



CITY OF BANNING, CALIFORNIA

Associate Electrical Engineer

Job Code 5025

FLSA Exempt Non-Exempt

JOB DEFINITION: This is an entry level position which performs less complex professional engineering work under close supervision. Incumbents within this class decide and act within strict limits of approved plans, programs, budgets, policies, standards, and established procedures. All deviations require prior approval. Under direction, performs a variety of duties associated with the design and construction of electrical distribution system in order to ensure adequate utility resources to meet the City's current and future electrical demands; responsible for design review, and inspection of electrical facilities on residential and commercial projects; ensures safe work practices, work quality and accuracy; maintains appropriate work records which may include database inventories; and serves as a technical resource. Also performs professional electrical engineering work in the design and investigation and construction of electrical utility projects and related work as required.

ESSENTIAL FUNCTIONS: *The following duties **ARE NOT** intended to serve as a comprehensive list of all duties performed by all employees in this classification. Shown are duties intended to provide a representative summary of the major duties and responsibilities. Incumbent(s) may not be required to perform all duties listed and may be required to perform additional, position specific duties.*

REPRESENTATIVE DUTIES:

- Perform studies of technical, environmental and economic feasibility, engineering field studies, and related studies pertaining to proposed and existing system facilities.
- Prepare contracts and specifications for engineering and construction services.
- Plan and perform own work and completes special projects requiring engineering and technical ability as assigned.
- Provide background information and documentation for management consideration on various projects. Make sound decisions on minor problems related to the work being performed based on established guidelines and principles and supervisor guidance.
- Plans, coordinates, prioritizes, monitors and participates in the design, review and inspection of electrical facilities on residential and commercial projects which consist of street lighting, primary distribution laterals, secondary laterals, electric services, distribution transformers, rights of way and easements with the use of available computer applications as required.
- Develops electric plans for the City to accommodate current and future load requirements, Designs new electrical substations, transmission and local distribution circuits. Converts existing distribution system to a more efficient system for improvement of and increase in capacity, efficiency and reliability of electric service. Prepares engineering drawings, specifications and cost estimates of purchasing materials and equipment.
- Maintains appropriate work records and documents which may include time sheets and work orders.
- Prepares statistical and/or analytical reports on operations as necessary.
- Oversees the maintenance of a computer database inventory of poles, transformers and electric apparatus for the electric utility system.
- Develops and prepares cost estimates for overhead and underground electrical distribution lines.
- Develops labor and material costs.
- Investigates and analyzes field problems regarding electrical customers and devises possible remedies.
- Identifies the appropriate specifications for the design of civil infrastructures for underground electrical systems.

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- Develops standards and creates AutoCad and GIS drawings; create and maintain base maps and systems maps for the City electric utility system.
- Interfaces with other City department's system maps to ensure the accuracy and validity of electrical utilities systems and maps.
- Revises, adds and modifies single line drawings s, schematics, and layout drawings with the use of computers as necessary.
- Identifies and explains various electrical engineering issues to customers and assists in solutions to problems identified. Performs other related duties as required.

KNOWLEDGE, ABILITIES and SKILLS:

Knowledge of:

- Applicable city, county, state and Federal statutes, rules. Regulations, ordinances, codes, administrative orders and other operational guidelines and directives.
- High and low voltage electrical overhead and underground line construction practices.
- National Electrical Code and CPUC's GO 95 / 128 rules
- Requirements for underground installation of electrical conduits and substructures.
- Maximum allowable voltage drop and conductor loading under normal and emergency conditions.
- Transformer loading, maximum system losses, minimum allowable power factor and power quality issues.
- Principles of electrical system design and electrical theory.
- Principles and practices of electrical engineering and other engineering disciplines used in the electric utility industry.
- Modern methods and techniques used in design and construction of a wide variety of electrical utility projects.
- Applicable laws and regulatory codes relevant to design and construction of electrical facilities.
- City's and Department's policies and procedures.
- Modern office equipment including a computer and applicable software.
- Methods and techniques for basic report preparation and writing.
- Methods and techniques for record keeping and inventory control.
- Knowledge of proper English, spelling and grammar. Basic principles of mathematics including engineering calculations.

Ability to:

- Make engineering computations and to check, design and supervise the construction of a wide variety of electrical utility facilities.
- Communicate clearly and concisely, orally and in writing.
- Apply technical insight and sound judgment necessary in the solution of difficult and complex problems.
- Apply theoretical concepts to practical problems.
- Complete projects which require extensive research of current and past technical literature and the resolving or real or apparent conflict conclusions. For these projects, guidelines may frequently require considerable interpretation and adaptation in order to fit the kinds of situations encountered.

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- Use and apply engineering economic principles.
- Read and interpret schematics and blueprints.
- Work independently.
- Understand and follow instructions.
- Establish and maintain effective working relations with co-workers, staff, vendors, contractors, visitors, the general public and others having business with the City of Banning.

Skill in:

- Assessing and prioritizing multiple tasks, projects and or demands.
- Working within deadlines to complete projects and assignments.
- Effectively operate a motor vehicle on City streets.

Education:

Graduation with a bachelor's degree in Electrical Engineering from a college or university with an accredited four or five year degree program in electrical engineering. Registration as a Professional Engineer cannot substitute for the required education.

MINIMUM QUALIFICATIONS: Any combination and experience that has provided the knowledge, skills and abilities necessary for an Associate Electrical Systems Engineer. A typical way of obtaining the required qualifications is to possess the equivalent of three years of directly related experience in electrical utility systems, and a bachelor's degree in Electrical Engineering or a related field.

ADDITIONAL REQUIREMENTS: Must have at the time of application and must maintain a California driver license. May be required to work outside the traditional work schedule.

WORKING CONDITIONS: Position requires sitting, standing, walking on level and slippery surfaces, reaching, twisting, turning, kneeling, bending, stooping, squatting, crouching, grasping and making repetitive hand movement in the performance of daily duties. The position also requires both near and far vision when inspecting work and operating assigned equipment. The need to lift, carry and push tools, equipment and supplies weighing 25 pounds or more is also required. Additionally, the incumbent in this outdoor position works in all weather conditions including wet, hot and cold. The incumbent may use paint and cleaning and lubricating chemicals that may expose the employee to fumes, dust and air contaminants. The nature of the work also requires the incumbent to climb ladders, use power and noise producing tools and equipment, drive motorized vehicles and heavy equipment, work in heavy vehicle traffic conditions and often work with constant interruption.