

ELECTRICIAN

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

Under general supervision, to perform technical duties in the installation, repair, modification and preventive maintenance of electrical wiring, equipment and related devices; to troubleshoot, diagnose and calibrate electrical and electronic equipment and systems; and to perform related duties as assigned.

CLASS CHARACTERISTICS

Incumbents in this class perform technical journey level tasks of the electrical trade. They exercise independence in judgment relative to problem solving, work methods and tools. Employees may direct the activities of a field crew and assign specific tasks.

EXAMPLES OF DUTIES - *Examples of duties performed by employees in this class may not include all required duties, nor are all listed tasks necessarily performed by everyone in this class.*

Installs, tests, replaces, maintains and repairs a variety of electrical equipment and devices associated with traffic signal equipment, street lighting, installation of wiring and equipment on fixed or floating piers, docks and marinas, parking lot devices, and general electrical building maintenance; checks design plans and interprets blueprints, schematics and wiring diagrams; locates, identifies and marks underground utilities; performs routine and emergency testing and repair of electrical equipment and systems; troubleshoots and performs preventive maintenance functions on a variety of electrical systems; repairs, replaces and installs electric wiring and conduit in area of assignment; operates a variety of electrical maintenance, repair and installation equipment and vehicles including trucks, forklifts, hand tools, power tools, meters, aerial trucks, and related equipment; estimates time, materials and equipment required to complete assigned jobs; maintains an inventory of supplies; prepares routine reports and maintains service logs; responds to and resolves citizen calls regarding electrical repairs; may direct the work of assigned personnel.

MINIMUM QUALIFICATIONS

Knowledge of:

- Operational characteristics of electrical systems and internal components.
- Principles, methods, materials, and tools used in electrical, electronic and mechanical repair and maintenance work.
- Principles of electrical theory as applied to electrical circuits and wiring systems.

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- Methods and techniques of maintaining, installing and repairing electrical systems and equipment.
- Methods and techniques of troubleshooting electrical system malfunctions.
- Operating characteristics and application of electrical test equipment.
- Operational principles of a wastewater treatment facility.
- Preventive maintenance techniques.
- Mathematical principles.
- Hazardous chemicals.
- Occupational hazards and standard safety practices.
- Pertinent City and State codes for electrical installation.

Ability to:

- Perform a variety of installation, repair, and maintenance duties on electrical and mechanical systems.
- Operate a variety of electrical repair, maintenance and installation equipment and vehicles in a safe and effective manner.
- Bend and install conduit, pull wire and work on control wiring and equipment.
- Read and interpret electronic schematics, diagrams, drawings and plans.
- Inspect, troubleshoot, diagnose, and repair electrical malfunctions.
- Use and operate hand tools, mechanical equipment, and power tools in a safe and efficient manner.
- Prepare clear and concise reports.
- Perform mathematical calculations necessary for electronic and electrical troubleshooting.
- Perform assigned work in accordance with appropriate safety practices and regulations.
- Work independently and efficiently to carry out assignments.
- Understand and carry out oral and written instructions.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective relationships with those contacted in the course of work.

Experience and Training

Experience: Five years of increasingly responsible experience in maintenance, installation and repair of electrical systems.

Training: Equivalent to the completion of the twelfth grade supplemented by completion of an accredited five-year electrician apprenticeship program, or equivalent combination of college level courses in electrical engineering or a related field and experience.

License/Certificate:

- State of California General Electrician Certification or International Municipal Signal Association (IMSA) Traffic Signal Field Technician Level II, or higher, Certification depending on the area of assignment.
- Possession of an appropriate, valid driver's license.

- Possession of a Class B driver's license depending on the area of assignment.

WORKING CONDITIONS

Environmental Conditions: Indoor and outdoor environment; exposure to electrical and radiant energy, high voltage, noise, dust, grease, smoke, fumes, gases, moving objects/vehicles, inclement weather conditions; work or inspect in confined spaces; work on slippery or uneven surfaces; work at heights on scaffolding and ladders; work in or with water and wastewater; work with machinery.

Physical Conditions: Essential functions may require maintaining physical condition necessary for stooping, kneeling, crawling, walking, climbing; walking or standing for prolonged periods of time; light to moderate lifting and carrying; operating motorized equipment and vehicles.