive maintenance projects and repairs for building electrical, lighting, fire alarm, emergency power, security, data and telecommunications, access control, and all other building systems and equipment associated with the electrical trade;
- Assists in planning, coordinating, or overseeing the work of maintenance or cleaning personnel, electrical contractors, or other trades when required in the completion of projects under the employee's charge;
- Assists in conducting, and/or oversees training activities concerning preventive maintenance, lock-out tag-out, and safe use and operation of electrical equipment and systems
- Assists in conducting periodic inspection of the condition of building electrical, lighting, fire alarm, emergency power, security, data and telecommunications, access control, and all other building systems and equipment associated with the electrical trade to ascertain maintenance needs and make recommendations for capital improvement projects or major repair, replacement, or renovation projects;
- Assists in the preparation of work schedules and estimates of cost, material, equipment, and resources for minor and major installation, maintenance, and repair projects for approval by Assistant Director;
- Assists in providing information on maintenance work to be performed and may assist in the preparation of an annual budget for maintenance activities related to electrical systems;
- Helps assure safe electrical working practices are being adhered to by maintenance personnel, contractors, and other trades in the completion of projects under the employee's charge;
- Works with outside vendors to order parts or request assistance with repairs;
- Updates and/or develops as-built electrical drawings for County buildings as necessary;
- Updates electrical panel directories as needed;
- Assists Shopkeeper in updating and maintaining computerized maintenance management system (CMMS) for all electrical systems and equipment under the employee's charge;
- Maintains appropriate records, reports, operating logs, and documents for all electrical equipment and systems under the employee's charge;
- Assists Shopkeeper in maintaining shop, tools, and parts inventory and makes needs known to appropriate staff;
- Maintains hand tools and other diagnostic equipment needed to perform job duties;
- Maintains good working relationship with building coordinators and departments;
- Acquires and maintains licenses and or special knowledge to maintain specialized equipment as required;
- Performs on-call duties as needed, responding to system emergencies after hours and on weekends;
- Required to access crawl spaces, attics, mechanical rooms, tunnels, pits, sub basements, and confined and isolated areas with the proper safety equipment;
- The employee routinely works from ladders and lifts;
- Performs other duties and responsibilities as assigned.

KNOWLEDGE, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS:

- Thorough knowledge of the installation, maintenance, and repair of electrical systems;
- Thorough knowledge of the principles, practices, terminology, occupational hazards, and safety precautions of the electrical trade;
- Thorough knowledge of methods, materials, and diagnostic tools and equipment used in electrical work;
- Good knowledge of the principles and theories of electricity;
- Good knowledge of the practices, tools, and terminology of the carpentry, and mechanical trades;
- Working knowledge of code, life safety, and indoor air quality issues as it relates to electrical work;
- Skill in making electrical installations, repairs and adjustments;

- Skill in the use of tools and equipment used in the electrical trade (i.e., motorized conduit benders, electrical meters, circuit tracers, pentascanners, receptacle testers, drills, etc.);
- Mechanical aptitude for equipment repair and maintenance.
- Ability to analyze, diagnose, troubleshoot, and problem solve complex technical problems, and develop solutions to problems as they arise;
- Ability to effectively service multiple sites and projects concurrently;
- Ability to plan, coordinate, and oversee the work of others;
- Ability to re-prioritize workload to accommodate schedules and other emergencies;
- Ability to understand and carry out oral and written directions;
- Ability to read and interpret technical manuals, wiring schematics, electrical and architectural plans, and specifications;
- Visual ability to inspect circuit boards, miniature electronics and differentiate color-coding of wiring and electronic components;
- Ability to work cooperatively and effectively with management and staff of the various county departments, contractors, service providers, vendors, and to deal with service requests courteously, tactfully, and professionally;
- Ability to work under adverse conditions using proper safety equipment and precautions - risk exposure to asbestos, toxic vapors, heat, cold, heights, and accumulated dust;
- Ability to lift 60 pounds and position heavy equipment and materials;
- Ability to ascend and descend heights (i.e., climb stairs and ladders, personnel lifts, etc.) and have agility and freedom of movement;
- Ability to move easily in confined spaces. May be required to wear a respirator;
- Ability to add, subtract, multiply, and divide as used in mathematical formulas;
- Dependability, initiative, resourcefulness, and good judgment are required;
- Willingness to respond to emergencies;
- Possess strong customer service skills;
- Possess a working knowledge of computers;
- The employee's physical and mental abilities shall be commensurate with the demands of the position, either with or without reasonable accommodations.

ESSENTIAL FUNCTIONS - PHYSICAL, MENTAL AND ENVIRONMENTAL:

Please note that these are illustrative only and do not attempt to address every type of physical, mental or environmental factor that may exist when performing the typical work activities outlined above.

Physical: The employee is routinely required to stand, walk, kneel, stoop, crouch, bend, climb, reach and twist multiple times during an eight-hour, or occasionally longer, work day. He or she must push or pull up to 100 pounds (with mechanical or human assistance), he or she must be able to lift, carry and/or hoist overhead as much as 60 pounds. An individual in this role is required to have sufficient visual acuity to enable him or her to perform close detail work, and auditory acuity sufficient to communicate with others or hear arcing or other dangerous noises. These attributes are necessary in order to perform acceptably and avoid risks and dangers to him or herself and co-workers while working with electricity, tools, machinery or other components of the work. He or she is required to hear, speak and communicate sufficiently to avoid risks and dangers to him or herself and co-workers. The employee must possess fine motor skills and hand/eye coordination sufficient to enable him or her to firmly grasp tools, equipment, wiring, screws and small electrical or machinery parts in order to perform electrical installations. The employee's head, torso, arms, hands legs and feet must work together at a high level of coordination in order to perform the essential functions of this job. He or she must have the full physical ability to drive light trucks which may possess a clutch and standard transmission configuration or equipment, such as lifts, that may require the use of switches and levers designed to lift, lower and move such equipment from place to place,

Mental: The employee must possess a psychological makeup and the interpersonal skills necessary for him or her to work cooperatively with others. The employee will be required to work in cramped spaces and high on ladders and lifts, so must not possess any phobias that would preclude him or her from doing so.

Environmental factors: The employee must be able to climb ladders, walk on slippery or uneven surfaces, possess the ability to work alone, both inside and outside, and may be exposed to tight spaces, dust, dirt, grease, humidity, excessive heat (occasionally above 100°) and excessive cold (occasionally below 32°).

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