

ELECTRICAL ENGINEER – L&P

*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.*

JOB OBJECTIVES

To perform professional level duties and responsibilities in support of the City's electrical engineering and construction projects; to prepare and review drawings, plans, specifications, contracts, legal descriptions, and other technical documentation for capital improvement and electric distribution construction projects within the City; to serve as project manager on assigned engineering and construction projects; and to perform a variety of duties relative to assigned areas of responsibility.

To perform electrical engineering operations, projects, and activities within the Light and Power Department; to ensure compliance with professional engineering standards and principles; to analyze future power requirements and plan facilities and systems to meet those needs; and to provide highly responsible and complex administrative support to the Engineering Manager.

SUPERVISION RECEIVED AND EXERCISED

Receives administrative direction from the Engineering Manager.

ESSENTIAL JOB FUNCTIONS

The following tasks are typical for positions in this classification. Any single position may not perform all of these tasks and/or may perform similar related tasks not listed here:

1. Monitor and evaluate the efficiency and effectiveness of service delivery methods and procedures; recommend, within departmental policy, appropriate service levels.
2. Oversee the preparation of bid documents, contract documents, specifications, cost estimates and engineering drawings for assigned projects.
3. Perform design work on substations, SCADA systems and related electric facilities and systems; prepare and review wiring diagrams, relay settings, and related components.
4. Conduct studies to determine the feasibility or impact of current and proposed engineering projects; research, compile, analyze, evaluate and present economic, demographic, engineering and environmental concepts, statistics and data; research applicable statutes, laws and regulations; prepare and present written and oral reports, graphs, tables and other technical documentation.
5. Assist in the preparation of construction drawings, specifications and technical documents for assigned projects; review plans and specifications; draft drawings from engineering sketches, survey field notes and other data using a variety of specialized computer software and equipment.
6. Perform drafting assignments including complete sets of working drawings for projects; provide as-built drawings upon completion of the project and transfer information to plans; revise maps and other drawings as appropriate.
7. Prepare and update maps consistent with project improvements; utilize specialized geographic systems information software to generate, update and maintain mapping systems.

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8. Review submittals, designs, engineering plans, specifications and professional reports for compliance with engineering standards and integration into existing electric distribution systems; negotiate, review and draft change orders; advise consultants and recommend changes to specifications for compliance as necessary.
9. Serve as project manager for electrical distribution engineering projects; meet with residential or commercial customers and consultants on electrical needs and expansion projects; forecast future consumption requirements; perform studies to maintain a balanced and efficient system; design electrical facilities based on customer requirements for subdivisions and commercial or industrial facility demands.
10. Attend and participate in professional group meetings; stay abreast of new trends and innovations in the field of electrical engineering.
11. Perform related duties and responsibilities as required.

QUALIFICATIONS

Knowledge of:

Basic knowledge of electric utility system design, operations, equipment, services and activities.

Principles and practices of electrical engineering.

Electrical engineering design and construction concepts, principles, practices and standards.

Principles and practices of project management.

Fundamental principles of electrical engineering and power systems.

Electrical codes, standards and regulations.

Rules and regulations of the National Electric Safety Code.

Construction methods, procedures, standards and materials.

Computer aided drafting and design methods.

Advanced mathematical concepts as they relate to engineering work.

Principles and practices of project budget and control.

Recent developments, current literature and information related to innovations and trends in electrical engineering.

Principles, practices, methods and techniques of conducting engineering research

Environmental laws and regulations.

Principles and methods of business correspondence and technical report preparation.

Modern office procedures, methods and equipment including computers and supporting word processing and spreadsheet applications.

Ability to:

Perform electrical engineering duties in the design and development of electrical distribution systems and facilities.

Prepare clear and concise technical and administrative reports.

Prepare, review, interpret and analyze engineering plans, drawings, specifications, contract documents and engineering reports for conformance to professional standards, contract obligations and approved budgets.

Perform accurate and complex mathematical calculations.

Operate office equipment including computers and specialized word processing, spreadsheets or engineering applications.

Communicate clearly and concisely, both orally and in writing.

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

Education and Experience Guidelines

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Education:

Bachelor's degree in Electrical Engineering with emphasis in power systems studies.

Experience:

One year of related engineering experience or the equivalent combination of education and experience enabling incumbent to perform the essential functions of the position. Intern or cooperative education experience accepted.

License or Certificate

Possession of, or ability to obtain, a valid appropriate Oregon driver's license.

PHYSICAL DEMANDS AND WORKING CONDITIONS

The physical demands herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform these essential job functions.

Environment: Normal office setting with some travel between work sites and to attend meetings or conduct site investigations.

Mobility: Incumbents require sufficient mobility to work in an office setting and operate office equipment.

Vision: Vision sufficient to read small print, computer screens, drawings and other printed documents, and to distinguish colors.