

ELECTRIC ENGINEERING TECHNICIAN I
ELECTRIC ENGINEERING TECHNICIAN II

DEFINITION

To perform a variety of technical engineering duties including estimating, planning and designing new electrical service installations and modifications to existing services; to forecast load for existing and future circuits; and to serve as project planner, reviewing applications and meeting with developers, land owners, and other City departments.

DISTINGUISHING CHARACTERISTICS

Electric Engineering Technician I - This is the entry level class in the Electric Engineering Technician series. Positions in this class typically have little or no directly related work experience and work under immediate supervision while learning job tasks. The Electric Engineering Technician I class is distinguished from the II level by the performance of less than the full range of duties assigned to the II level. Incumbents work under immediate supervision while learning job tasks, progressing to general supervision as procedures and processes of assigned area of responsibility are learned.

Electric Engineering Technician II - This is the journey level class in the Electric Engineering Technician series and is distinguished from the I level by the assignment of the full range of duties. Employees at this level receive only occasional instruction or assistance as new, unusual or unique situations arise and are fully aware of the operating procedures and policies within the work unit. Positions in this class are flexibly staffed and are normally filled by advancement from the I level.

SUPERVISION RECEIVED AND EXERCISED

Electric Engineering Technician I

Receives immediate supervision from the Electric Engineering Technician Supervisor.

Electric Engineering Technician II

Receives general supervision from the Electric Engineering Technician Supervisor.

EXAMPLES OF ESSENTIAL DUTIES – Duties may include, but are not limited to, the following:

Prepare plans, specifications and cost estimates for the construction and repair of electric utility facilities such as overhead and underground feeders, extensions, circuit cut-overs, circuit re-arrangements, and major street lighting.

Review applications and improvement plans prepared by other departments and agencies, and private developers, contractors, and landowners for new electric services and modifications to existing services; determine conditions for approval; attend project meetings and site inspections with contractor and developers.

Initiate, acquire and abandon easements and rights-of-way for electric facilities and review related legal descriptions; determine the effects of proposed work on existing electric utility facilities and the feasibility of alternate construction proposals.

Forecast for existing and special projects the electrical capacity and loading of mainline and primary electrical circuits; plan and design electrical systems involving transmission and distribution facilities required to meet present and projected needs.

Conduct periodic and final inspection of construction projects performed by outside developers and contractors; approve and sign-off on certificates of completion and building occupancy as appropriate.

Calculate estimates of relocation costs and coordinate electric utility construction projects with outside contractors and City construction crews; and monitor contracts with outside contractors and prepare billings as needed.

Design and coordinate joint utility trenches for inclusion of other utilities.

Prepare engineering reports and studies and job packages for work crews.

Determine, review and administer electrical requirements for service to specific plans, annexations, residential tracts and commercial and industrial developments.

Prepare joint pole intents, billings, and records; coordinate construction with outside utilities.

Maintain and update distribution systems records and GIS data model.

Maintain files and prepare reports.

Build and maintain positive working relationships with co-workers, other City employees, and the public using principles of good customer service.

Perform related duties as assigned.

MINIMUM QUALIFICATIONS

Electric Engineering Technician I

Knowledge of:

Basic principles and practices of electrical engineering.

Basic methods and techniques of engineering, drafting and estimating.

Methods and materials used in the construction of electric utility facilities.

Algebra, trigonometry and geometry as applied to technical engineering work.

Use and application of computer aided design software (AutoCAD, GIS).

Modern office procedures, methods and computer equipment including word processing, database and spreadsheet applications.

Ability to:

Learn to perform technical engineering including estimating, planning and designing new electrical service installations and modifications to existing services.

On a continuous basis, know and understand all aspects of the job; intermittently analyze work papers, reports and special projects; identify and interpret technical and numerical information; observe and problem solve operational and technical policies and procedures.

On a continuous basis sit at a desk or workstation for long periods of time; intermittently, walk, stand, kneel, climb, and bend when working at field/inspection sites; perform simple and power grasping, pushing, pulling, and fine manipulation; use a telephone, and write or use a keyboard to communicate, and occasionally lift or carry weight of 25 pounds or less.

Perform technical research and make recommendations regarding elementary engineering problems.

Perform elementary engineering calculations with speed and accuracy; use and care for engineering equipment.

Learn department policies, procedures, and City-wide permitting process.

Learn pertinent local, State, and Federal codes, regulations and laws, and electric utility standards related to construction, extension and maintenance of electric utility facilities.

Operate computer aide design and drafting software (AutoCAD, GIS).

Maintain records related to work activities; prepare reports.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain effective working relationships with those contacted in the course of work.

Experience and Training

Experience:

One year of experience performing technical electrical engineering work that involved the design and inspection of electric utility facilities is desirable.

AND

Training:

Equivalent to the completion of the twelfth (12th) grade, GED or higher level degree supplemented by college level course work in electrical engineering, mathematics or a related field.

License and Certificate

Possession of a valid California driver's license by date of appointment.

Electric Engineering Technician II

In addition to the qualifications for the Electric Engineering Technician I:

Knowledge of:

Principles and practices of electrical distribution design.

Methods and techniques of engineering, drafting and estimating.

Department policies, procedures, and City-wide permitting process.

Principles and practices of distribution load forecasting.

Electric distribution components and equipment.

Standards and regulations governing the construction, extension and maintenance of electric utility facilities.

Pertinent local, State, and Federal codes, regulations and laws, and electric utility standards.

Ability to:

Independently perform technical engineering duties in estimating, planning and designing new electrical service installations and modifications to existing services.

Perform technical research and make recommendations regarding routine engineering problems.

Perform complex engineering calculations with speed and accuracy.

Prepare complete plans and estimates of routine electric utility projects.

Work effectively with developers, landowners, and engineers.

Experience and Training

Experience:

Two years of responsible experience performing duties similar to that of an Electric Engineering Technician I with the City of Roseville.

AND

Training:

Equivalent to the completion of the twelfth (12th) grade, GED or higher level degree supplemented by college level course work in electrical engineering, mathematics or a related field.

License and Certificate

Possession of a valid California driver's license by date of appointment.

07-03-18

02-09-13 Electric Engineering Technician I/II

Electrical Engineering Technician I Electrical Engineering Technician II

07-07-10 07-07-10

01-10-05 01-10-05

03-26-98 03-26-98

10-01-88 10-01-88

06-09-80 06-09-80

05-26-77 Electrical Technician 07-01-79 Electrical Engineering Tech

10-30-73

-67

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-64 Electrical Estimator