ELECTRICAL ENGINEER

JC: EF215
PB: 6
FLSA: Exempt

BU: 92 (NR)
Created: January 2005
Revised: June 2019

*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 supervision, performs a variety of professional electrical engineering duties in the preparation of electrical engineering plans and specifications for District facilities and systems including traction and utility power, corrosion protection, lighting, transit vehicle electrical equipment, and other electrical equipment and systems; evaluates and reviews design and field engineering changes during construction; ensures work quality and adherence to specifications; performs related duties as assigned.

CLASS CHARACTERISTICS

This is the full journey level class within the Electrical Engineering series. Classifications at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This classification is distinguished from the Senior Electrical Engineer in that the latter possesses a specialized technical or functional expertise within the area of assignment.

REPORTS TO

Manager of Electrical Engineering or designee.

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

1. Performs a variety of professional electrical engineering duties in preparing electrical engineering plans, specifications and analyses for the development, modification and maintenance of the District's facilities and systems including traction and utility power, corrosion protection, lighting, transit vehicle electrical equipment, and other electrical equipment and systems.

2. Prepares engineering specifications, drawings, equipment specifications, sketches and other supporting data for newly proposed engineering projects.

3. Prepares preliminary engineering design cost estimates and other information for management and project board review.

4. Coordinates with various internal and external groups to coordinate work and perform site visits. Schedules and coordinates engineering activities.

5. Reviews approved electrical engineering criteria for new or proposed projects; compiles, researches and analyzes data for modifications to existing systems.

6. Assists in the establishment of schedules and methods for providing electrical engineering project oversight services; responsible for the verification of quantities of materials and adherence to specifications; and, may recommend resources to be allocated.

7. Monitors work products to ensure compliance with established policies and procedures; evaluates proposed changes to approved plans and specifications.

8. Prepares a variety of drawings, reports and correspondence on electrical engineering matters including field and design engineering changes, cost estimates, as-built drawings and related documentation.

9. Provides engineering support to other divisions, departments and outside agencies.

10. Reviews construction in progress and performs a variety of field-testing duties; submits reports.

41. Utilizes a variety of engineering programs and applications including CADD.

12. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of electrical engineering.

QUALIFICATIONS

Knowledge of:

- Principles and practices of electrical engineering design
- Operations, services and activities of a comprehensive electrical engineering program
- Principles and practices of electrical equipment and materials
- Methods and techniques of field measuring and testing
- Electrical systems and facilities
- Advanced mathematical principles
- Principles and practices of cost estimating
- Current office procedures, methods, and equipment including computers
- Specialized computer programs or systems utilized in electrical engineering design and construction including CADD
- Related building codes, regulations and provisions
- Related Federal, State and local laws, codes and regulations

Skill/Ability in:

- Applying principles and practices in engineering design and construction in assigned projects
- Interpreting and explaining District policies and procedures
- Preparing clear and concise reports
- Preparing and reviewing work plans
- Determining unsafe work zones or conditions
- Taking field notes, images, and records
- Providing design recommendations

- Conducting site assessments and field data collection
- Interpreting and preparing revisions to engineering plans, drawings, and specifications
- Communicating clearly and concisely, both orally and in writing
- Establishing and maintaining effective working relationships with those contacted in the course of work

MINIMUM QUALIFICATIONS

Education:
Bachelor's degree in Engineering or a related field from an accredited college or university.

Experience:
Two (2) years of (full-time verifiable) professional experience in electrical engineering, electrical engineering project management or related experience.

License or Certificate:
Registration as a professional engineer in the State of California.

Other Requirements:
Must be physically able to perform field inspections and investigations. Must be available to work evenings, nights and weekends as needed.

Substitution:
Additional professional experience as outlined above may be substituted for the above education on a year-for-year basis. A college degree is preferred.

WORKING CONDITIONS

Environmental Conditions:
Office environment; exposure to computer screens; field environment; construction site environment; exposure to heat, cold, moving vehicle, electrical energy and inclement weather conditions.

Physical Conditions:
Requires maintaining physical condition necessary for walking, standing or sitting for prolonged periods of time.

BART EEO-1 Job Group: 3000 – Engineers
Census Code: 1410 – Electrical Engineers
Safety Sensitive: No